

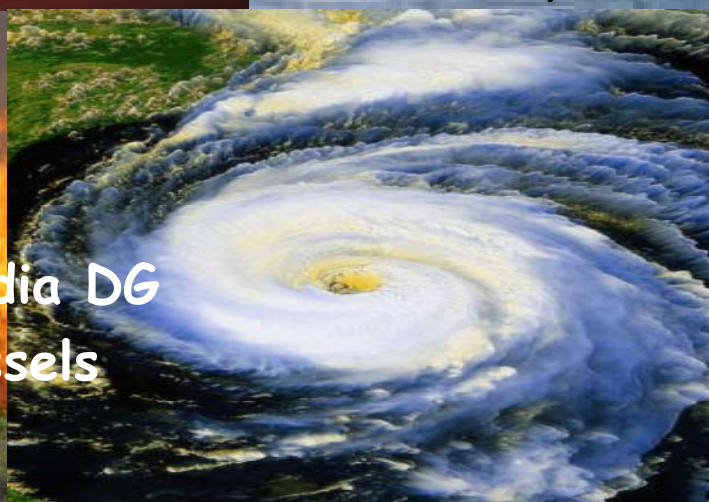
European Research Policy related to Geo- information for Disaster Management

*1st Symposium on Geo-Information for Disaster
Management"*

Delft, 21-23 March 2005



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European Commission

- **Largest of the EU institutions**
 - Propose and implement EU policies
- **Made up of «Directorate Generals»**
 - Policy DG's and Research DG's
 - The EC supports EU R&D via its « Framework Programmes »:
 - every 4 years (now in FP6 ~ 17.5 Billion €)
 - R&D in support of EU policies & EU R&D policy (ERA)
- **DG INFSO - promoting European research in Information & Communication Technologies (ICT)**
 - Risk and emergency management !

