

ANNEX

WORK PROGRAMME 2011

*European Earth monitoring programme (GMES)
and its initial operations (2011 – 2013)*

(European Commission C(2011)1514 of 9 March 2011)

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1. INTRODUCTION

This document constitutes the annual work programme adopted by the European Commission in accordance with the article 15 of the Regulation on the European Earth monitoring programme (GMES) and its initial operations (2011 – 2013)¹ (referred to hereafter as the "GMES Regulation").

GMES initial operations are a transition from the GMES build up, which was financed mainly through FP 7 funds and contributions from ESA Member States, to the full exploitation of GMES post-2013. During this transition phase, the development of GMES-dedicated satellites (the Sentinels) continues, while many of the pre-operational services projects will continue to be financed with research funds. EUR 107 million will be made available under the GMES Regulation.

According to the principles of sound financial management, activities financed through the GMES Regulation and activities financed through FP7 will be clearly defined and separated, and be eligible in accordance to the specific rules of the two instruments. At the same time, the Commission will work towards full coherence, synergies and complementarity of actions funded by the two programmes.

Crucial to the success of the GMES service component is the compliance with the requirements and the guidelines included in the INSPIRE directive². All foreseen GMES activities shall therefore contribute to the ongoing INSPIRE implementation.

The budget for 2011 relating to the GMES Regulation amounts to EUR 9 million under budget line 02 02 15 (European Earth observation programme GMES) and EUR 1 million under budget line 02 01 04 06 (European Earth observation programme (GMES) — Expenditure on administrative management).

2. STRUCTURE OF THE GMES REGULATION 2011 WORK PROGRAMME

Article 3 of the GMES Regulation defines the fields that may be covered by actions in the context of the GMES initial operations. With a view to the limited funding available in 2011 and in order to optimise the available resources (both from the GMES Regulation and from the Space theme of FP7), the Commission intends to concentrate the work programme 2011 on the following fields:

- (1) The land monitoring and emergency management themes of the service component of the GMES programme;
- (2) The GMES space component;
- (3) Support for GMES policy measures set out by the Regulation.

¹ OJ, L 276, 20.10.2010, p. 1.

² Directive 2007/2/EC - OJ L 108 of 25.4.2007, p. 1.

3. WORK PROGRAMME 2011 – DETAIL OF ACTIONS

ACTION NO 1

GIO1-2011: GMES emergency management services - Mapping

Reference to the GMES Regulation

Article 3(1) point 1; Article 2(2)(a) third indent, emergency management; Annex, point 1.

Political priorities and link with other funding sources

The objective of the GMES Emergency management service³ is to support users in the field of crisis management, in particular Civil Protection, Humanitarian Aid and External Action communities by providing them with information based on space data combined with other sources of data. It addresses both natural disasters (floods, forest fires, earthquakes, tsunamis, volcanoes, landslides, storms..) and man-made disasters (industrial, nuclear accidents, terrorism attack etc.), inside and outside the EU.

The Emergency management service will focus on the priorities defined by the Emergency Response Core Service Implementation Group established under FP7 and it will be based on:

- the consultation of user communities building on precursor activities funded by ESA (TERRAFIRMA, RESPOND and RISKEOS), and by the EU (SAFER, PREVIEW)
- the preparatory action (LINK-ER project)
- existing operational activities at European and national level.

The main objective in 2011 will be to set up the emergency management service that will ensure the continuity of the mature and priority activities of the FP7 precursor project SAFER (ending in January 2012). The details of these priorities and their relevance to the users will be validated by the Commission with the advice of the newly established GMES User Forum.

The **first priority** defined by the users and to be validated after consultation of the User Forum is to set up an operational mechanism for delivering emergency mapping products **during the emergency response phase**, i.e.

- (i) **emergency response maps produced in rush mode** to show the impact, assess the damage and follow the evolution of the disaster in the hours and days after the crisis, and
- (ii) geographic **reference maps made available in rush mode** providing basic topographic on areas affected by the disaster, in particular on infrastructure.

