



EUROPEAN
COMMISSION

Community research

Space Research

**Work Programme 2007
and first Call for Proposals**

Madrid, 8 February 2007

**Seventh
Framework
Programme
2007-2013**



Content



- History and Background
 - GMES and FP6
- FP7 and overall approach of the Space theme
- Content of the 2007 Work Programme
- Information on the 2007 Call for Proposals
- Call procedures
- Outlook





GMES: the challenge

Gothenburg Summit (2001):

- *... the next phase of GMES, [should be] aimed at achieving by 2008 an **operational and autonomous** European capability for GMES, based on a sound cost/benefit assessment ...*
- *... the Commission [should] contribute to focusing GMES on **users' needs** by assessing in detail its own needs for GMES services ...*
 - Council Resolution 2001/C 350/02 (Nov 2001)



GMES: to serve Community policies

- observation of the state and evolution of the global environment
- monitoring for the EC 6th Environmental Action Plan
- support to EC Common Policies (Agricultural, Fisheries and Regional Development)
- aid to civil protection for prevention, monitoring and assessment of natural and man-made hazards
- assistance to development and humanitarian aid
- support to the EU Common Foreign and Security Policy (CFSP) and other policies relevant to European citizens' security



GMES: from concept to reality



- The **next EU flagship for Space** after Galileo (*2nd Space Council, June 2005*)
- An EU-led initiative, in which the **Commission** will manage actions for identifying and developing **services** relying both on in-situ and remote sensing data and **ESA** will implement the **space component**
- R&D for GMES in FP7 should:
 - Make best use of, and harmonise, existing systems
 - Support the development of new capacity where needed
 - Explore condition for long-term sustainability.

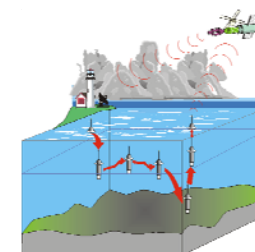
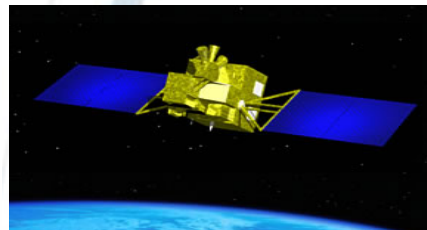


Space in FP7: building on the experience of FP6

- Large **increase in budget** for Space (and Security)
- Space was a **new activity** in FP6, we have learnt a lot:
 - Better mutual knowledge of European space stakeholders
 - Better understanding of the FP6 « new instruments »
 - More realistic view of what is achievable for the development and validation of an operational GMES service
- FP7 should build on experience from FP6 to ensure that GMES is successful, in particular building on the foundation of GMES **Fast Track Services**



FP6 Actions for Space Research 2004 - 2006



- An overall budget of € 145M
- 3 calls: with strong build-up
- Participants from EU25 + EFTA (2005 & 2006)

	2004	2005	2006
Proposal received	27	40	60
Funded Projects	5	11	9
Funded Supporting activities	5	5	7
Total funded	10	16	16



FP7 2007 – 2013



■ SP Cooperation

32.413 M€

1. Health
2. Food, Agriculture & Biotechnology
3. Information & Communication Technologies
4. Nanosciences, Nanotechnologies, Materials & new Production Technologies
5. Energy
6. Environment (including Climate Change)
7. Transport (including Aeronautics)
8. Socio-economic Sciences & Humanities
9. **Space**
10. Security

