

Strengthening EO-GMES Operational capacity, prevention strategy, risk and security management, quality assessment and regional networks

Joint presentation – EC – Joint Research Center-Institute for the Protection and Security of the Citizen (IPSC) and the Bulgarian Information Office for EO-GMES (BIOG)

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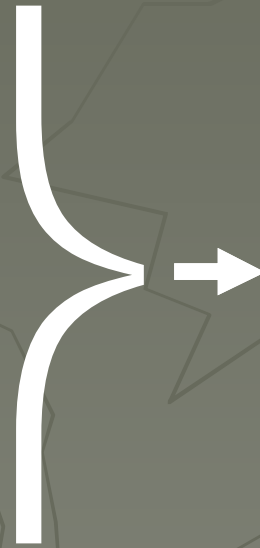
JRC: Earth Observation Technologies for Security

- ▶ Remote sensing (satellite, aerial, UAVS, ...)
- ▶ Vulnerability analysis
- ▶ Open source information gathering
- ▶ Pre-calculation of scenarios
- ▶ Visualisation and decision support

Automated situation assessment for risk and security

From Research to Operations

- ▶ Geo-spatial intelligence and analysis
- ▶ Web mining and intelligence
- ▶ Mathematical scenario modelling



Intelligent and automated mechanisms for:

- ▶ Post-disaster needs assessment for recovery & reconstruction
- ▶ Rapid mapping
- ▶ Early threat detection and early warning
- ▶ Surveillance

Research supports operations, operations stimulate research

JRC Examples of available Technologies

▶ Crisis management (GDACS)

- Near real-time alerts about natural disasters around the world
- Tools to facilitate response coordination (media monitoring, map catalogues, Virtual On-Site Operations Coordination Centre)
- Automatic impact reports

▶ Maritime surveillance, including border surveillance

- Space-borne observation and development of tools for data fusion and integration
- Use of advanced and innovative radar sensors for maritime surveillance
- Web mining and intelligence

▶ Global Tsunami Early Warning & Alerting

- integrated tsunami modelling, analysis and decision support
- near real time tsunami alerts

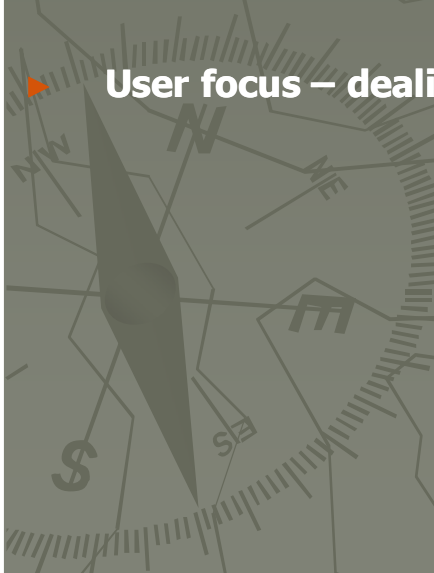
▶ European Forest Fire Information System (EFFIS)

- Scientific and technical infrastructure for research on forest fires
- EU fire database
- maps of forecasted fire dangers

Good opportunities for collaboration on the 'S' in GMES

Why a Regional infrastructure network for integrated risk and security management – (RURSE) for South-East Europe ?

- ▶ **Concentration and regional specificity of natural caused hazards and human-made hazards**
- ▶ **External EU-border region**
- ▶ **Cohesion – combating of misbalances**
- ▶ **Data and services problems – strengthening competitiveness and innovation .**
- ▶ **User focus – dealing with regional user needs**



WHY a RURSE in Bulgaria

- Good geographical position;
- Official declaration - GMES Operational Capacity Workshop in 2010; Declared at the Competitiveness Council meeting in Brussels, December, 2010,
- Establishment of an Inter-ministerial working group and a single national point - Bulgarian Information Office for GMES (BIOG)
- Existing in-situ infrastructure on national, regional and European level;
- Existing infrastructure for support of the space component;
- Existing and strengthened co-operation with MS countries from the region and EU12;

Application Fields of the GMES services in the South-Eastern Europe Region

- ▶ Clear distinction and different approach between environmental monitoring and risk and security management.
- ▶ In the field of GMES EMERGENCY MANAGEMENT SERVICE
- ▶ In the field of GMES LAND MONITORING SERVICE
- ▶ In the field of GMES MARINE MONITORING SERVICE
- ▶ In the field of GMES CLIMATE CHANGE MONITORING SERVICE
- ▶ In the field of GMES SECURITY SERVICE
- ▶ In the field of GMES ATMOSPHERE MONITORING SERVICE

Risk and security management – two priorities –

- A. a regional prevention strategy, including hazards simulation modeling and fast mapping;
- B. a reference information system (using reference databases) from Earth and in-situ observations;

RURSE/ Strengthening Administrative/Regional capacity in

- ▶ REGIONAL COHESION BOTH IN COMPETITIVENESS AND INNOVATION PROCESS AND QUALITY IN PROVIDING SERVICES –
- ▶ PRIORITY ON PREVENTION AND SERVICES EFFICIENCY (REDUCING THE CITIZEN/FINANCIAL/ RESOURCES NEGATIVE IMPACT OF NATURAL AND HUMAN-MADE DISASTERS -
- ▶ USER-DRIVEN APPROACH –
- ▶ HARMONISED METHODOLOGIES AND RESEARCH DRIVEN PROCESS WITHOUT LOSS OF LOCAL SPECIFICITY AND INVOLVEMENT OF REGIONAL/NATIONAL SMEs
- ▶ REGIONAL/NATIONAL SUPPORT TO DIFFERENT EUROPEAN PROGRAMMES AND POLICIES – GMES, GALILEO...