The **second priority** is to support the other phases of the crisis management cycle, in

³ The emergency management service will be providing products for all types of crisis or disasters being it in transport, health, natural disasters, terrorism, finance etc.

particular the prevention, preparedness and reconstruction phases, inside or outside EU, by providing pre-disaster or recovery mapping products, including refugee / IDP (Internally Displaced Person) maps under a non-rush mode.

Description

Scope

Mapping in support to crisis management inside and outside EU

- On-demand production and delivery **in rush mode** of EO data, damage assessment (within 24 hours after reception of the satellite data) and reference maps (within 6 hours after reception of the satellite data) over crisis area. This service must be available on a 24/7/365 basis with a minimum provision for a number of crises/year based on statistics from the precursor project and the International Charter. Priority will be given to this activity.
- On-demand production in non-rush mode of preparedness / prevention and recovery maps in support to other phases of the disaster cycle.
- Validation and quality control of all generated products, archive, catalogue and dissemination.

The mapping service will be activated on-demand by the authorised users (including National Focal Points coordinating the activations at MS level). The activation mechanism will build on the approach implemented in the current FP7 SAFER project and the LINK-ER project (preparatory action 2009). With full respect for the principle of subsidiarity as referred in the GMES regulation¹, this activation mechanism will ensure a coordinated management approach with all authorised users (in particular at national level), thus avoiding any risk of potential duplication. By definition the activations being ‘on-demand’ and depending on the number of crises which cannot be predicted in advance, a **flexible mechanism** should be implemented.

The service encompasses a fixed part and a variable part:

- The **fixed part** covers (i) the operation of the 24/7/365 service focal point handling activations and the tasks of service coordination in case of a crisis, (ii) catalogue, archive and dissemination tasks, (iii) validation and quality control tasks.
- The **variable part** is proportional to the number of activations in the light of crisis events and covers (i) on-demand mapping in rush mode in support to Emergency response to crises inside and outside the EU, (ii) on-demand mapping in support to other phases of the disaster cycle inside and outside the EU.
 - The activations will be managed through a system of quotas with a pre-defined envelope allocated to each type of product. Priority will be given to the rush mode activities.
 - Each activation will be associated to a number of mapping units proportional to the contents (reference map, damage assessment map), the area (sq. km²) and the activation mode (rush mode, standard mode). Specific orders will be placed

for each activation or a group of activations.

- A quotas monitoring and management mechanism will be set up at the Commission level. The quotas will be adjusted dynamically, at least every six months, according to the real activations and depending on the crisis (e.g. in case of a major crisis, exceptional measures could apply). In case of overconsumption or under consumption of the quota for rush products (less emergency activation), the quota for non rush products will be respectively decreased or increased accordingly.

Expected output of the implementing measure

Mapping in support of crisis management inside and outside EU

1. Operation of a 24/7/365 service focal point handling activations by users and service coordination tasks
2. On demand mapping in rush mode in support to Emergency response to crisis inside and outside the EU
3. On demand mapping in support to other phases of the disaster cycle (prevention, preparedness, recovery...) inside and outside the EU
4. Catalogue, archiving and dissemination of all generated products
5. External validation and quality control

Indicators

Mapping in support to Crisis management inside and outside EU

1. Number of activations of the service by users in rush mode (for 'rapid mapping' during the response phase)
2. Number of activations of the service by users for preparedness / prevention and recovery mapping
3. Number of maps and sq. km produced in rush mode for the emergency response
4. Number of maps and sq. km produced for the preparedness / prevention and recovery phase
5. Timeliness in rush mode: average time between the activation and product delivery
6. Results of validation/quality control of products
7. Evaluation by the users based on questionnaire (user satisfaction regarding the quality of the service)

Implementation mode

The Commission will implement the budget on a **centralised direct management** basis in accordance with Art 53 a) of the Financial Regulation.

The Commission will launch a procurement procedure for these different mapping activities in support to crisis management. The service will use as much as possible the existing capacities available in the EU.