1.430 M€



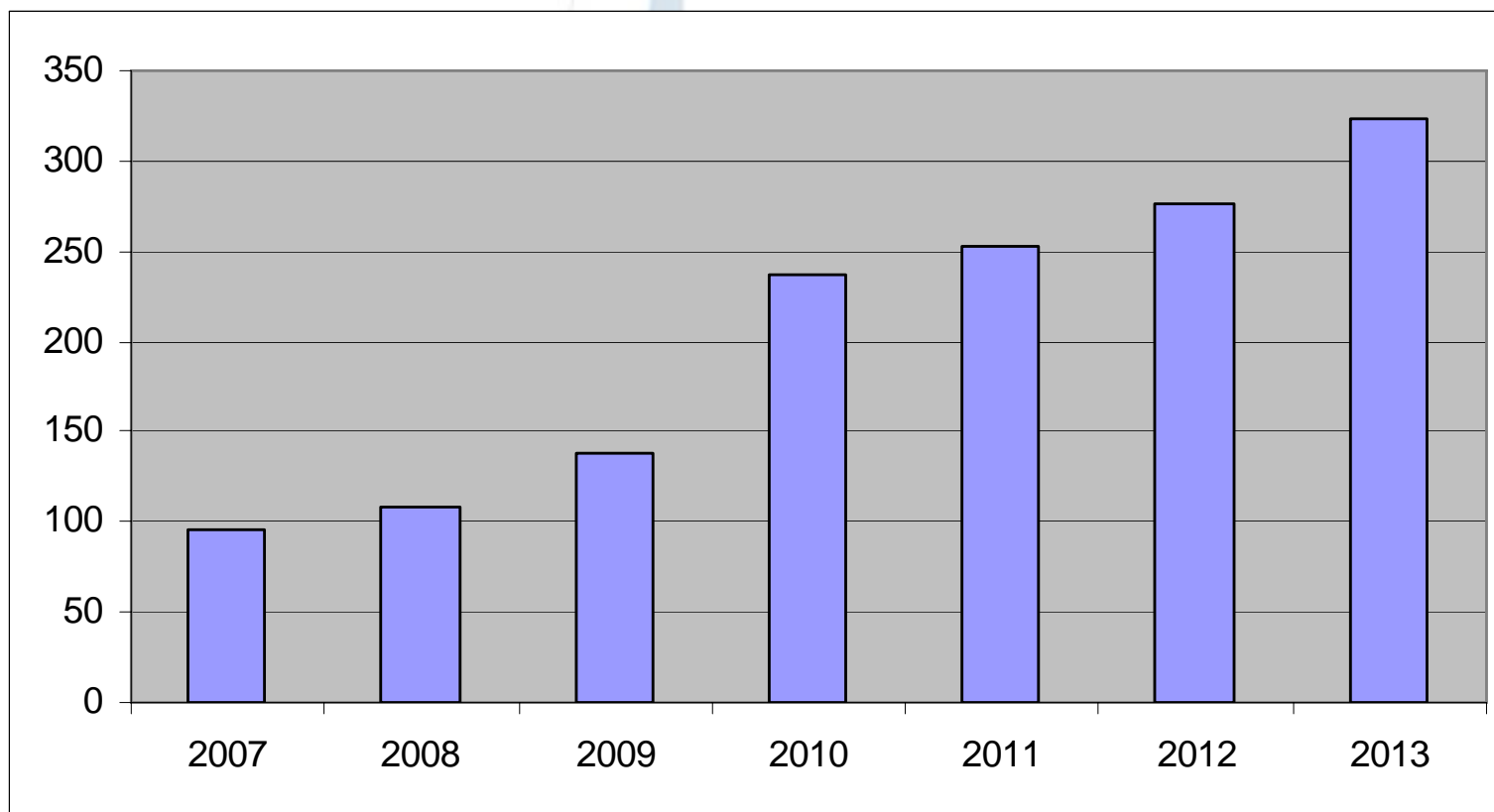
Space in FP7: indicative distribution of resources

- **€1.4** billion for FP7 Space theme
- About **85%** for **GMES** (€1.2 billion), including for dedicated space infrastructures
- About **15%** for strengthening **space foundations** and cross-cutting issues



Draft Budget Annual Commitment Profile 2007-2013

(subject to annual adoption by budgetary authorities)