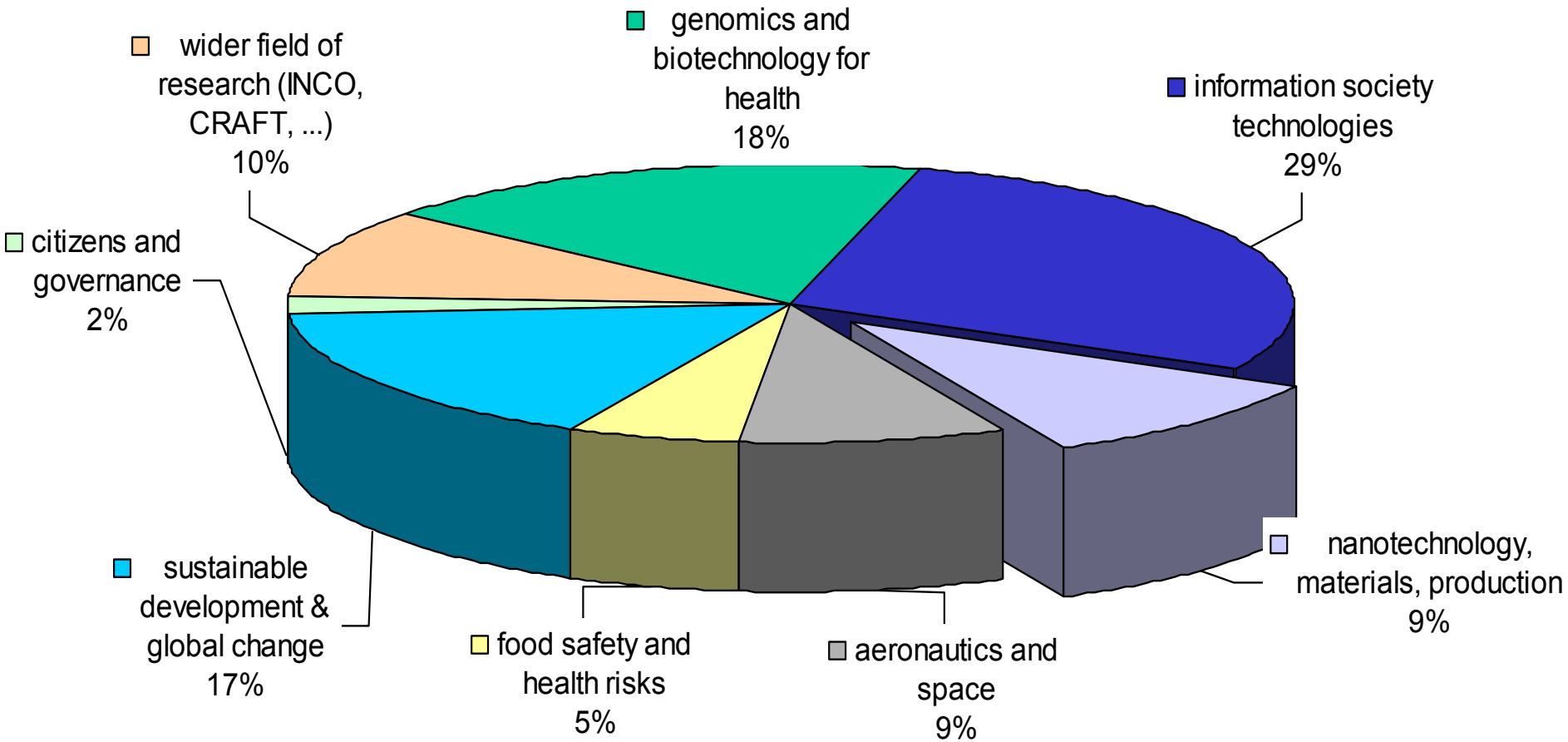
Disasters in the EU policy context

- **EU's 6th Environmental Action Programme & EU SD Strategy**
- **Civil Protection Community Action Program**
 - flood, fire, earthquake, landslides, marine pollution...
 - early warning, alerting the population, crisis management, emergency communication
- **Development and Humanitarian aid**
- **Common Foreign and Security Policy (CFSP)**
- **INSPIRE, GMES ...**

EU Research

- International and multidisciplinary research consortia, encouraging end-user involvement
- Large projects: ie: « Integrated Projects »
- Support for traditional projects, conferences, workshops, publications, fellowships, etc.
- Via specific « Calls for proposals »
 - See RTD INFO magazine:
http://europa.eu.int/comm/research/rtdinfo/index_en.html

Eight R&D Priorities of FP6



The IST Approach

- **To promote the development of cost-effective sustainable services**
 - Technology integration - solution driven
 - Specific technological developments
 - Market & user needs driven
 - Focus on generic solutions
 - Re-usable software components
 - Open source software
 - Interoperability, scalability
 - Based on state-of-the-art scientific knowledge

Prevention and Mitigation

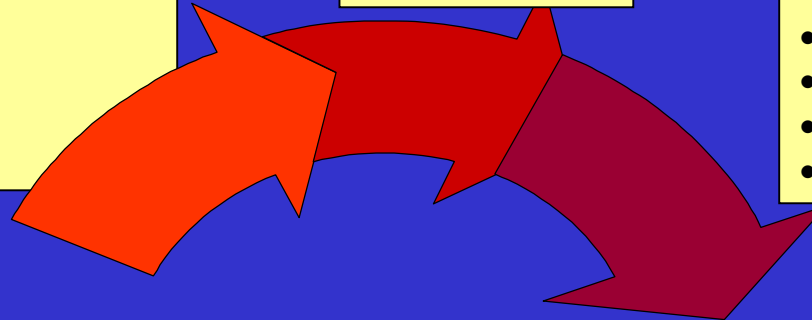
- Risk assessment
- Spatial Planning
- Eco-structural measures
- Public Awareness
- Education..

Alert

- Reliable
- Early warning
- Computerized

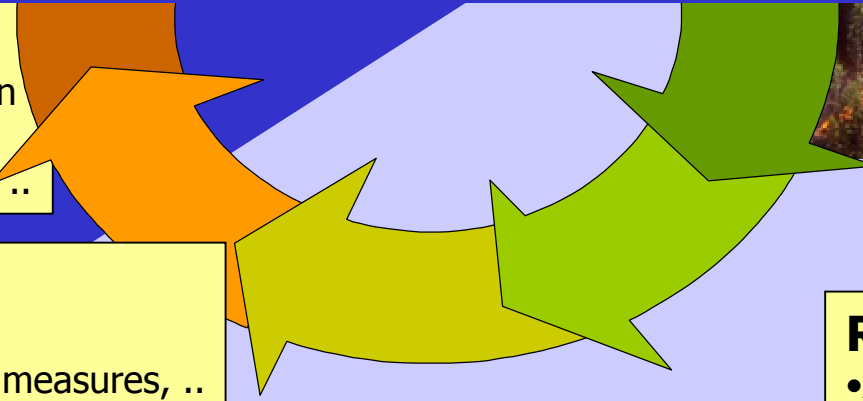
Preparedness

- Risk forecasting
- Organisation
- Planning of resources
- Emergency Planning
- Training
- Public awareness..