The budget foreseen for this activity is EUR 2.3 Million.

According to Art. 4 of Reg. 911/2010, the Commission is in charge of the overall

coordination of the GMES program. For the Emergency management service:

- The Commission (DG ECHO) will ensure the operational coordination and interaction with authorised users, in particular national civil protection authorities, humanitarian aid actors and EEAS (including EUSC). It will also validate compliance of service requests with agreed criteria and priorities for activation.
- The JRC will be in charge of the technical coordination of the activities and it will provide technical support to Commission services. Its role will be to carry out service procurement activities. The JRC will not be involved in the production of service outputs. Those will be under the responsibility of the successful tenderer. The JRC will also monitor the activations of the service by Member States and other authorised users, including international activations through DG ECHO and EEAS. It will implement and manage a quotas management mechanism based on priorities defined by the users and host a catalogue of all generated products.

Operation timetable

MILESTONE DESCRIPTION	INDICATIVE QUARTER
Contract notice	Q1/2011
Invitation to tender and notification	Q2/2011
Evaluation of tenders	Q3/2011
Signature of contracts	Q4/2011
Service delivery	Q1/2012 – Q4/2014
Total duration of service contract (months): 12 months (+2 years extension)	

Budget

ACTION	ABAC PROJECT REFERENCE	YEAR	BUDGET LINE	BUDGET
Procurement		2011	02.0215	2.300.000

ACTION NO 2

GIO2-2011: GMES emergency management services - Early Warning Systems

Reference to the GMES Regulation

Article 3(1) point 1; Article 2(2)(a) third indent, emergency management; Annex, point 1.

Political priorities and link with other funding sources

This action will focus on the **sustainability of the Early Warning Systems (EWS) EFAS (European Flood Alert System) at European level**. EWSs in general are considered as a key in support to the preparedness phase, in order to better anticipate the crisis and to be better prepared. DG ECHO has contributed in the past to the development of several EWS at EU level, one of which is EFAS for floods (European Flood Alert System). The objective of this tool is to complement national EWS by providing information in case of major crises (including cross-border crises) requiring coordinated response at European level.

With full respect for the principle of subsidiarity, this action will ensure a coordinated approach respecting the national mandates for the provision of alerts through the national agencies (hydrological and meteorological). So far the system has been developed by the JRC (Joint Research Centre of the European Commission). The objective now is to ensure the transition of a development phase to a full operational system in the frame of GMES. This includes a future use of GMES Sentinel data.

Description

Scope

Support to EU Early Warning System

In 2011 this activity will contribute to the operation of EFAS (European Flood Alert System) which will be complemented by DG ECHO budget and JRC bridge-funding. EFAS currently involves ECMWF, National Hydrological Services and the World Meteorological Organisation (WMO, through its Global Runoff Data Centre - GRDC). EFAS is strongly linked to meteorology, hydrological data and forecasts. The activities foreseen in the frame of GMES Initial Operation in 2011 should cover:

- Continuity of forecast activities:
 - o Provision of numerical weather forecasts, and pre-process them for running EFAS
 - o Run EFAS in operational mode, twice daily
 - o Prepare results for dissemination
- Collection of historic and near-real time river flow data including automated data from National Hydrological Services, quality control and near-real time transfer of data to EFAS for storage in the EU-Flood GIS database, which is used to update

real-time forecasts, verify past flood forecasts, and calibrate and validate the hydrological model used for EFAS.

Expected output of the implementing measure

- 1 Twice-daily pan-European flood forecasts provided to MS national and regional hydrological services, and the European Commission
- 2 A daily updated pan-European overview at low scale of ongoing floods available on a public website

Indicators

1. number of EFAS ‘alerts’ sent out to MS hydrological services and the Commission
2. number of EFAS ‘watches’ sent out to MS hydrological services and the Commission
3. evaluation by the users based on questionnaire (user satisfaction regarding the quality of the service)

Implementation mode

The Commission will implement the budget on a **centralised direct management** basis in accordance with Art 53 a) of the Financial Regulation.

