

GMES Vision and targets 2008

and

**Work progress of the Initial Period of the GMES Action Plan
(2002-2003)**

**Information document for the participants of the 3rd GMES
Forum**

Prepared by the GMES Support Team

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1. Orientations for a GMES capacity architecture¹

1.1. The added value of GMES

Europe's commitment to promote sustainable development and global governance in Community territory and globally requires high quality, timely and independent information. The establishment by 2008 of a European capacity for Global Monitoring of Environment and Security will contribute to securing the provision of such information. Such a capacity encompasses a wide range of information sources, making full use of Earth based in-situ monitoring capacities as well as airborne and space-based Earth observation.

Currently, European policies on the environment and security suffer by having to rely on information that is fragmentary and of uneven quality and value. This is despite the fact that over the last 20-30 years, a large number of organisations have been created at European level and in the Member States specifically to collect data and to produce information. During the same period, considerable progress has been made in observation systems and information technologies.

The first results from the Strand 1 "Deliver to Learn" and Strand 2 "Assess to Structure" activities outlined in the GMES Action Plan for the Initial Period (2002-2003)² have shown that there are three interrelated causes behind this problem of inadequate information:

- The many organisations involved in data collection and information production in Europe do not sufficiently co-ordinate their activities;
- The numerous technical infrastructures produce data and information that are often incomplete, not comparable from one place to another and over time and are in general difficult to access;
- A more active dialogue between information users and the many information providers is needed to make the data and information flow more relevant and efficient.

¹ The term "architecture" is usually reserved to describe the detailed operational aspects of a system and is taken here to mean the main elements of the GMES capacity.

² COM(2001)609 final

As a result, investments made in Europe over the past decades for the production of information in support of environmental and security policies are characterised by low overall efficiency and disappointing benefits for the stakeholders in public services, private industry, academia and the citizen.

The GMES capacity comprises three components that address the above issues: a Partnership of key European actors, a European Shared Information System and a mechanism for permanent Dialogue. These are set out below and described in more detail in **Annex 1**.

1.2. Structure and components of a European capacity for GMES

• A Partnership of key European Actors

At the European level a number of organisations already hold key competencies corresponding to specific tasks in the system of production and use of information. The main ones are³:

- European Commission services (e.g. RTD, INFSO, JRC, ENV, EUROSTAT, DEV, ECHO, RELEX etc);
- Agencies of the European Union (e.g. the European Environment Agency and the EU Satellite Centre);
- Inter-governmental organisations (e.g. ESA, Eumetsat);
- Non-governmental organisations (e.g. EuroGOOS, Eurogeosurvey, Eurogeographics, Eumetnet etc.).

Co-ordination of the activities across these key actors requires strengthening. A Partnership of the key European actors must be put in place with the aim of allowing more rational planning of the resources and sharing of the tasks. The partners will be the **co-owners** of the process to implement and sustain GMES. This Partnership will also create a European “critical mass” that will be able to influence policies or decisions that constrain information production (e.g. data policies, sustainable funding and infrastructure investments).

• A European Shared Information System

The Partnership will have to establish a GMES Shared Information System in which existing capacities will be adapted, seeking enhanced interoperability and complemented with new ones where necessary. The main aims of the system will be to allow users to have better access to quality data and information. This will contribute to the development of more cost-efficient information services, thus contributing to economic growth. It will consist of distributed and interoperable facilities with the following functionality:

- operational observations;
- operational production and dissemination of information;
- cataloguing and library access to information.

The establishment of the above functionality will require procedures and mechanisms for standards and interoperability, research focused on the weak links of the information

³ National agencies, private organisations etc. are included via their membership to these European level organisations.

production chain and adequate long-term sustained investments (e.g. in a European Spatial Data Infrastructure).

- **A Mechanism for permanent Dialogue**

Simplistic one-way models - “technology push” or “user driven” – have not led to efficient information production systems. They have to be replaced by a structured and permanent dialogue between all actors involved in information production and use, allowing two-way exchanges and feedback. Particular emphasis must be placed on ensuring that users needs are adequately met and where possible anticipated by integrating the dialogue early in the process of definition of the programmes of the key European Partners.

Certain elements of the GMES capacity as described above will contribute to global activities, necessitating international co-operation. Other elements will be aimed at securing European autonomy of access to information related to the environment and security. The detailed development of the GMES capacity will take full benefit from the implementing structures defined for the INSPIRE Directive⁴ by assuring the provision of coherent quality data and information to the European Spatial Data Infrastructure.

1.3. Legislative, budgetary and management aspects

The establishment of the European capacity for GMES, its progressive development and its management will require: (i) a legal basis (ii) dedicated financial resources and (iii) management structures, as summarised in the table below.

2002-2003	2004-2008	post-2008
1. Analysis of situation of key European actors	Establish Group of key European Actors – Conclude MoU or other agreement	Partnership of key European Actors
2. Analysis of situation of information production facilities and organisations. Thematic projects	Provision of backbone of information system, Integration of GMES projects of FP6 and ESA GMES Service Elements	Shared Information System
3. GMES Forum – Analysis of users needs	Develop Forum and other mechanisms such as interest groups	Adopt mechanism for Dialogue
4. GST	Task Force or administrative unit	GMES Secretariat
5. GMES Action Plan: COM(2001)609 and ESA(PB-EO)2001-56	Council decision for Implementation Period WP	Council regulation for GMES (TEN-like basis for funding)
6. RTD funding for GMES dedicated call	GMES dedicated funding , plus mobilising existing resources	GMES dedicated funding, plus mobilising existing resources

Concerning the legal basis, this will complement the future INSPIRE Directive, as it will aim – among other things - to rationalise and complete Europe’s observation capacities.

⁴ INSPIRE: “Infrastructure for Spatial Information in Europe” – an initiative currently in preparation by the European Commission to address technical standards and protocols, organisational and co-ordination issues and data policy issues including data access and the creation and maintenance of spatial information.

Regarding finance, the Initial Period of the GMES Action Plan had to rely on existing research resources. The Implementation Period should begin to leverage other (non-research) resources and seek to align the resources of the many stakeholders, although the Research Framework Programmes will still play an important role.

However, the identified requirement for better co-ordination and the development of European enabling activities will require a dedicated budget. Provision will need to be made for such a budget in the preparations for the budgets for 2005 and beyond, to be backed up by an appropriate legislative act (e.g. a Council decision). This will be accompanied by a Commission Communication outlining a work programme for 2004-2008 to be sent to the Council and Parliament in early 2004.

The post-2008 development of the GMES capacity will require much larger funding framed in a dedicated EU financial instrument (e.g. a TEN-like regulation).

1.4. Immediate implementation steps

Notwithstanding earlier and present efforts (e.g. by JRC) to establish information services, it is critical for GMES to begin soon **to provide new operational services** to users (“early starters”), while beginning **to establish the backbone of the European Shared Information System**. GMES will also have to make full use of existing capabilities but it will also have to complement or adjust these where there are gaps and limitations to the efficient production of information.

The first and second FP6 Calls for Proposals addressing GMES (in 2002 and 2003) - as well as the ESA GMES Service Elements activities (in 2002) - have been designed to elicit proposals for such “early starters”. The third GMES call under FP6 (expected in 2004) will be co-ordinated between the relevant sections of the thematic priorities (1.2, 1.4, 1.6 and possibly Infrastructures). It will be based on the results of the Initial Period Report at the end of 2003 and will focus on the establishment of the more structural aspects of the European capacity for GMES (e.g. observing systems, library, information highway, etc). Priorities for the types of actions and the choice of proposals will be based on agreed criteria. The JRC will focus on the continuation and development of applications that are in direct support to the production of information associated with a range of Community policies.

