



# GMES SECOND OPERATIONAL CAPACITY WORKSHOP

## Development of GMES Capabilities in Bulgaria

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# Institutional Framework in Bulgaria (1)

## Governmental Institutions

- Ministry of Economy, Energy and Tourism
- Ministry of Education, Youth and Science
- Ministry of Transport, Information Technology and Communications
- Ministry of Interior
- Ministry of Defense
- Ministry of Environment and Water

# Institutional Framework in Bulgaria (2)

## Non-Governmental/Private Institutions

- Bulgarian Academy of Sciences
- Agricultural Academy of Sciences
- Universities – Sofia University, New Bulgarian University, Technical University etc.
- CASTRA Cluster 'Aerospace Technologies, Research and Applications'-non profit organization of academy, universities, companies and SMEs with focus on space
- Alliance for Environment Association, 'Bulgarian Land' Association, Experts Pool Association
- Remote Sensing Application Center – ReSAC
- Agency for Sustainable Development and Eurointegration
- Private companies, SMEs

# Capabilities for GMES in Bulgaria (1)

## Professionals

- Scientists and researchers working in academic institutes, universities, non-government organizations and private companies and SMEs.

## Experience

- Participations and partnerships in FP6, FP7 and other international projects related to GMES
- Strong background and experience in space research - participation in different space programs incl. R&D programs for 2 Bulgarian astronauts

# Capabilities for GMES in Bulgaria (2)

## Infrastructure

- Aerospace monitoring center within the Ministry of Interior;
- Military geographic services by MoD
- Blue Gene/P computer in Bulgaria – capacity of 23 trillion operations/sec;
- Other ITC structures for land & maritime survey.
- Spatial data receiving/management station 'Plana';




## Public Support

- 77% of the interviewed by Eurobarometer (2009) Bulgarians find that space is 'very important' for the EU, average for EU – 63%\*




\*EUROBAROMETER Research 'Space Activities in the EU', 2009 [http://ec.europa.eu/public\\_opinion/flash/fl\\_272\\_sum\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_272_sum_en.pdf)

# Experience in GMES Related Activities (1)

	<b>SAFER</b> Services and Applications for Emergency Response (FP7)
Total Cost	39,312 million €UR
Duration/Start	36 months/01.01.2009
Partners	55
Project's goal	Rapid mapping capacity in response to disastrous events, products for early warning and after crisis situations, products for areas of meteorological and geological risk etc.
Partnership:	National Focal Point - Aerospace Monitoring Center; Services and correspondence with end users
Main user:	All institution involved in emergency response in Bulgaria



# Experience in GMES Related Activities (2)


 <b>geoland 2</b> (FP7)	
Total Cost	32,505 million €UR
Duration/Start	50 months/01.01.2009
Partners	50
Project's goal	Core Mapping Services and Core Information Services to support decision makers with accurate and up-to-date information on land cover, land use, variety of biophysical parameters etc.
Partnership:	Methodology for verification of land cover mapping and change detection services, delivery and integration of spatial databases etc.
Main user:	MTITC, MEW



# Experience in GMES Related Activities (3)

	<b>EUFODOS</b> European Forest Downstream Services (FP7)
Total Cost	3,410 million €UR
Duration/Start	36 months/01.01.2011
Project's goal	Assessment of forest damage, mapping forest functional parameters etc.
Partnership:	Preparation and update of map and GIS databases for forest areas, for forest area changes, forest fire infrastructure, damage assessment etc.
Main user:	Ministry of Agriculture and Food (Executive Forest Agency)

# Experience in GMES Related Activities (4)

	<b>G-MOSAIC</b> GMES Services for Management of Operations, Situation Awareness and Intelligence for regional Crises (FP7)
Total Cost	9,600 million €UR
Duration/Start	36 months/01.01.2009
Partners	36
Project's goal	To provide intelligence to the EU and its Member States before, during and after a crisis occurs
Partnership:	National point of contact - Aerospace Monitoring Center; Services
Main user:	MoI, MoD, MoEA

# CONCLUSIONS

- Bulgaria has significant capabilities for providing ground stations and downstream GMES services;
- Bulgaria has extensive experience in GMES related projects and has shown leadership in developing awareness for GMES in South-east Europe;
- The public and political leadership in Bulgaria have strong support for expanding EU activities in space;
- This workshop is a step forward in the process of making the EU space programs more responsive to the specific needs of end users;
- GMES represents a great opportunity for developing new business opportunities, while at the same time protecting the environment and increasing security.