The Commission will launch a procurement procedure for early warning system in support to crisis management.

The budget foreseen for this activity is EUR 0.4 Million.

According to Art. 4 of Reg. 911/2010, the Commission is in charge of the overall coordination of the GMES programme. For the Emergency management service the coordination will be entrusted to DG ECHO with the technical support of the JRC.

- The Commission (DG ECHO) will invite the national Civil Protection authorities (through the existing Civil Protection Committee) to have a stronger coordination with national hydrological services in their use of EFAS and the longer term warnings provided there.
- The Commission (DG ENV) will ensure the co-ordination with the Member States involved in the Common Implementation Strategy of the Water Framework Directive, which includes the implementation of the Floods Directive through the activities of the established Working Groups.
- The JRC will be in charge of the technical coordination of the activities and it will provide technical support to Commission services. Its role will be to carry out service procurement activities. The JRC will not be involved in the production of service outputs. Those will be under the responsibility of the successful tenderer. The JRC will also be in charge of product validation and their dissemination to Commission services.

Operation timetable

MILESTONE DESCRIPTION	INDICATIVE QUARTER
Invitation to tender	Q2/2011
Evaluation of tender	Q2-Q3/2011
Signature of contract	Q3-Q4/2011
Service Delivery	Q4-2011 until Q4-2014
Total duration of contracts: 12 months (+2 years extension)	

Budget

ACTION	ABAC PROJECT REFERENCE	YEAR	BUDGET LINE	BUDGET
Procurement		2011	02.0215	400.000

ACTION NO 3

GIO3-2011: Pan-EU Land Cover monitoring service

Reference to the GMES Regulation

Article 3(1) point 1; Article 2(2)(a) fourth indent, land monitoring; Annex, point 2.

Political priorities and link with other funding sources

The main objective under the GMES Regulation in 2011 will be to **launch land cover activities at Pan-EU level.**

The objective of the Land monitoring service is to provide users in the field of environment and other terrestrial applications with information based on space data combined with other sources of data. It addresses a wide range of policies such as environment, agriculture, regional, development, transport, energy policies at EU level and European commitments to International Convention. The Land monitoring service will focus on the priorities defined by the Land Monitoring Service Implementation Group and the results of consultation of user communities. The Land Service also builds on precursor activities (GEOLAND and GEOLAND2), ESA GSE projects, Corine Land Cover, Land Fast Track precursor project), on preparatory action (Reference Data Access project) and existing operational activities at European level and national level. The details of these priorities and their relevance to users will be validated by the Commission with the advice of the newly established User Forum.

The initial operations (2011-2013) should focus on the priority for multi-purpose information common to a large community of users, i.e. land cover/land cover change at various scale and periodicity, bio-geophysical variables for dynamic land monitoring, improved access to reference data. On this basis, four components have been identified for the Land service in GIO: (i) a Pan-European Land Cover component, (ii) a Global component producing bio-geophysical variables at global scale (iii) a 'Local' component providing very high resolution information on specific areas of interest and (iii) an access to reference data component building on INSPIRE architecture and useful for several GMES services.

- The Land monitoring service will start with the **Pan-EU land cover component** which can be considered as the most mature and consolidated. It encompasses (i) continuity of Corine Land Cover (CLC) with a new exercise for the reference year 2012, (ii) production of 5 additional High Resolution (HR) Pan-EU layers with specific land cover characteristics in complement to CLC, and (iii) support to harmonisation efforts of the MS in order to improve synergies between Pan-EU and national land cover activities and in support to the implementation of INSPIRE Annex II. The 2011 Work Programme focuses on the production of the 5 High Resolution Pan-EU layers which will be expected to be used in a second step (in 2012 and 2013) as input both for Corine Land Cover and the Urban Atlas production.

In complement to GIO, the update of the Urban Atlas (considered as part of the Land local component), will continue to be financed under FEDER in 2012 or 2013.