In addition, it will be important to begin mobilising non-research funding sources, encouraging operational funding sources, such as the Structural Funds or the Development Fund and others (e.g. PHARE, TACIS etc.), to devote more resources to the infrastructure for data collection and information production.

A subset of the key European actors should be ready to sign a Memorandum of Understanding or similar agreement in early 2004, thereby committing themselves to common planning and shared use of assets, data and information.

The **dialogue between the users and the other parties** involved in information production will be initiated already in 2003 by working with the Commission’s DGs and continued in 2004 by enlarging progressively and formalising the process of dialogue.

In order to facilitate a co-ordinated approach, it is proposed to strengthen the GMES Support Team, possibly by creating a management entity (e.g. a Task Force), to be established in early 2004. It would be staffed from and supported by the Commission services, ESA and possibly other key partners.

Further details of the steps enumerated above, additional actions, and underlying principles and criteria for including future actions will be defined in the end-2003 Initial Period

Report. The recommendations for implementation will evolve in the coming months, as full account is taken of the insights gained from the Strand 1 “Deliver to Learn” and Strand 2 “Assess to Structure” activities of the GMES Action Plan for the Initial Period (2002-2003).

2. State of play of the GMES projects

As introduced above, a series of projects has started following the 2002 GMES-dedicated call co-ordinated between the 5th Framework Programme ESD and IST programmes. The 5th Framework Programme GMES projects have started work with the aim:

- to produce information directly relevant to EU policies on environment and security;
- to serve the dialogue with institutional policy and operational users in the Member States;
- to document the issues of production of information and recommend solutions.

ESA has started the consolidation phase of ten GMES Service Element projects under their Earth Watch programme. In addition, previous and ongoing Framework Programme projects⁵ and many JRC activities in global initiatives and in direct support to user DGs (e.g. ENV, AGRI, ECHO, DEV, RELEX etc.) act as GMES pilots, providing valuable input to the assessment of the current situation⁶.

In addition the projects will act as focal points to collate and capitalise on recent EU research results, by presenting their findings to the many Commission Working Groups supporting the User DGs in the development, implementation and monitoring of EU policies.

The results of these projects and those available from the ESA-funded GMES Service Elements consolidation projects will be synthesised in the end-2003 Initial Period Report through three cross-cutting assessments studies.

Details of the above projects can be found in **Annex 2**.

⁵ For example, the Sea-Search project is developing elements of a Marine Information Library, whilst the EARLINET project has addressed the topic of the inter-operability of aerosol monitoring systems across Europe.

⁶ Examples of JRC projects are MARS (Monitoring European agricultural production), PUMA (pan African Meteorological satellite data: upgrading to Meteosat Second Generation, TREES (Tropical forest monitoring and establishment of tropical forest information system; Global Land Cover 2000). The scope of JRC activities in the context of policy implementation is further elaborated in Annex 2.

3. The 2003 work plan and organisation

3.1. Production of GMES end-2003 Initial Period Report

The end-2003 report will provide the justification for the activities to be undertaken during the 2004-2008 Implementation Period of the GMES Action Plan.

The Table of Contents of the Initial Period Report (see **Annex 3**) has been discussed with the GMES Steering Committee.

Part I will present the adequacy of the current capacities for information production to meet users' needs. *Part II* will describe the European capacity to be put in place and the expected benefits (environmental, social and economic). *Part III* will consist of the recommendations for actions during the Implementation Period (2004-2008).

3.2. Organisation and time-table

A detailed work plan has been established for the preparation of the individual elements of the Initial Period Report (see **Annex 4**). Close co-operation with the GMES Steering Committee, its Working Groups, Commission Services and ESA is part of the working procedure. Drafts of the elements of the report will be systematically submitted for comments to these groups to prepare the discussion, thus facilitating the convergence of views on the full report.

Work will also continue in 2003 on a number of key activities. The following list is not exhaustive but includes:

- provision of enhanced data and information services to the EU policies via close collaboration with relevant DGs
- improving the links between the various contributions at Community, ESA and Member State levels;
- developing a “communication plan” to share the vision with a broader number of stakeholders;
- clarifying and consolidating the security aspects of GMES
- identifying developments in information technologies that can be adapted to GMES needs in 2008 and beyond;
- developing the global strategy and engaging international partners.

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Annex 1. A European capacity for GMES - structure and key components.

In order to prepare the technical content for the design of the GMES capacity and to define the activities to be undertaken during the Implementation Period (2004-2008), the following mechanism has been put in place. These correspond to the Strand 1 “Deliver to Learn” and Strand 2 “Assess to Structure” activities outlined in the GMES Action Plan (COM(2001)609 and ESA/PB-EO(2001) 56).

- i) Thematic projects (EC) and consolidation studies (ESA) are documenting the user needs and the ensuing scientific, technical, socio-economic and institutional requirements for improvement of the current European capacity to produce policy relevant information.
- ii) Results are being processed into synthesis reports through the cross-cutting assessments and GMES Support Team activities. (These will constitute the technical basis of the Final Report on the GMES Initial Period.)
- iii) Advice is being sought and obtained from the GMES Steering Committee (GSC), the GSC Working Groups, Users meetings, the GMES Fora and GMES national groups.

ESA has begun GMES Service Element projects under their Earth Watch Programme and activities at the JRC are providing lessons for the GMES initial period. In addition, previous and ongoing Framework Programme projects are providing valuable input. The most important of the activities mentioned above are listed in Annex 2.

To date, the activities listed above clearly demonstrate that the main orientations of a GMES capacity can be set out as follows:

- 1. Establishing a GMES Partnership of the key European Actors, who have agreed on the division of tasks as well as on the ownership of data and information;**
- 2. Creating a GMES Shared Information System;**
- 3. Securing a Mechanism for Dialogue between stakeholders ensuring that users needs are met.**

This GMES capacity will be supported by:

- 4. Assisted by a GMES Executive Secretariat;**
- 5. A specific legislative text;**
- 6. Dedicated funding (European and national) as well as the co-ordination of existing resources.**

1. Establishing a GMES Partnership of the key European Actors, who have agreed on the division of tasks as well as to the ownership of data and information.

One of the primary goals of GMES is to turn presently uncoordinated European, programmes, organisations and facilities into a coherent, efficient and sustainable system for the production and use of information. To achieve this objective, key European players will need to form a GMES Partnership.

At the European level a number of organisations already hold key competencies corresponding to specific tasks⁷ in the system of production and use of information, in particular:

- *Agencies of the European Union:* the European Environment Agency (producing information for the European Environment policy and co-ordinating Information and Observation Networks); the EU Satellite Centre (to support EU Security needs);
- *The Services of the European Commission:* Eurostat (official statistics); DG Environment (mainly user of information, but also “upstream” activities such as Reporting Directive; INSPIRE initiative); DG JRC (technical support to other DGs); DG RTD (research, technological development and demonstration on space and on observing systems); DG INFSO (information technologies); other user services (e.g. DG RELEX, DG DEV, DG AGRI, ECHO etc);
- *European intergovernmental organisations:* e.g. ESA (research technological development and demonstration on Earth Observation satellites and associated technologies); EUMETSAT (operating and exploiting meteorological satellites); ECMWF (producing weather forecasts at European scale); LTRAP (assessing impact of air pollution and effects of air policies) and CEN (European Standardisation Centre);
- *European non-governmental organisations:* e.g. Eurogeosurvey; Eurogeographics; EuroGOOS; Flora Europea; Eumetnet; European Centre for Seismic Monitoring.