Reconstruction

- Permanent rehabilitation
- Infrastructures reconstruction
- Building reconstruction
- Reinforcement of structures, ..



Post-Disaster

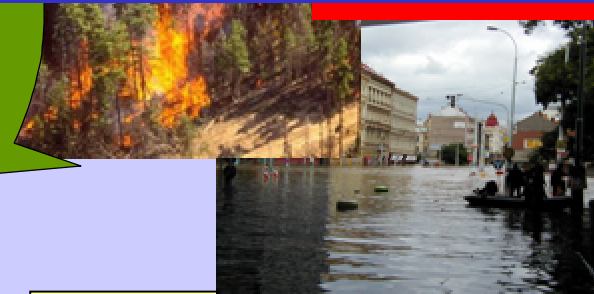
- Damage Assessment
- Follow-up of rehabilitation measures, ..

Rehabilitation

- Temporary rehabilitation
- Re-establishing Transport systems
- Re-establishing communication routes..

Response

- Alarm
- Life, property saving
- Reduction of impact of disaster
- Information dissemination
- Communication



Current Issues

- Risk management is not yet a well organized discipline
- No clear methodology to handle inter-related risks
- Many (potential) service providers do not understand operational needs
- Unclear organizational responsibility for information generation
- Incompatible information systems
- The access to relevant data is not easy
- The current offering is incomplete and technology push could be beneficial

Rationale for Action

- **Why invest in Risk Management?**
 - Steep increase of natural & industrial disasters
 - Early warning, emergency telecoms, DSS, public info
 - CPA poorly equipped, lack of interoperability
 - EU role in peacekeeping & humanitarian crises
- **Criteria for R&D investment**
 - will R&D open up new markets?
 - will the EU industry benefit?

- **Technology integration & specific technological developments**
 - Robust and Smart sensors with communication and location capabilities : sensor web
 - Advanced modelling & simulation, high performance computing
 - Decision support & visualisation tools, GIS, HPC
 - Development of distributed C4
 - integrate earth observation data (SAT & HAPS) with in-situ data
 - Knowledge management (learning organisation)

Where do we stand Today?

Ongoing FP6 Integrated Projects:

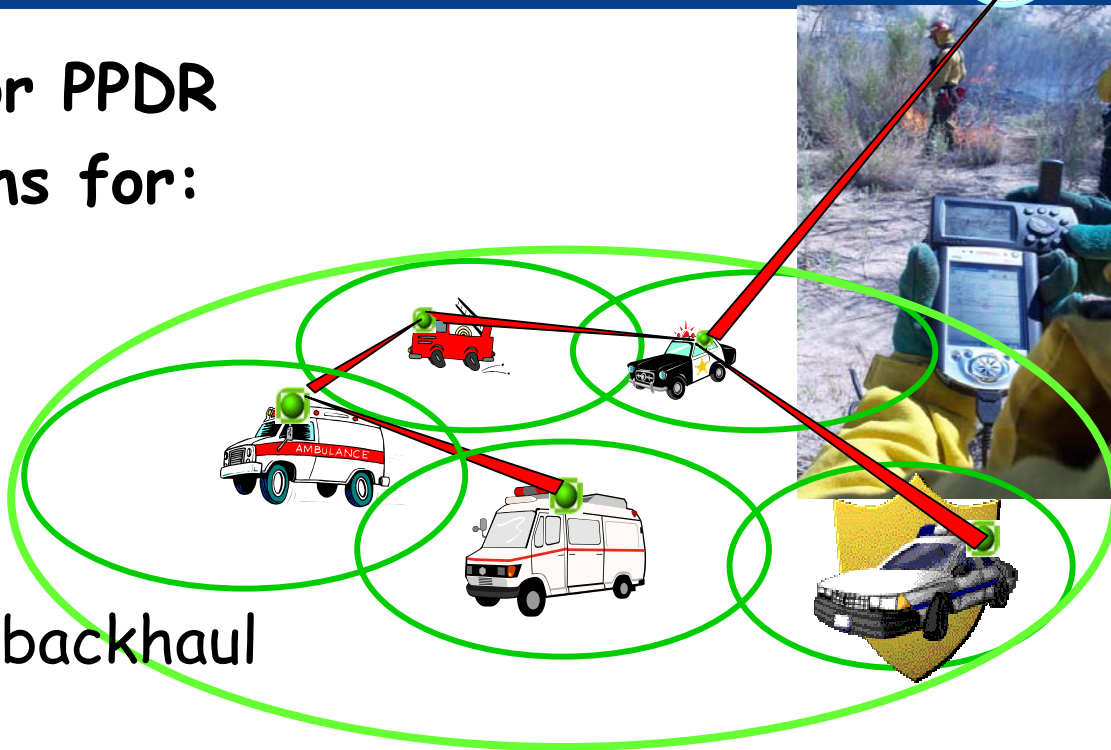
- **Risk information infrastructure and generic services:**
 - Distributed computing, workflow management, collaborative working, language issues, ground segment interface; open architecture, thematic applications support, web services, ontology, generic services (ORCHESTRA & WIN)
- **Emergency management:**
 - C3 systems, positioning systems, situational awareness, emergency telecom) (OASIS)