The acquisition of space data required for the Land Monitoring service, in particular the wall-

to-wall Pan-EU coverage of High Resolution images (10-30m resolution) acquired in 2011 and 2012, hereby called IMAGE 2012 (2012 being the Reference year), and required for the Pan-EU component, will be carried out by ESA with FP7 funds in the framework of the delegation agreement.

Description

Scope

The main objective under the GMES Regulation in 2011 will be to start up and to ensure the transition of land cover activities at Pan-EU level from precursor projects to initial operational framework.

The Land monitoring service in the 2011 WP focus on the **Pan-EU land cover component** which can be considered as the most mature and consolidated part of the land monitoring service. The activities have been defined through a series of consultation of stakeholders in past years including EIONET representatives. It builds on the Corine Land Cover and the GMES Land Fast Track precursor (which produced already 2 Pan-EU HR layers in 2006-2008) involving EEA, JRC, EIONET and ETC-LUSI for specifying, coordinating and monitoring the activities. The first activities to be launched in 2011 are the post-processing of images for producing a cloud free multi-temporal image mosaic, the production of primary products (bio-geophysical and intermediate variables) and the production of 5 High Resolution (HR) layers which will be used for Corine Land Cover and the Urban Atlas production. This type of product is also useful for other applications at European or national level (e.g. for national land cover inventories).

Given the fact that the wall-to-wall HR image coverage will be acquired in 2011 and 2012 the approach is to split the production into regional blocks which will be defined on the basis of the acquisition and availability of cloud free satellite images across different geographic regions of the 39 EEA countries (6 million km²). It is anticipated that approximately 1/3rd of the total Pan-EU coverage will be delivered in the frame of the ESA delegation agreement by the end of 2011, and processed in the frame of this mapping activity.

In detail the activities covered by 2011 Work programme are:

- The **post-processing of space data and the automatic extraction of intermediate products**, including the production of part of the Pan-EU mosaic of ortho-rectified HR images, and intermediate products such as bio-geophysical variables based on HR space data which are common to the production of elaborated products at European (e.g. the HR layers) or national level.
- The **production of five high resolution layers** of 5 thematic layers with land cover characteristics (or attributes) related to change monitoring of artificial surfaces, forest areas, agricultural areas, wetlands and water bodies at full spatial resolution (20 m) and validated at 1ha grid cell. In order to maximise synergies and to avoid duplication of efforts, the production of the 5 HR layers will be integrated into a single process and will be regionalised (based on the available space data). For countries which are ready to provide this information, the HR layers will be derived from national input and harmonised at European level. The five high resolution layers are:

(i) **Artificial surfaces**: mapping of imperviousness (from 0 to 100%) as land cover

characteristic based on the available part of IMAGE2012 in combination with existing transport infrastructure data, together with mapping of changes in imperviousness.

(ii) **Forest areas:** mapping of forest cover characteristics i.e. crown density (from 0 to 100%), leaf-type (broadleaved, coniferous, mixed) based on IMAGE2012. The service should enable forest cover map to be produced with 0.5 x 0.5 ha in line with Member State requirements for their reporting obligations to UN-ECE / FAO.

(iii) **Agricultural areas:** mapping of permanent grassland with possible distinction of agricultural/semi-natural areas.

(iv) **Wetlands:** mapping of wetlands for designated areas of international importance from the Ramsar Convention and European classifications.

(v) **Water bodies:** mapping of small inland and coastal surface water based on IMAGE2012.

- Validation and quality control of products
- Implementation of cataloguing, archiving and dissemination services for the generated land cover products based on SEIS (Shared Environmental Information System) principles and Inspire compliant.
- Data and Service management, including user facilitation.

The approach will be similar to Corine Land Cover (based on a mix of centralised and decentralised activities). The national contribution may cover in particular the production of the HR layers and/or validation of products depending on their capacities, which is fully in line with the principle of subsidiarity.