The above European organisations play an important role in shaping the data and information “landscape” within their own thematic domains. Indeed, central to their missions is the co-ordination of the activities of their member organisations (national agencies, semi-state bodies, private organisations, etc) that implement (in practice) the policies agreed at European level. These European organisations also influence developments on the global scene.

Organisations at national level (e.g. space agencies, civil protection authorities, national metrology regulators etc) and private and commercial players (including research institutes and industrial companies) will play an important role in shaping the infrastructure, data and information “landscape” within their own domains, thereby influencing developments at national and European level. As far as possible, their involvement and the co-ordination of their contributions should be channelled via the relevant European-level entities.

Regarding the provision of operation information services for security-related policies, the Partnership will need to define its relationship to and the involvement of the Council of the

⁷ Key functions are: expression of user requirements; formulation of technical specifications; development of observing systems; operating such systems; provision of services; developing standards, inter-operability, data policy, system integrity.

EU. The issues related to the multiple use of data and information are currently under consideration.

To ensure the maximum GMES added-value is generated, the key actors within the GMES Partnership will have to accept certain fundamental principles⁸ such as:

- Data should be collected only once and then maintained at the level where this can be carried out most effectively;
- Data should not undergo unnecessary reprocessing;
- Information from different sources should be combined seamlessly and shared between all users and applications needing access to this data;
- Access to the information and services required for sustainable development and global governance should be widely available under conditions that do not restrict its extensive use;
- Details on which information is accessible, and the particular purposes the information is suited to, must be freely and readily available, including the terms and conditions under which the information can be acquired and used;

However, only limited co-ordination between organisations has so far taken place at the European level. Therefore, one of the main requirements for a GMES capacity to be realised is that **a GMES Partnership of the key European Actors should be established.**

This GMES Partnership would:

- **agree a strategy and programme for a GMES Shared Information System;**
- **agree the repartition of tasks between the partners;**
- **set-up a GMES Memorandum of Understanding (MoU), or other agreed mechanisms, regarding the shared use of assets, data and information within GMES.**

To assist the implementation of GMES, a **GMES Executive Secretariat** should be established to:

- carry out a detailed analysis of tasks and optimisation of resources;
- ensure the co-ordinated implementation of the GMES Capacity, including the build up of the GMES Shared Information System, the development of standards, meta-information and quality control rules;
- ensure coherence and complementarity between related programmes, activities and funding schemes;
- animate the stakeholders dialogue;
- develop the GMES Partnership co-ownership agreement;
- ensure overall management of the GMES process.

The report on the GMES Initial Period will document and substantiate detailed recommendations for the establishment of such a Partnership and Secretariat, including the transition activities foreseen for the 2004-2008 Implementation Period.

⁸ Certain of these principles have been accepted in the INSPIRE initiative

2. Creating a GMES Shared Information System

The GMES Shared Information System (SIS)

will consist of a large number of distributed facilities brought together into a co-ordinated system oriented towards meeting user needs and will include the following functionality:

- operational observations;
- operational production and dissemination of information;
- storage, cataloguing and library access to information.

The establishment of the above functionality will require procedures and mechanisms for standards and interoperability, research focused on the weak links of the information production chain and adequate long-term sustained investments (e.g. in a European Spatial Data Infrastructure). An outline of the major elements within the GMES SIS is given below.

The GMES Users

The GMES capacity is being established to serve user requirements in the fields of sustainable development and global governance. The GMES SIS must therefore be responsive to the needs of the GMES Users. Hence, at the heart of the GMES SIS stands the “User”, who will initiate a request for information within a GMES domain.

This “User” can take many forms. For example, they can be: a national or European policy maker; a researcher who requires large climate change data sets to carry out modelling in the framework of the UNFCCC; a “Service Provider” who needs access to various observing system data and model output in order to produce an “Information Product” for an “End-User”; a commercial user who requires an actual information product; an NGO; or a member of the general public.

The GMES Library

It will be the function of the GMES Library to respond to requests from GMES Users and ensure that these “Users” are provided with the required information. The GMES Library will therefore act as a single access facility (or one-stop information shop).

If the information required by the “User” is available this will be passed directly to the “User” from the GMES Library. Should the information not be immediately available, then the necessary data, model outputs and other information products will be provided to enable the “User” to derive the required information, either by their own means or through a 3rd party such as a Service Provider.

The GMES Library would be responsible for ensuring that the data, model output and information products referenced in the GMES Catalogue are available and accessible. This does not mean that the GMES Library itself would archive copies of the actual data. Rather GMES Partners who enter information into the GMES catalogue (“information providers”) would be placed under a specific requirement to maintain both the data archive and access to the data for a suitable period of years.

Furthermore, the GMES Library could use an extended library concept. In other words, branch libraries could be linked to a central library. These branch libraries could possibly be focussed on "topics". Or they could be regional GMES libraries that would concentrate

on providing more specialised assistance in various regions. (Whilst many problems are common throughout Europe, certain issues are more applicable to given areas. For example, the issue of forest fires is more applicable for the Mediterranean countries than in Scandinavia.)

As for most libraries that are funded from the public purse in support of public requirements, responsibility for the maintenance of the GMES Shared Information System would lie in the public domain.

The GMES Library would therefore be an actual physical entity staffed by dedicated personnel. It will rely upon an agreed (regulatory) framework to establish the requirements that are placed upon the “information providers” regarding the provision of the relevant meta-information required to maintain the GMES catalogue. This framework would also set out the requirements for “providers” to properly archive their data and to ensure that it is accessible for a specifically defined period.

The provision of operational services implies that standards of service will need to be established and adhered to e.g. in terms of timeliness, quality and completeness of information provided. The rights and obligations of users in terms of access, copyright, liabilities etc will need to be specified and agreed.

A further task of the GMES Library could also be to ensure the actual links to global systems. The GMES Library could be asked to ensure the actual implementation of possible bilateral agreements between relevant global systems and GMES for mutual access to and use of data that are held in GMES and these global systems.

Specific information products or data may need to be classified for security-related purposes (with the corresponding implications for the regulatory framework). Such data and products may be processed and stored at specialised secure facilities, some of which may form parts of the GMES Library or be separated, as appropriate.

Similarly, it will be important to necessary to consider possible relationships with the commercial sector that may provide operational information products. For example, parts or “branches” of an extended library could be held in the private sector. This would need to be subject to appropriate contracts specifying access rights, expected standards, copyright provisions, subscriptions/fees, liabilities etc.

The GMES Information Highway

The capacity of available telecommunications networks is likely to be a limiting factor in the provision of GMES operational services. The GMES Information Highway (Info-Highway) will be used to transmit GMES data, model output and information products between the relevant parties. For example, in the case of an accident at sea such as the Prestige oil tanker disaster, data from monitoring networks would be passed in real-time via the GMES Info-Highway to modelling centres. The GMES Info-Highway would then pass the required forecasts generated in these centres to civil defence authorities to enable them to take the appropriate actions in a timely manner to minimise the environmental damage from such types of accidents. It is not anticipated that entirely new infrastructure will be required specifically for the GMES Information Highway. However, it may be necessary to buy or rent available public/commercial resources to supplement the existing networks for the exchange of data and information. In any case, what is required is that a dedicated GMES capacity is readily available. Note should be taken that the required GMES capacity will be considerable.

Monitoring and Modelling Networks

The GMES SIS will ensure (where needed) inter-operability between the various monitoring networks and other data collection systems within the SIS. Further, the GMES SIS will promote data quality and the sustainability of the capacities, so that the systems can produce the required data sets and information. Towards that end, enhancements to current facilities will be necessary, as well as the provision of new facilities to fill recognised and documented gaps.