Proposed specific regional priorities for collaboration

- ▶ **COORDINATION, DATA QUALITY ASSESSMENT**
- ▶ **DATA PROVISION** – in-situ and through satellite stations;
- ▶ **INTEGRATED PREVENTION - TRANS BORDER/TRANSNATIONAL RISKS**
- ▶ **INTEGRATED CONTROL TO ILLEGAL IMMIGRATION**

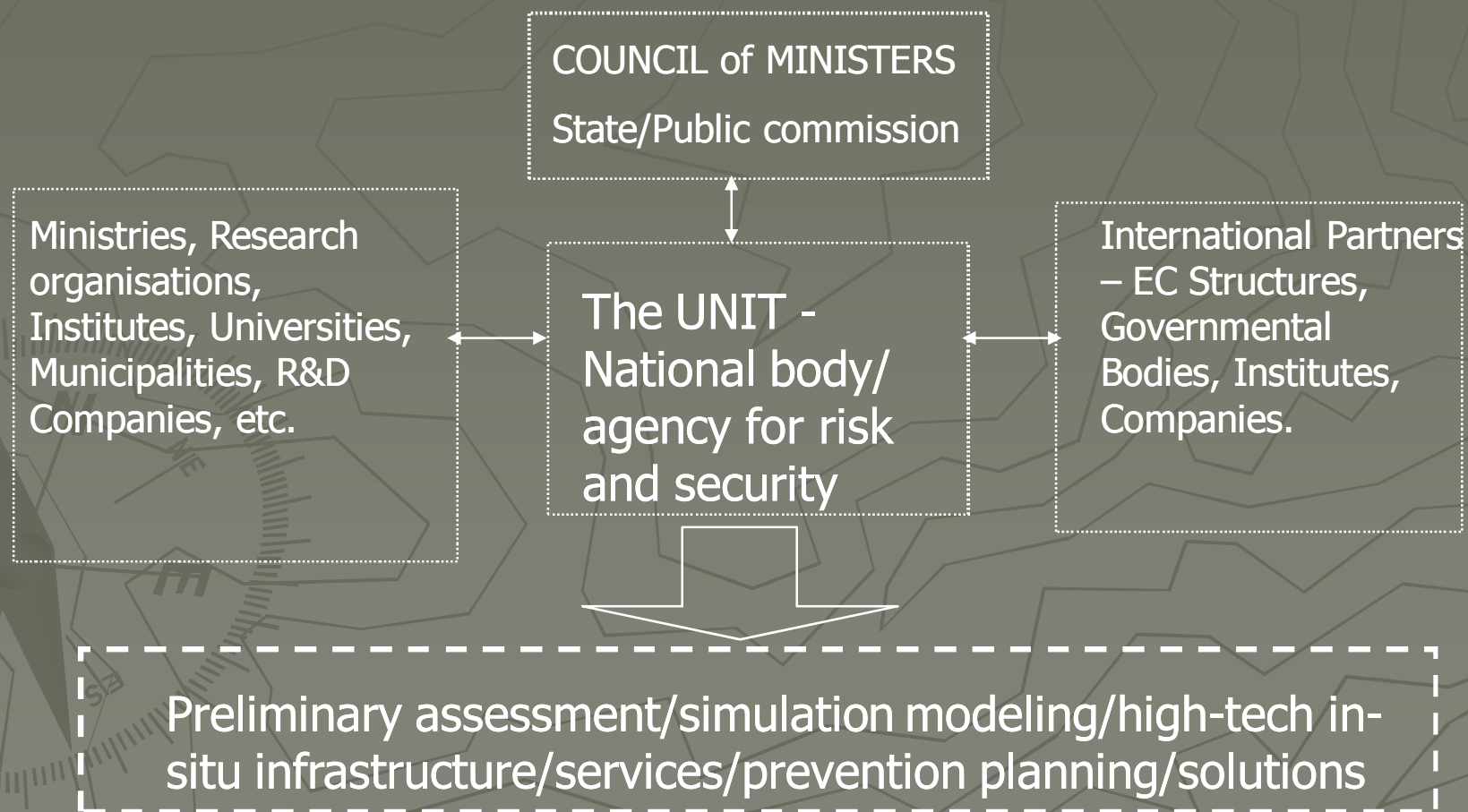
Place of First RURSE – Sofia, Bulgaria;

Starting first steps :

- ▶ - On EC and MS level ;
- ▶ - for Bulgaria ;

- ▶ Note: The initiative was started with a joint presentation from Bulgaria and Romania, during the First GMES workshop in Sofia, 25-26 March, 2010

Example(Bulgaria) for National Unit-Partner to the RURSE -"National Unit for Sustainable Management of Spatial Data , Risk and Security"



How will GMES be delivered? Centralised/Decentralised elements

**GMES COMPONENT:
SPACE**

**GMES COMPONENT:
IN SITU
INFRASTRUCTURE**

**GMES COMPONENT:
SERVICES**

**CENTRALISED
ESA
EUMETSAT
(GIO program)**

**indirect benefits for
regions: space industry
and ground segment**

**CENTRALISED &
DECENTRALISED
COM / EEA & MS
(GIO program)**

**in-situ data coordination and
harmonization of data sets
monitoring of accuracy of
local/regional data**

MS

(regional funds)

**in-situ infrastructure build up
and maintenance**

**CENTRALISED &
DECENTRALISED**

**COM / SERVICE
PROVIDERS
(GIO program)**

**Core Services
(UR federated at different
level)**

**MS/ SERVICE PROVIDERS
(CIP)**

Downstream Services