Expected outputs of the implementing measure

Pan-EU Land cover activities

1. Post-processing of space data and intermediate products based on automatic extraction for approximately 1/3rd of Pan-EU coverage.
2. Production of five high resolution layers with land cover characteristics for artificial surfaces, forest areas, agriculture areas, wetlands, water bodies for approximately 1/3rd of the Pan-EU coverage.
3. Catalogue and archive of all generated products, including an overview of dissemination services.
4. Report on independent validation and quality control.

Indicators

1. Total area covered by cloud free mosaic of multi-temporal satellite imagery
2. Number of bio-geophysical variables extracted by automatic processing
3. Total area covered by the high resolution data
4. Number of high resolution layers produced and for each layer the number of land cover characteristics produced
5. Number of downloads and page views of the validated land cover datasets

- 6. Results of validation/quality control of products
- 7. User satisfaction survey regarding the quality of the service

Implementation mode

According to Art. 4 of Reg. 911/2010, the Commission is in charge of the overall coordination of the GMES program. Art. 4 (5) stipulates that the coordination of the technical implementation of the GMES services shall be entrusted to competent Union bodies or intergovernmental organisations. For the Land monitoring service the coordination of the Pan-EU and the local components will be entrusted to the EEA which has already a long experience in these activities (Corine Land Cover and GMES Land Fast Track precursor). In this coordination activity, EEA will take into account the requirements of all relevant user communities including the emergency service requirements.

Subject to further examination of legal and budgetary nature, the Commission will therefore implement the budget on a **centralised indirect management** basis. The budget implementation will be delegated to the EEA (European Environment Agency) in accordance with Art. 54 of the Financial Regulation⁴. The EEA will use the delegated budgets to (i) conclude grant agreements with all the Member States which will cover the preparation of national inputs, and (ii) to conclude procurement contracts for the aggregation of these products at European level.

The budget foreseen for this activity is EUR 2.7 Million.

Operation timetable

MILESTONE DESCRIPTION	INDICATIVE QUARTER
Contract notice	Q1/2011
Invitation to tender and notification	Q2/2011
Evaluation of tenders	Q3/2011
Signature of contracts	Q4/2011
Products delivery	Q4/2012 – Q2/2013
Total duration (months) 18 months	

⁴ Article 54 paragraph 2(b) of the Financial Regulation (EC) No 1605/2002 of 16 June 2002 applicable to the general budget of the European Communities as amended for the last time by the Regulation (EC) No 1995/2006 of 13 December 2006

Budget

ACTION	ABAC PROJECT REFERENCE	YEAR	BUDGET LINE	BUDGET
Public service contract (art. 88 of FR)		2011	02.0215	2.700.000

ACTION NO 4

GIO4-2011: Space Component

Reference to the GMES Regulation

Article 3(1) point 5; Article 2(2)(b); Annex, point 10.

Political priorities and link with other funding sources

The GMES initial operations (2011-2013) phase - following the build-up-phase - marks the next step towards reaching a fully operational GMES Space Component.

The launch of first Sentinels is planned before the end of 2013 and therefore preparatory activities are needed for the build up. Funding from the GMES Regulation will be included in a revised version of the existing Delegation Agreement between the European Commission and ESA and will complement the funds from FP7. The GMES Committee will be kept informed about the measures to be agreed by the Joint Monitoring Board under the Delegation Agreement.

The GMES Regulation complementary funding shall ensure the operations and development of the GMES Space Component (GSC) (Annex 1, pt.10).

Description

Scope

The emphasis will be dedicated to the preparation of initial operations of Sentinel-1-2-3 and their data generation, management, distribution, and access to GMES Contributing Missions (GCMs) capacity. This will be implemented

- in line with the information and data policy referred to in the GMES Regulation

in response to the GSC System Requirements Document, taking due account of the access rights of the EU Member States and of the access rights granted to the ESA Participating States in the Declaration on the GSC programme.

Implementation mode

According to Article 4.4 of the GMES Regulation, technical coordination and implementation of the GMES space component shall be delegated to ESA, relying on the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), where necessary.