The development and use of models takes place through both research and industrial applications. However many models are extremely poorly documented and with very limited access. The GMES SIS will improve both the documentation of models used within GMES and access to the model output. In addition, the increased use of information stimulated by GMES will point out the limitations of the models and the needs for research and development in identified domains.

Inter-operability

The GMES SIS will bring together a vast range of sub-systems. Users of GMES services must have confidence in the information products that are delivered to them if GMES is to succeed. Although individual “information providers” would be required to follow certain quality control standards, if overall compatibility and inter-operability between the various elements of GMES is to be ensured then interoperability must also be monitored centrally.

3. Securing a Mechanism for Dialogue between stakeholders ensuring that users needs are met.

Simplistic one-way models - “technology push” or “user driven” - have shown their limitations. They have to be replaced by a structured and permanent dialogue between all actors involved in information production and use, allowing two-way exchanges and feedback. Dialogue needs to be stimulated and maintained between all actors (see figure 1):

- vertically, along the chain of production of information, from the designers of observation instruments, through the observing networks (space and in situ), data bases holders and modellers, down to the users, administrative managers, regulators and policy makers;
- horizontally between the sectors and disciplines, as well as between the many categories of data and information users.

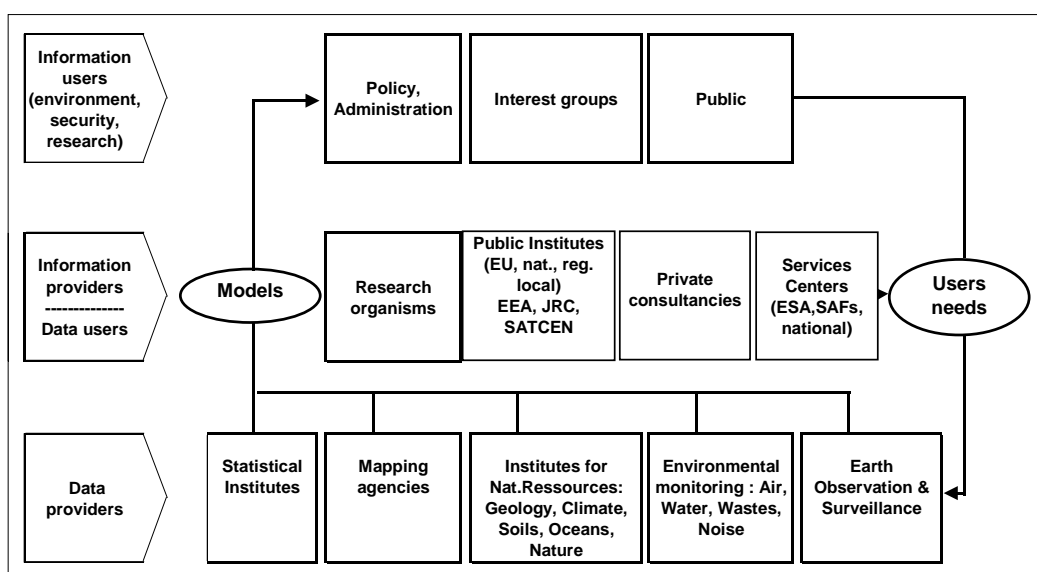


Figure 1: Main actors involved in the processes of production and use of information for environment and security policies.

Particular emphasis must be placed on ensuring that users needs are adequately met and where possible anticipated by integrating early in the definition process the programmes of the key European Partners. The GMES Forum Conferences have initiated this dialogue. When the GMES capacity is fully established, the GMES Secretariat will then support and animate the dialogue, involving as appropriate EU Institutions, expert groups, policy committees, regional and national groups, etc.

The report on the Initial Period of GMES will therefore document existing practices and make recommendations for a mechanism (e.g. an organisational set-up framed in Community legislation) which would allow the dialogue to be set up, animated and sustained over time.

4. Preparing a legislative framework.

Starting from existing facilities and organisations, the establishment and future development of the GMES capacity architecture will be a wide-ranging undertaking. It will require leadership and partnership, the development of technical and organisational structures and the mobilisation of financial resources. For GMES to be feasible, the Implementation Period (2004-2008) as well as the post-2008 period will have to be framed in legislation. Such a legal basis will provide the necessary complement to the INSPIRE Directive as it will aim to rationalise and complete Europe's observation capacities.

Legislative acts are required for:

- i) 2004-2008. Implementation period: A Council Decision would set out the conditions of execution of the Work Programme of the Implementation Period and foresee a dedicated budget to cover activities not covered by existing sources⁹. An ESA legislative act should be adopted to allow the Earth Watch missions to be established operationally. Activities covered by the Implementation Period would concern the three main components of the targeted GMES system:
 - User: the organisation of the actors dialogue;
 - Production: the establishment of the GMES Shared Information System backbone and structuring elements for the production and use of information. This will rely on a co-ordination of the development of planned monitoring capacities, involving Member States, [as a result of e.g. EU Environmental legislation, INSPIRE sister directives, Development Fund for Monitoring investments in developing countries, Regional Development Funds of Accession Countries, etc]; GMES dedicated activities [e.g. RTD, joint call (1.2+1.4+1.6) mid-2004; Earth Watch GMES Element]; Specific activities on security aspects;
 - Organisation: the preparation of a Commission proposal for a legal and financial framework for post 2008 (proposal, e.g. a Council Regulation, to be ready in 2006, for adoption in 2008).
- ii) Post 2008. The establishment of a permanent GMES system, including the definition of shared responsibilities between different European actors in a formal partnership, institutional arrangements, technical activities, the mobilisation of resources, will require a Community legislation, e.g. a Council Regulation. Models to be analysed include Trans European Networks, Joint Undertakings (e.g. Joint European Torus, Galileo) and other European Agencies, taking into account the EC-ESA Framework Agreement in preparation. The Final Report on the Initial Period at the end of 2003 will present the results of this analysis and the related recommendations.

⁹ Available budgets come presently from the 6th Framework Programme (1.4.2, 1.2, 1.6.3 and JRC funding) and ESA GMES Services Element, totalling up to €350m.

5. Mobilising funding sources

The European capacity for GMES will mainly evolve from existing facilities and organisations, which means that the conditions for their operational co-operation will need to be created. Where necessary, these facilities and organisations will also be expanded and complemented.

Furthermore the GMES system will develop according to the principle of subsidiarity (e.g. standards or infrastructures of common interest are to be promoted by the European level, whilst local authorities are generally in charge of in-situ measurements).

Accordingly, funding for GMES will come from various sources corresponding to competencies for different subjects or different administrative or geographic levels. This will include existing sources and where necessary, new ones that will have to be established.

- Existing sources: National (inc. regional and local) Administrations (e.g. monitoring of air quality or bathing water quality); EU policy Programmes (e.g. RTD; EU Natural Disasters Fund; Development Fund); ESA; private (e.g. monitoring of industry plant emissions).
- Complementary financial resources will be necessary to steer and co-ordinate the process and to initiate new activities both for the 2004-2008 period and for the post-2008 period.

The types of funding sources currently vary depending on

- the theme, e.g. meteorology: public; polluting emissions or participation in standardisation: private; wildlife : voluntary),
- the geographical level, e.g. International, European, National, regional, local,
- the stages in the information production process, e.g. establishment, operation or maintenance of monitoring infrastructures.

The recommendations of the end-2003 report will indicate the best suited funding source or mix of such sources.