FP7 2007 – 2013



- Annual Work Programmes
- Space Theme:
 - ➔ Work Programme for 2007
 - ➔ Calls for Proposals in 2007



FP7-Space

Space-based applications at the service of the European Society (principally GMES)

R&D strengthening
Space foundations

Cross-cutting issues



FP7-Space

Space-based applications at the service of the European Society (principally GMES)

**R&D strengthening
Space foundations**

Cross-cutting issues



Space-based applications at the service of European society (GMES): overview

- Development and validation of pre-operational GMES services, starting with the Fast Track Services
- Integrating Earth Observation with SatCom and SatNav technologies (esp. for prevention and management of emergencies)
- Support to the coordinated provision of data (space and in-situ) for related projects in FP7
- Development of dedicated space infrastructures for GMES (→ESA)



Indicative breakdown of resources

- **85% (€1.2 billion)** foreseen for applications (GMES):
 - About **30%** foreseen for projects on service development
 - About **10%** foreseen for « data procurement of data»: both space-based (ESA) and in-situ
 - About **45%** foreseen for developing space infrastructures (ESA)



Some priorities

- Development of **Fast Track Services**
- Development of pre-operational GMES pilot services in **new application fields** (e.g. Atmosphere, Security)
- Address GMES fields that have not been covered in FP6 (e.g. polar observation, downstream services)
- **Coordinated data provision** (support action)



GMES: support to emergency management

- Combining GMES services with other Space applications - SatCom and SatNav - within an integrated approach
- Addressing all kinds of emergencies affecting the safety of citizens
- Building on the experience of FP6
- Aiming at pilot tests in real situations (not just simulations)



GMES: coordinated data provision

- Feedback from FP6 projects: **access to data** could be difficult due to significant costs (shared funding in research projects) and lack of coordination
- As a support to GMES service development, **coherent Europe-wide approach** to the coordinated provision of data from both space and in-situ observation systems
 - Space data → supply coordination by ESA
 - In-situ data → co-ordination at EU level e.g. EEA, JRC ...
- For mission operators: provide longer-term perspective
- For users: facilitate the long-term availability of data



GMES: dedicated space infrastructure

- FP7 funding to support ESA '**GMES Space Component**', in particular for dedicated space infrastructure [COM(2005)565]
- ~**45%** of total FP7-Space budget could be dedicated to space infrastructure
- ESA to be the **direct (pre-defined) beneficiary** of a grant (or series of grants)
 - Grant agreement with ESA to be the subject to **FP7 Rules** and to **Financial Regulations**



FP7-Space

Space-based applications at the service of the European Society (principally GMES)

**R&D strengthening
Space foundations**

Cross-cutting issues



Strengthening space foundations: overview

- Support to research in space science and exploration
- New concepts in space transportation, space technologies and critical components (for Non-Dependence)
- Research into reducing the vulnerability of space-based systems



Some priorities

- New FP7 activity in these areas: should ensure complementarity with the extensive activities already undertaken by ESA/member states, e.g. ESA road-maps
- Focus on upstream aspects of research (e.g. innovative launch/propulsion technologies, optimal preparation of scientific payloads)
- But also downstream aspects (effective exploitation of data produced by missions, contribution to the sustainable provision of critical components)



Breakdown of resources

- **15% (€150-180 Mio)** foreseen for « strengthening space foundations »
- No precise earmarking of funds foreseen between topics



FP7-Space

Space-based applications at the service of the European Society (principally GMES)

**R&D strengthening
Space foundations**

Cross-cutting issues



Horizontal/cross-cutting issues: Overview

- **International cooperation**
- **European Research Area Networks (ERA-NET)**
- **Integration of SMEs**
- **Dissemination**



Horizontal issues: International cooperation

- Cooperation with **third countries** supported
- Cooperation with established or emerging space powers may be highlighted (e.g., US, Russia, Canada, China, India, Ukraine, Japan), where there is **mutual benefit** and serving concrete **European objectives**
- Support to sustainable economic and social development (e.g. Africa, Black and Caspian sea region, North Africa, Middle East).