At present the Commission already delegates the implementation of the budgets earmarked for the GMES space component to ESA through the delegation agreement concluded under Article 53d of the Financial Regulation. An amendment to this delegation agreement will include these new financial resources.

The budget foreseen for this activity is EUR 3.6 Million.

Operation timetable

MILESTONE DESCRIPTION	INDICATIVE QUARTER
Amended delegation agreement with ESA	Q1/2011
Advance payment	Q3/2011
Total duration (months)	

Budget

ACTION	ABAC PROJECT REFERENCE	YEAR	BUDGET LINE	BUDGET
Delegation agreement (art. 53d of FR)		2011	02.0215	3.600.000

4. SUPPORT FOR GMES RELATED POLICY MEASURES

This chapter details measures which are planned to be launched or continued in 2011 to implement the GMES Regulation.

These measures, in particular the 4.1 "Support for the operation of the User Forum", will be funded under the "Expenditure on administrative management" budget line (up to EUR 1 million).

4.1. Support for the operation of the User Forum

The Article 17 of the GMES Regulation provides the legal basis of the User Forum. The User Forum is a dedicated body advising the Commission with regard to the definition and validation of user requirements and to the coordination of the GMES programme with its public sector users. This body was not foreseen in the Commission proposal. The Commission will have to **organise User Forum meetings and the related technical working groups** to consult users' communities in 2011.

The overall commitment appropriations for this public procurement activity (by using framework contracts and/or calls for tender) to be launched in 2011 will be up to EUR 0.6 Million.

4.2. Support for GMES Data and Information Policy

Data and information policy is of essential importance for any Earth monitoring programme, as it concerns the framework for the production, distribution and archiving, access and use of the main output of the programme. Due to the fact that GMES consists of different components and also relies on the access to third party infrastructure, the GMES data and information is implemented at several levels:

- the objectives of the data and information policy for actions financed under the GMES programme defined in Article 9(1) of the GMES Regulation;
- registration and licensing conditions for GMES users and criteria for access restrictions to information produced by GMES services and data collected through GMES dedicated infrastructure may be determined by the Commission in a delegated act according to Article 290 TFEU;
- implementing measures concerning GMES data security will be decided through comitology.

The Commission will continue working on GMES Data and Information Policy in 2011, ensuring its consistency with the GEOSS Data Sharing Principles, and the commitments taken at the GEO Ministerial Summit in 2010 to (i) maximize the number of documented datasets made available on the basis of full and open access; (ii) create the GEOSS Data Collection of Open Resources for Everyone (GEOSS Data CORE), a distributed pool of documented datasets with full, open and unrestricted access at no more than the cost of reproduction and distribution; and (iii) develop flexible national and international policy frameworks to ensure that a more open data environment is implemented. It will be essential to have the GMES Data

and Information policy defined prior to the dissemination of data and information produced by the Emergency management and Land monitoring services, starting in 2012. To this aim, **one or more supporting studies** may be performed to provide data and evidence in guiding the Commission's work.

The overall commitment appropriations for this public procurement activity (by using framework contracts and/or calls for tender) to be launched in 2011 will be up to EUR 0.1 Million.

4.3. Support for the future Certification of GMES services

According to Article 5.3 of the GMES Regulation the Commission may define or validate appropriate procedures for the certification of the production of data within the framework of the GMES programme and shall ensure that these procedures are implemented in the contracts with service providers. The Commission will examine this issue in detail with a view to consulting the User Forum. **One or more supporting studies** to assess available standards and options for cost-effective implementation of this provision of the Regulation may be carried out in 2011.

The overall commitment appropriations for this public procurement activity (by using framework contracts and/or calls for tender) to be launched in 2011 will be up to EUR 0.15 Million.

4.4. Support for GMES Communication

Support will be given to the implementation of the GMES communication strategy (such dissemination material, events) related to the GMES regulation and its priorities identified in order to raise awareness and to strengthen wider participation to the programme.

The overall commitment appropriations for this public procurement activity (by using framework contracts and/or calls for tender) to be launched in 2011 will be up to EUR 0.15 Million.