Annex 2. The GMES Projects of the Initial Period.

1. GMES Thematic projects

The thematic projects and networks below (cf. Table 1) have been selected as a result of the call for proposals dedicated to GMES in the context of the 5th Framework Programme on Environment and Sustainable Development (ESD)¹⁰ and on IST.¹¹

In addition, the project SIBERIA is a previously selected ESD on-going project; the project EUROSION is funded by DG ENV.

These projects perform the following tasks:

- to deliver by the end of 2003 information products needed by users who are concerned with European Environment or Security policies;
- to report by the end of 2003 on the problems met and lessons learnt in producing these information products;
- to improve the knowledge, methods or tools required for monitoring, and information production and delivery.

In addition, DG DEV has issued a study called African Monitoring of Environment for Sustainable Development (AMESD) which is planned to analyse the issues related to GMES thematic priority F¹² : “Support to Regional Development Aid”

Table 1: Thematic Projects

	Acronym	Title	Co-ordinator
A. Land Cover Change in Europe			
ESD	BIOPRESS	Linking Pan-European Landcover Change to Pressures on Biodiversity	Dr. France Gerard, Natural Environment Research Council, Huntingdon, Cambs, UK
B. Environmental Stress in Europe			
ESD	LADAMER	Land Degradation Assessment in Mediterranean Europe	Prof. Dr. Joachim Hill, Universität Trier, Trier, DE
ESD	OCEANIDES	Harmonised monitoring, reporting and assessment of illegal marine oil discharges.	Dr. Iain Shepherd, Joint Research Centre, Ispra, IT
ESD	EUROSION	Coastal erosion in Europe	Mr Stéphane Lombardo, Rijksinstituut voor Kust en Zee, Den Haag, NL
C. Global Vegetation Monitoring			
ESD	SIBERIA	Multi-Sensor Concepts for Greenhouse Gas Accounting of Northern Eurasia	Dr. Christiane Schmallius, Friedrich-Schiller-Universität Jena, Jena, DE
D. Global Ocean Monitoring			

¹⁰ OJ n°C364 of 20.12.2001

¹¹ OJ n° C321 of 16.11.2001

¹² COM(2001) 609 final annex

ESD	MERSEA	Marine EnviRonment and Security in the European Area	Prof. Johnny A. Johannessen, Nansen Environmental And Remote Sensing Center, Bergen, NO
ESD	MAMA	Mediterranean network to Assess and upgrade the Monitoring and forecasting Activities	Dr Silvana Vallerga, CNR, Italy
ESD	ESONET	European SeaFloor Observatory Network	Prof. Monty Priede, University of Aberdeen, UK i.g.priede@abdn.ac.uk
E. Global Atmosphere Monitoring			
ESD	DAEDALUS – CREATE	Construction and delivery of European AErosol Data Bases and proDucts for Assimilation and environmental Use	Dr. Olivier Boucher, Centre National de la Recherche Scientifique, Lille, FR and Prof. Stephen G. Jennings, National University of Ireland, Galway, IRL
ESD	APMoSPHERE	Air Pollution Modelling for Support to Policy on Health, Environment and Risk Management in Europe	Prof. David Briggs, The Imperial College of Science, Technology and Medicine, London, UK
ESD	GATO	Global Atmospheric Observations	Dr Geir Braathen, Norwegian Institute for Air Research
ESD	Meth-MonitEUr	Methane monitoring in the European region	Prof. Euan Nisbet, Royal Holloway and Bedford New College , Egham, UK
G. Systems for Risk Management			
IST	DISMAR	Data Integration System for Marine Pollution and Water Quality	Dr Stein Sandven, Nansen Environmental and Remote Sensing Centre, Bergen, NO
H. Systems for Crisis Management and Humanitarian Aid			
IST	RISK_FORCE	Accompanying Measure on Natural Risks Management	Mr. F. Martin-Dupont ASTRIMUM SAS, Touloué, FR,
IST	ISIS	Intelligent Systems for Humanitarian Geo-Infrastructure	Mr. H. Hansen, Liege/B, KEYOBS s.a.
I. Information Management Tools			
ESD	Euforeo	The EUFOREO Thematic Network	Mr Giovanni Cannizzaro, Telespazio
IST	EOLES	Combining GIS and Web	Mr. E. Gontier Liege/B, Spacebel S.A.

2. GMES Cross-cutting assessment studies

The purpose of the Cross-Cutting Assessments is to identify and examine the following generic issues that must be confronted in designing a sustainable European capacity for GMES: in this way, the studies will provide the technical orientation for proposals for the Implementation Period of GMES.

1. Scientific issues linked to gaps in knowledge, models and technology.
2. Technical issues concerning the adequacy of monitoring networks and the quality of resulting data.
3. Issues of data policy, including ownership, confidentiality, accessibility, security and cost.
4. Organisational, institutional, funding and socio-economic issues.

Three studies have been commissioned, to examine the above design issues:

- BICEPS (Building an Information Capacity for Environmental Protection and Security) will examine issues 1 and 2, relating to scientific and technical aspects of the design of GMES.
- DPAG (Data Policy Assessment for GMES) will cover Issue 3.
- GSeS (GMES Socio-economic Study) will examine organisational, institutional, funding and socio-economic issues (Issue 4 above).

In addition a study has been commissioned to examine the above design issues in Russia.

Each assessment will assemble and synthesise material from the following sources:

- Lessons learned from the Thematic Projects.
- Inputs from relevant national projects in the Member States.
- State-of-the-art knowledge from earlier EC initiatives, including 4th and 5th Framework Programmes, Joint Research Centre activities, and Expressions of Interest submitted under the 6th Framework Programme.
- Inputs from the ESA GMES Services Element Consolidation Phase, together with inputs from the Data User and Earth Observation Market Development programmes.
- Inputs from the GMES Forum.
- Inputs from the GMES Steering Committee Working Groups

The studies will also take account of the parallel development of the INSPIRE initiative, in particular through analysis of relevant issues identified in the INSPIRE position papers, published in the autumn of 2002.

In considering each of the above broad areas of design, all three studies will need to consider and prioritise the policy requirements that drive the specification of individual data products, the nature of other user requirements (including the needs of Member States and relevant international programmes) and societal and economic aspects of GMES.

3. ESA GMES Services Elements

Work has started on the ten GSE consolidation activities listed in Table 2:

Table 2: ESA GSE projects

Acronym	Title	Co-ordinator
STABLE GROUND	Monitoring of urban subsidence for European cities	NPA Group (UK)
FOREST MONITORING	Forest area and land use change mapping	GAF (D)
SAGE	Water pollution risk and soil sealing maps for water management and soil protection	InfoTerra GmbH (D)
ROSES	Real time Ocean Surveillance for Environment and Security covering oil pollution and water quality	Alcatel (F)
NORTHERN VIEW	Ice and arctic monitoring services	C-CORE (CDN)
ICEMON	Operational ice monitoring for marine operations and climate	Nansen Centre and Met Norway (N)
COASTWATCH	Geo-information services in support of integrated coastal zone management	EADS (F)
RISK-EOS	EO based risk information services for forest fire and flood management	Astrium (F)
URBAN MAPPING SERVICES	Monitoring expansion, land cover change and encroachment into protected areas	Indra (E)
GLOBAL MONITORING FOR FOOD SECURITY	Crop monitoring services	VITO (B)

Each GSE consortium comprises:

- A Core User Group
- Operational Service Providers
- System Developers
- Research Partners

A single project manager appointed by the Prime Contractor leads each project. Several consortia also include expert consultants who are assigned specific tasks such as the Cost Benefits Analysis. The teams are large and represent both users and industry from all over Europe, with typically 10 - 15 different organisations from several member states working together in each. Every consortium obtains independent high-level review and guidance from a dedicated Strategy Group. The ten contracts are all of 20 months duration, and approximate value €1.5m.