What is Missing ?

- **Risk-specific applications to populate the common information and service system**
 - Integration of RTD results
- **Improved monitoring capabilities**
 - Sensor web
 - HAPS, ...
- **Faster than « real time » models**
 - Grid computing



- Broadband telecom for PPDR
- High altitude platforms for:
 - monitoring oil spills
 - forest fires
 - flood
 - traffic
 - emergency telecom backhaul
- UltraWide band Radio for positioning and communication for emergency situation
- Smart sensors & sensor Web architecture



Aim of Call 5

IST Call 5 (SO 2.5.12): 17/05/05 - 21/09/05

Focus: on risks leading to emergencies and/or environmental crises such as natural hazards or industrial accidents.

Aim: to overcome the market fragmentation by developing systems & services which are:

- Interoperable
- Open
- Evolutionary
- Adaptive
- Applicable to cross border operations
- Considering possibly dual use of systems and components

Approx. Budget 40 million €

1. In-situ monitoring (IP & STREPs):

- Systems and services
- Smart sensor networks, terrestrial and M-HAP or UAV:
 - measurement platforms
 - communications backhaul during crisis operations.

Based on:

- Clear end-user requirements
- State of the art and emerging technologies
- Cost/benefit analysis

Research Theme 2 - Call 5

- 2. RTD on public safety communication (IP & STREPs):**
- robust, secure and computerised alert systems;
 - communication to and from the citizen and
 - rapidly deployable emergency telecommunications systems.

Considering:

- Safety needs of personnel in the front line;
- Enhanced international response to major disasters;
- Communication and positioning - also indoors

3. Support Actions (SSA/CA) to achieve full interoperability by:

- extending on-going work on risk and emergency mgt to the broader scope of environmental degradation;
- appropriate mechanisms to support early adoption of a common GMES information and service architecture;
- supporting the convergence effort in the field of public safety communication.

International Cooperation

International Cooperation:

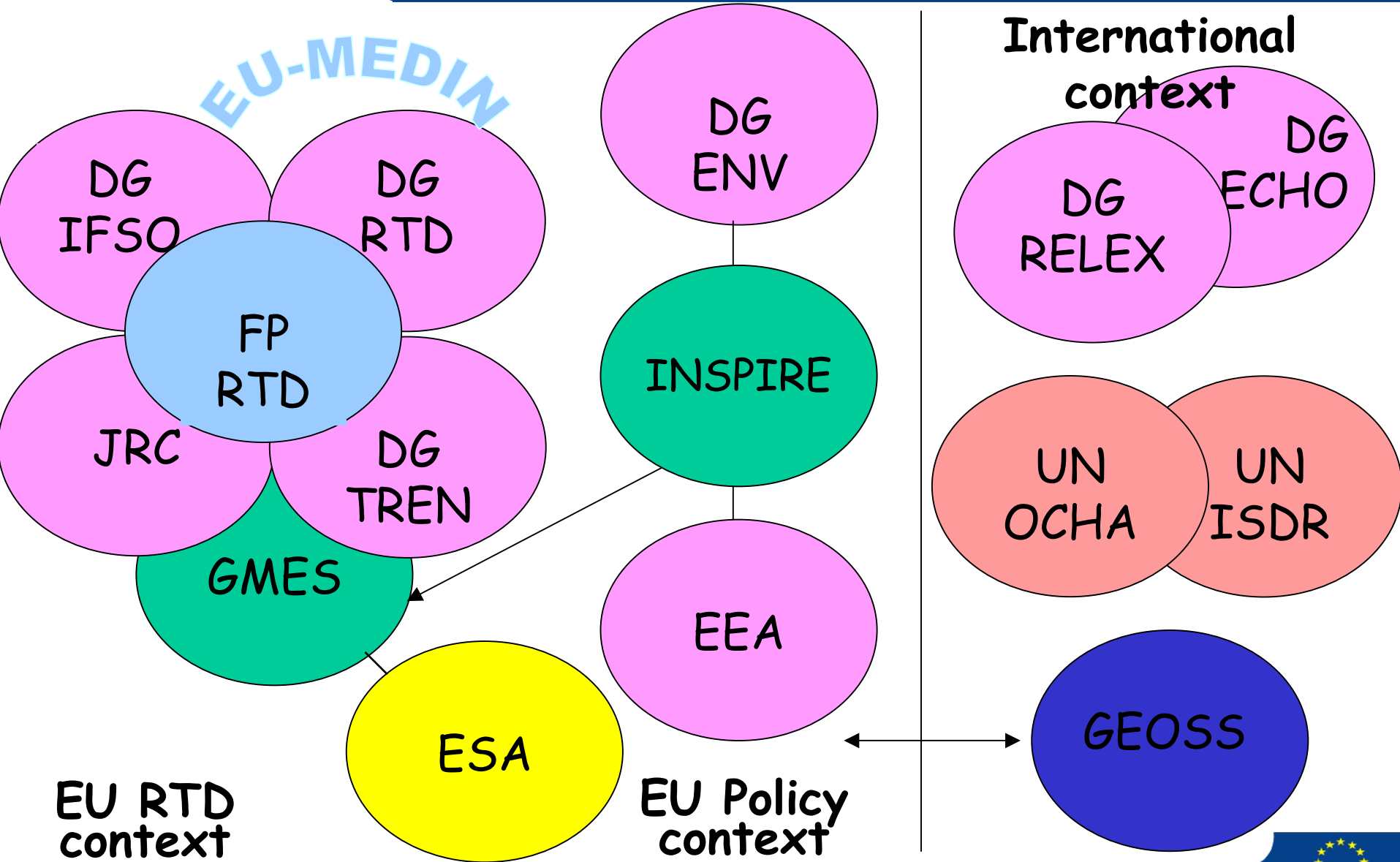
- Third country participation as a « cross cutting » issue concerning the whole WP
- Specific measures in support of Int. Coop. (other deadlines)
- International mobility of researchers (other deadlines):
 - Incoming fellowships
 - Outgoing fellowships

International Cooperation

- **INCO target countries:**
 - Mediterranean (8), developing countries (14), Western Balkans (5), Russia & NIS (12).
- **Countries with S&T agreement:** Australia, Canada, Japan, USA
- **Countries without S&T Agreement:** if « essential » to carrying out the project

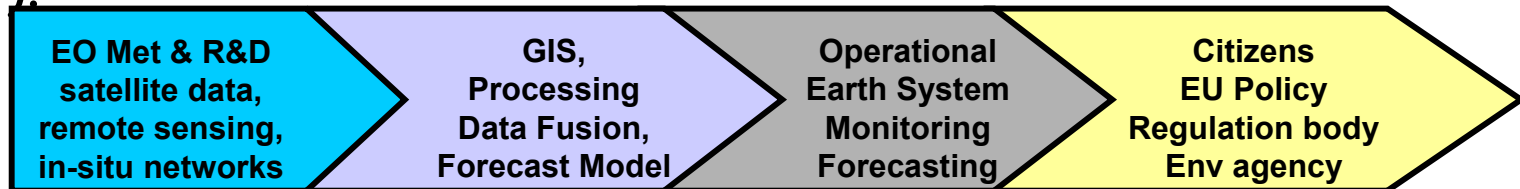
Note: candidate countries, EFTA, EEA, TK, IL, BU, RO are treated like MS!

DM - links w/ other initiatives



GMES - initiative of EC & ESA

- Co-ordinate and enhance existing EO & monitoring capabilities in order to support improved decision making on issues of environment and security;
- Transition from research-driven (EC FP6/FP7, ESA) to pre-operational GMES activities to fully operational services (2004-2008).