Horizontal issues: International cooperation

- **Definition: Third countries which are not associated countries**
- **General rule: welcome, especially in the context of GMES agenda in developing countries**
- **Need to justify the benefit of the international cooperation**
- **Primarily own financing (but some support possible for developing countries)**
- **In 2007, all topics are open to international cooperation**



Horizontal issues: European Research Area Networks

- **ERA-NET** model for regional cooperation in GMES:
 - Local and regional authorities count among main GMES users/stakeholders
 - Synergy potential for GMES services and INSPIRE implementation at local regional level

- Close participation of **Committee of Regions**:
 - Follow-up of conference for the European Space Technology User Regions (2005)



Horizontal issues: SMEs

- There are many opportunities for **SMEs** within GMES activities (state-of-the-art data processing, modelling, simulation, image analysis)
- Often the result of developments made in specialised academic organisations and commercial spin-offs
- GMES service projects are expected to actively integrate such **SME capacities** along the entire end-to-end service chain
- **Feedback from FP6** has demonstrated that SMEs are particularly active in the space sector (up **22%** SME participation in FP6)



Priorities for the first Call (2007)

- Development and validation of pre-operational GMES **Fast Track Services** (Ocean, Land, Emergency)
 - Development and preparation of **GMES Pilot Services** in **new application fields** (Atmosphere, Security)
 - Basic **Space science, technology and transportation**
- AND**
- Support to the coordinated procurement of **space-based data** for GMES related projects in FP7 (→ ESA)



Budget allocations to call topics

- A total of **88 M€** is to be committed from the **2007** Community budget

AND

- An **additional amount** from the **2008** Community budget is expected to be added to this call for the activities not funded from 2007 budget (a new finance decision to cover the budget from that year to be requested at the appropriate time)



Budget allocations to call topics (1)

Activity 9.1 - GMES

	2007	2008 draft
Call FP7-SPACE-2007-1 • <u>Activity 9.1</u> Space-based applications at the service of European Society : Topic 1 Development of upgraded capabilities to existing FTS and related (pre)-operational services	84 M Euro	
Call FP7-SPACE-2007-1 • <u>Activity 9.1</u> Space-based applications at the service of European Society : Topic 2 Developing pre-operational service capabilities in new application fields	20 M Euro	
(Reminder : - Data access Support action via ESA)	~48	0



Budget allocations to call topics (2)

Activity 9.2 Space foundations & Activity 9.3 Cross-cutting issues

	2007	2008 draft
Call FP7-SPACE-2007-1 <u>Activity 9.2</u> Strengthening of Space foundations Topic 1 Space Science Topic 2 Space Technologies Topic 3 Space Transportation	28 M Euro	
Call FP7-SPACE-2007-1 <u>Activity 9.3</u> Trans-national co-operation among NCPs	2 M Euro	



Timing of the Space Research Call 1

FP7-SPACE-2007-1

22 December 2006	Publication
19 June 2007	Deadline
July-September 2007	Evaluation
October 2007	Commission funding decision
November 2007	Start of negotiations
Early 2008	1 st set of grant agreements signed

~134 M€

More information: cordis.europa.eu/fp7/calls/



Important to know for **FP7-SPACE-2007-1**

Proposal submission

- Important: End user involvement
- Electronic submission of proposals

Collaborative Projects

- Up to 75% for non-profit public bodies, secondary and higher education establishments, research organisations and SMEs
- Up to 50% for large industry

Coordination and support actions

- Up to 100%

Selection

- Single step evaluation
- Evaluation by experts from supply and demand side
- Hearings for GMES 'collaborative projects'