4. JRC activities undertaken in the context of support to EU policies and relevant to the development of GMES services.

As part of its institutional role, JRC is providing scientific and technical support to a number of EU policies. The efficiency and effectiveness with which this can be done in the future will benefit from the enhanced capability that GMES will provide. The present activities are summarised in the following table. They include supporting:

- Europe's commitments for monitoring the global environment through the provision of satellite monitoring exercises, production of validated data sets and improved algorithms for land cover assessment, land resource management, forest resources and productivity of oceans. Particular emphasis is given to Africa through the AMESD initiative. Russian pan-Eurasian forest monitoring work has started.
- European environmental policies through monitoring of water resources and conditions, forest distribution and conditions, air quality, land-use changes (including urbanisation), inland and coastal-zone contamination, soil conditions (reference databases and impact of degradation) and nature protection sites;
- European civil protection and Seveso authorities through flooding alert systems, fire risk maps, Seveso plant databases, marine oil-spill and landslide monitoring;
- The Common Agricultural and Fisheries Policies through the development, assessment and application of technologies for monitoring area-control measures, forecasting crop yields – both inside and outside Europe – and detecting and identifying fishing vessels;
- European Union external aid and security policies through provision of mapping and decision support services for aid, reconstruction and demining and development of tools for verification of non-proliferation treaties;

The lessons learned in providing information for EU policy-makers are being made available to the GMES cross-cutting assessment teams. The JRC is undertaking many of those application in full co-ordination with the INSPIRE initiative

Among the DGs and services served in the capacity described above are DG AGRI, AIDCO, ECHO, DG ENV, DG FISH, OLAF, DG REGIO, DG RELEX, DG SANCO and DG TREN.

Annex 3. Table of Content of GMES Report for the Initial Period (2002-2003)

This Draft Table of Contents was produced by the GMES Support Team. It incorporates comments made by the GMES Steering Committee at its meeting of 11/12 March 2003. Its function is to offer a structure for co-ordinating the inputs of the various groups contributing to the preparation of the GMES end-2003 report (in, the cross-cutting assessments and thematic projects as well as particular the GSC and its WGs). As such it will evolve, allowing adjustments and complements to be made as work progresses.

Content of end-2003 Final Report

The GMES Report for the Initial Period will:

- describe the current European capacity to produce the information needed for EU Environment and Security policies;
- describe the GMES capacity proposed to be established by 2008;
- identify the actions to be undertaken during the Implementation Period (2004-2008);
- consist of an introduction, three main parts (analysis of current capacity, proposed GMES vision, recommended actions) and a technical annex.

In order to prepare the technical content for the design of the European capacity and the activities of the Implementation Period, the following mechanism has been put in place. It corresponds to the Strand 1 “Deliver to Learn” and Strand 2 “Assess to Structure” activities outlined in the GMES Action Plan (COM(2001)609 and ESA/PB-EO(2001) 56).

- i.) Thematic projects (EC) and consolidation studies (ESA) will document the user needs and the ensuing scientific, technical, socio-economic and institutional requirements for improvement of the current European Capacity to produce policy relevant information;
- ii.) Results will be processed into synthesis reports through the cross-cutting assessments and GMES Support Team activities, which will constitute the technical basis of the final report.
- iii.) Advice will be obtained through users meetings, the GSC Working Groups, the Forum Conferences, as well as the GSC and the GMES national groups.

Valuable inputs will be incorporated wherever possible from relevant JRC activities, those of EU and ESA member states and EUMETSAT.

The principles guiding the work include maximisation of past experience, cooperation with related bodies and programmes, user involvement (see www.gmes.info/).

In order to produce a report by the end of 2003, it will be necessary to rely on interim reports from some of the above activities as well as the results of previous relevant activities.

Introduction

This section will define the GMES initiative, state the purpose of the document, recall the mandate and key contributors. It will briefly describe the overall approach (including ref. to the 3 “Strands” in the GMES Action Plan and the Initial GMES Priority Themes.

PART I: Analysis of the current European capacity to produce information for Environment and Security policies.

Part I will summarise and structure the broad array of user needs springing from European policies and assess the current European capacity to meet such needs.

I.1. The users needs

This chapter will start from the users requirements for services and information emanating from European policies, Policy implementation, assessment of policy impacts and the development of policy will be covered – the information hence refers to both short and long term needs. On that basis it will analyse and synthesise the needs for data and models.. , and present the general implications of the analysis (e.g. data common to several policy priorities, data flows and relationships between territorial levels/subsidiarity, data flows and relations between thematic sectors.).

I.2. The adequacy of current European capacity to produce the required information.

This chapter will describe the extent to which the users needs are currently met. This will identify the institutional, socio-economic, technical (e.g. monitoring networks, service provision facilities etc) and scientific gaps that motivate the need for changes and the recommended actions.

Part II: The European capacity for GMES in 2008

The GMES capacity proposed for 2008 will be described here. The themes addressed, the assumptions made and the criteria used to establish priorities will be identified and justified.

II.1. The GMES system: core features and justifications

Drawing upon chapters 1 and 2, this chapter will:

- Outline the long term vision for GMES (2020-2030)
- State and justify the criteria for the recommendations of actions for the Implementation Period 2004-2008 (together with any important assumptions made).
- Describe the overall features of the proposed GMES core capacity to be established by 2008: institutional, organisational, legal, funding, data policy, technical, scientific). Relationships to the INSPIRE initiative will be spelled out.

II.2. Socio-economic impacts

This chapter is crucial in that it will demonstrate the GMES added value and expected benefits for sustainable development (economic, social and environmental impacts). It corresponds to the impact assessment study required as part of the Commission procedures

associated to new initiatives and in response to the EU Council request for an evaluation of costs and benefits. The specific aspects to be dealt with by this assessment will be listed.

PART III: Recommendations for actions:

This part will elaborate on the actions needed and the activities that will constitute the basis of work for the Implementation Period (2004-2008). It does not include actions beyond 2008, which are sketched out in chapter II.1. Many aspects will be common to several EU policies related to the environment and security (e.g. environment, spatial development, transport, development etc.). Others will differ; these will be spelled out within each chapter.

III.1 Summary of the Work Programme for the Implementation Period of the GMES Action Plan (2004-2008)

This section will show the overall structure and timing with reference to the 3 strands of activities foreseen in COM(2001)609 and ESA/PBEO(2001)56.

It will also where relevant indicate the degree of priority of the recommended actions. The list below however does not yet include any notion of priority, which will only be possible when the studies will have been completed.

III.2. Recommendations on institutional, co-operation and funding aspects.

The following issues will be subject to documented recommendations for action:

- to improve and where necessary complement the institutional frame;
- to establish a European Partnership of key European actors and a Secretariat;
- to consolidate mandate and co-operation of existing European actors.
- to put in place mechanisms to ensure the permanent update of the user requirements and the ongoing user involvement in the design, development and use of monitoring and information production schemes;
- to put in place mechanisms to improve consistency between monitoring networks/facilities and to ensure the updating of information on these networks, through co-ordination of responsible institutions and territorial levels of competence, i.e.:
- to spell out the relationship between EU and national, regional and local levels i.e. the implementation of the subsidiarity principle regarding information flows;
- to harmonise between thematic sectors at European level (e.g. reporting directive);
- to structure and foster the European contribution to international and global initiatives (e.g. on sustainable development, climate change and IGOS);
- to address any specific requirements for European autonomy regarding access to information, data and observing systems;
- to integrate/reinforce (through common guidelines or rules) support to monitoring and information production infrastructures within EU legislation (e.g. the INSPIRE legal initiative) and policies for sustainable development (e.g. Regional Fund; Cotonou Agreement; co-operation with Third countries etc);
- to examine the possibilities to establish a framework for European-level data policies;

- to develop European data policy activities (e.g. those under INSPIRE and the proposed ESA O₂ strategy) to enable the creation of the conditions for the production, sharing and use of information to meet the users' needs;
- to foster the dual use of data and of facilities, as appropriate;
- to identify costs and propose funding mechanisms to ensure sustainability and propose specific actions by the stakeholders (e.g. Council decision for a work programme, ESA programme proposals, etc) and post-2008 (e.g. TEN regulation, ESA programmes, etc). A distinction will be made between RTD funds and those for operational services;
- to establish appropriate procedures to monitor the implementation of GMES during 2004-2008 and its impact. The type of procedures referred to will be elaborated.

III.3. Recommendations for the development of the backbone of the European capacity.

This section will address the key functional elements of the GMES core capacity to be developed during 2004-2008 in order to meet requirements of EU directives or EU contribution to international initiatives (e.g. GTOS, GOOS, GCOS); idem for non EU territories benefiting from EU policies (e.g. Development). (the longer term vision will be addressed under II.1). Elements developed under the INSPIRE / European Spatial Data Infrastructure initiative will be important constituents of the backbone. The following issues will be subject to documented recommendations for action:

- to implement urgent adjustments (organisational first, then infrastructural) to European operational monitoring networks/facilities (space-borne, terrestrial, sea-borne, airborne);
- to establish new networks and infrastructures where necessary (e.g. ESA Earth Watch missions); to
- to encourage standardisation of data or impose it by legislation; data quality schemes;
- to foster and fund the development of services of access to and active dissemination of data, standards, metadata, models and information (e.g. the proposed ESA O₂ strategy). This will include the integration - where appropriate - of technical solutions from EO, navigation and telecommunications techniques;
- to establish a number of sustainable operational services
- to contribute to the preparation of the multi-annual work programme of the EEA (2004-2008)

III.4. Research, Technological Development and demonstration activities. Transfer of knowledge, dissemination and use of information.

The following activities will be the subject of recommendations for action. They will influence a 2004 GMES FP6 dedicated call, co-ordinating the resources of the sections of the FP6 thematic priorities set to contribute to GMES (1.2, 1.4 and 1.6) Other possible means to support these activities will also be considered.

- to support integrated project, network of excellence, research infrastructures, support measures to be submitted under FP6 ;
- to propose adjustments to FP6 (mid-term-review), ESA and national RTD programmes;

- To further enhance scientific and modelling capacities in Europe, together with service demonstration.
- to support demonstration programmes as well as awareness raising and capacity building schemes, e.g. for accession or associated countries;
- outreach programmes to support awareness raising of users.

Annexes.

The annexes will describe the main results from the GMES Cross-cutting Assessments and Thematic Projects of FP5.

The outputs of the Thematic Projects and other EC and ESA activities do not appear as explicit sections of the report. However, the expertise, lessons learnt and main concrete examples underpinning the chapters will be obtained from the Thematic Projects. Furthermore, Thematic Projects will be called upon to contribute specific inputs to illustrate and document the users needs (chapter I.1) and the adequacy of the current European capacity (chapter (I.2), as well as the design of the backbone of the European capacity.

Annex 4. 2003-Workplan and organisation.

1. Overview

The various GMES groups active in the implementation of the GMES Initial Period can be distinguished according to the function they will perform: production, advice and dialogue.

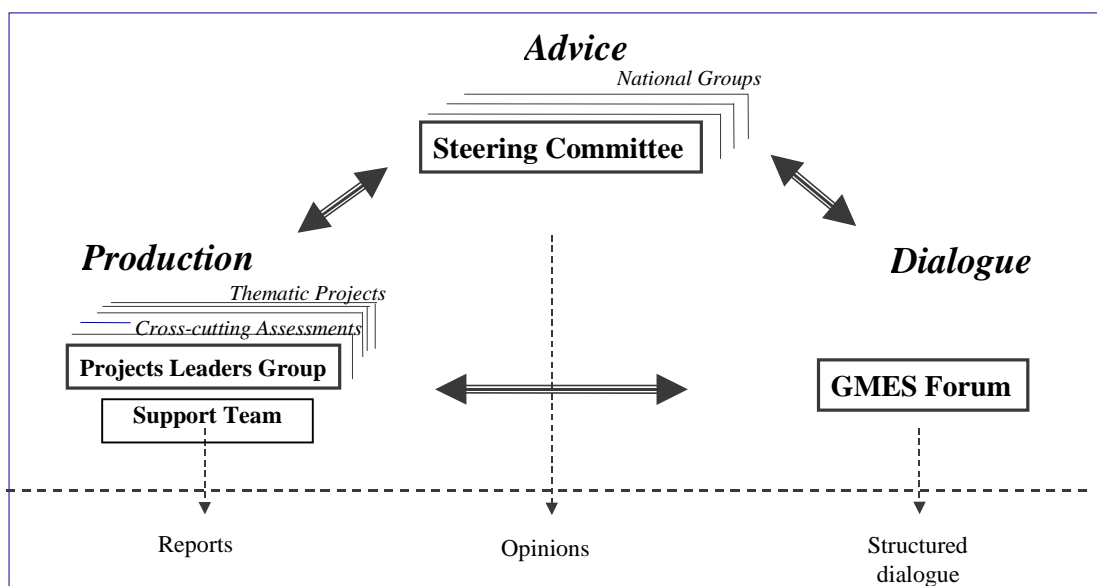


Fig.1: The GMES main groups.

GMES Steering Committee (GSC)

The GSC has an advisory role, as expressed in its Terms of Reference:

“The GSC is a key structure of GMES. It delivers opinion on the main outputs of the Initial Period, in particular the Final Report. GSC Members play an essential role towards ensuring coherence between EC, ESA and national activities, as well as between activities at the national level.”

The GSC serves as a platform for elaborating a consensual view amongst the different stakeholders.

National co-ordination groups

The success of the GMES initiative will to a large extent depend on its ability:

- to take advantage of existing activities, both building upon and complementing these;
- to raise users interest;
- to take account of stakeholders needs and plans while preparing the proposals to be presented at the end of the initial period.

To this end, a number of countries (BE, DE, FR, IT, NL, UK) have already set up inter-ministerial groups for co-ordination; other countries are being encouraged to do so.

Thematic projects and cross-cutting assessment groups

Teams comprising from 5 to 12 European organisations are implementing thematic projects. In order to ensure the relevance and benefits for the users, the services concerned with the specific environmental and security policies addressed by the thematic projects will be associated with their realisation. This will involve, in particular, the competent services of the European Commission and the Committees or national expert groups concerned with the implementation or preparation of specific legislation.

The cross-cutting assessments will be performed by a small number of experts. Their work is being overseen by the Commission and monitored and advised by Working Groups of the GMES Steering Committee (GSC), composed of typically 8-10 persons including:

- WG Co-ordinator from the GMES Support Team
- Experts nominated by Member States
- Experts nominated by EC and ESA

The thematic projects and cross-cutting assessments studies by the Commission and the ESA studies of the GMES Service Element consolidation phase constitute an important investment and a mobilisation of a large number of teams. It is indispensable to ensure that the results of all these individual projects converge in the final report towards proposals for GMES.