FP7- Space Call 1 : eSubmission

- Electronic submission is compulsory
- Very similar to FP6
- Forms can be downloaded late January
- Proposal submission (upload) possible as from mid March 2007
- Unique registration facility for all FP7



Evaluation Criteria

Same criteria than all FP7 :

- Scientific / technological quality
 - Implementation
 - Impact
-
- **Relevance to the call** is not a separate criterion
 - Clearly out of scope: non eligible
 - Partly out of scope: reflected in S/T quality and Impact
 - **End user involvement:** reflected in Implementation
 - **Work Programme relevance:** reflected in Impact



1. Scientific / technological quality

(in relation to the topics addressed by the call)



<i>All</i>		<ul style="list-style-type: none"> • Soundness of concept, and quality of objectives
<i>Collaborative projects</i>		<ul style="list-style-type: none"> • Progress beyond the state-of-the-art • Quality and effectiveness of the S/T methodology and associated work plan.
<i>Network of Excellence</i>		<ul style="list-style-type: none"> • Contribution to the long term integration of high quality research • Quality and effectiveness of joint programme
<i>Coordination & support actions</i>	<i>CA</i>	<ul style="list-style-type: none"> • Contribution to the co-ordination of high quality research • Quality and effectiveness of the co-ordination mechanisms, and associated work plan
	<i>SA</i>	<ul style="list-style-type: none"> • Quality and effectiveness of the support action mechanisms, and associated work plan



2. Implementation

<i>All</i>	<ul style="list-style-type: none">• Appropriateness of the management structure and procedures• Quality and relevant experience of the individual participants
<i>Collaborative projects</i>	
<i>Network of Excellence</i>	<ul style="list-style-type: none">• Quality of the consortium as a whole (including complementarity, balance) [<i>for SA: only if relevant</i>]• Appropriate allocation and justification of the resources to be committed (budget, staff, equipment)
<i>Coordination & support actions</i>	



3. Impact

<i>All</i>	<ul style="list-style-type: none">• Contribution, at the European [and/or international level], to the expected impacts listed in the work programme under the relevant topic/activity
<i>Coordination & support actions</i>	<ul style="list-style-type: none">• Appropriateness of measures for spreading excellence, exploiting results, and disseminating knowledge, through engagement with stakeholders outside the network, and the public at large.
<i>Network of Excellence</i>	
<i>Collaborative projects</i>	<ul style="list-style-type: none">• Appropriateness of measures envisaged for the dissemination and/or exploitation of project results, and management of intellectual property



FP7 Space Call 1 : Experts

- Electronic database (similar to FP6)
- Experts have to register individually
- Selection based on
 - Competence
 - Geographical balance
 - Balance between end users and technical experts
 - Gender balance (objective 40/60%!)
 - Public / private balance
- See <http://cordis.europa.eu/experts/>



Future Calls for Proposals

- Biennial Space research calls are planned (2009-2011-2013)
- Backloading of annual budgets

Potential Topics

- **Activity 9.1** Space-based applications at the service of European Society
 - ➔ Pre-operational Validation of GMES services and products – further core services and stimulating downstream GMES services
 - ➔ Integration of SatCom with GMES for prevention and management of emergencies
- **Activity 9.2** Strengthening the foundation of Space Science and technology
 - ➔ Research to support space science and exploration
 - ➔ Research to support space technologies
 - ➔ Reducing the vulnerability of space assets
- **Activity 9.3** Cross-cutting activities
 - ➔ International Cooperation
 - ➔ Cross-border cooperation and ERA-NET



More information

- EU Space research websites:
 - <http://ec.europa.eu/enterprise/space>
 - <http://www.gmes.info>
 - <http://cordis.europa.eu/fp7/calls/>
- ESA web-site
 - <http://www.esa.int/esaLP/LPgmes.html>
- Helpdesk:
 - <http://ec.europa.eu/research/enquiries>
- Contact:
 - peter.breger@ec.europa.eu



Thank you for your attention