To that end, the leaders of the Commission thematic projects and of the assessments and of the ESA consolidation phase studies meet regularly in the GMES project leaders group to develop a detailed understanding of their mutual activities and anticipated results.

JRC activities

Previous and ongoing Framework Programme projects and many JRC activities in global initiatives and in direct support to user DGs (e.g. ENV, AGRI, ECHO, DEV, RELEX etc.) provide valuable inputs.

GMES Support Team

The GMES Support Team is in charge of the co-ordination and realisation of the Initial Period work programme. Its central objective is the preparation of proposals for the establishment of a European capacity for GMES. To this end, the Support Team animates and co-ordinates the GMES activities and ensures their overall coherence with regard to the preparation of the proposals.

It will in particular ensure that users are duly associated to the Action Plan's activities and that results from the thematic projects and the assessments are properly collated, disseminated, analysed and synthesised in view of the drafting the final report proposals.

The Support Team also ensures the secretariat of the GMES Steering Committee. It liaises with the national co-ordination groups. It provides inputs to the work of the EC-ESA Joint Task Force.

The GMES Support Team is currently composed of staff of the EC services (DG RTD, DG ENV, JRC and DG INFSO) and ESA.

GMES Forum

The GMES Forum fosters the dialogue between all parties involved in monitoring and information production for environment and security policies. The interim and final results of the thematic projects and of the cross-cutting assessments will feed into the dialogue within the Forum participants. The GSC, co-ordination groups and project groups constitute key elements of the Forum.

2. Key milestones of the Initial Period

The process of elaborating the final report that concludes the Initial Period at the end of 2003 is structured by a number of key milestones. These are explained below and illustrated in Figure 2.

EC thematic projects results and users consultation

The adequacy with respect to policy needs of the information prepared by the thematic projects will be discussed with users in two series of meetings: interim results in Spring 2003; draft final results in Autumn 2003. These will take place in the context of regular meetings with users and where appropriate projects will be grouped (e.g. all related to atmosphere monitoring, all related to ocean monitoring,...) to increase synergy.

ESA GMES Service Element

ESA issued in September 2002 the first GMES Services Element consolidation phase invitation to tender to the whole spectrum of the GMES priority themes identified in the GMES Action Plan.

The consolidation phase contracts associated to the first call will last until end-2003, with individual Interim Reviews by mid-2003. The EC ongoing projects and already established operational service delivery activities (e.g. EUMETSAT Satellite Application Facilities) will be considered in this process. In order to avoid overlaps, EC and EUMETSAT will be part of the review process.

In the course of 2003, the GMES Services Element individual Interim Reviews, related to the awarded consolidation phase contracts, will assess the potential for individual services (public benefits, user acceptance, market potential, along with scenarios, time scales, risks and critical dependencies from data sources).

Cross-cutting assessments

Interim and final results of each of the cross-cutting assessments studies performed under contracts (5th Framework Programme Environment and Sustainable Development and Information Society Technology) in support to EC, will be submitted to the GSC Working Groups for comments and guidance. The planning for the three series of meetings is as follows:

- structuring of the work, in articulation with INSPIRE results, end 2002;
- interim results, spring 2003;
- draft final results, autumn 2003.

GMES Forum

Four GMES Forum sessions will take place by the end of 2003. The first two meetings discussed and brought together available results and experience and provided inputs to the cross-cutting assessments. The last two conferences will be fed with interim and final results from the EC thematic projects Interim Reviews, cross-cutting assessments and GMES Service Element individual Interim Reviews in order to receive feedback from the widest community of GMES stakeholders. The GMES Forum reports will contain the main findings and thus provide intermediate elements to the final report preparation.

GMES Steering Committee

The Steering Committee will be kept continuously informed and its opinion taken into account. It will produce a document stating its opinion on the Initial Period Report, drafted by a dedicated ad hoc Working Group.

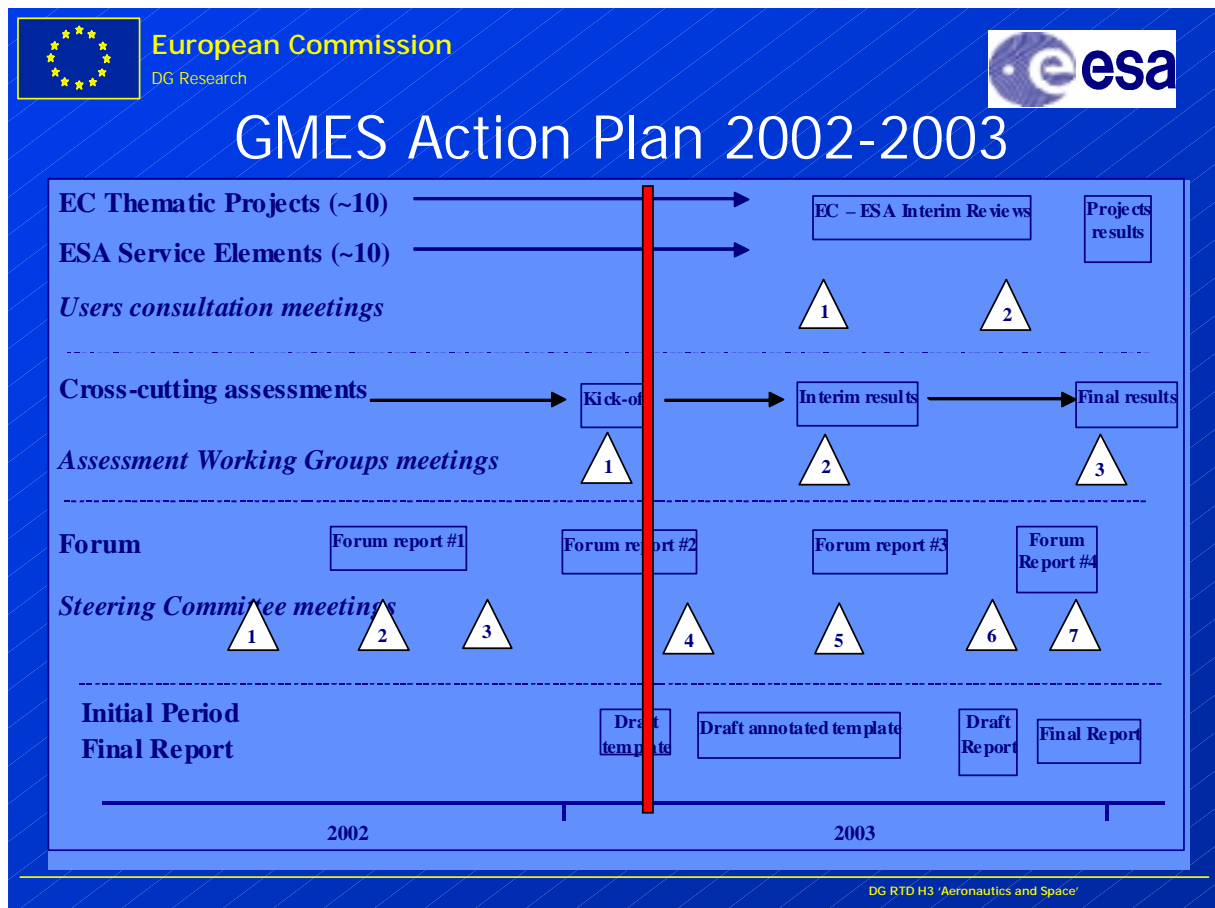


Figure 2. Overview of the GMES Initial Period