- Make the end-to-end EO value chain more effective by:
 - Delivering information (not data) to end-users (ie: tactical/strategic)
 - Organising the supply
 - Federating the demand (ie: user-pull, not technology pushed)
 - Establishing a sustained dialogue with end-users (ie: policy body)

Group on Earth Observations (GEO)

GEOSS (Global Earth Observation System of Systems):

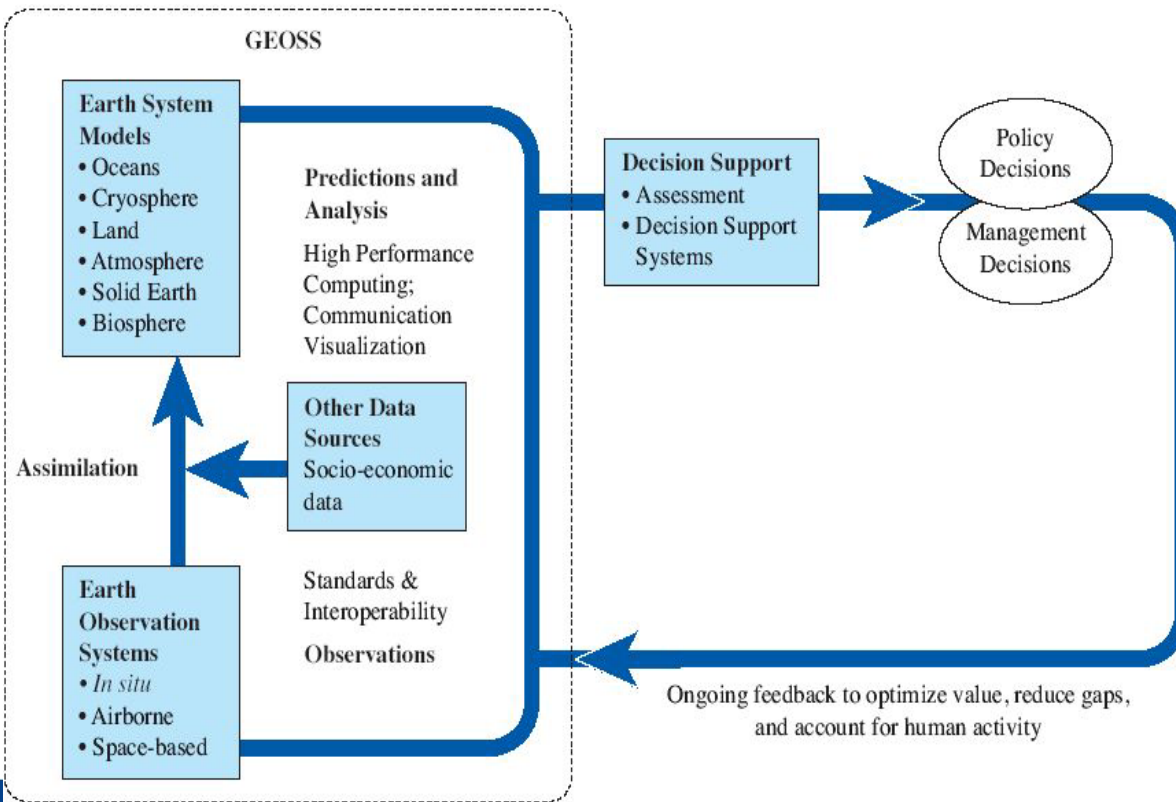
- 10 Year Implementation Plan starting in 2006
- Int'l initiative @ ministerial level w/ particip. of 55 countries & 43 Int'l Organisations & EC
- EU Contribution:

- Role as Co-Chair in GEO

- Via GMES

- EU Regional and national Earth Observation networks

- EU supported R&D (FP6 and FP7) addressing GEOSS societal benefit areas (including disasters)



INSPIRE Initiative



- EC initiative on use of Geographical Information in Europe as a contribution to environmental policy & Sustainable Dev.
- EC COM(2004) 516, 23.7.2004 proposes a Directive of the European Parliament and of the Council establishing an infrastructure for spatial information in the Community (INSPIRE)

INSPIRE objectives

Make relevant, harmonised spatial data available for Community Environmental Policy (formulation, implementation, monitoring and evaluation - *Art. 175(1)*) and for the citizen ...

... through the establishment of integrated spatial information services, based upon a distributed network of databases, linked by common standards and protocols to ensure compatibility.

INSPIRE principles

Geographical information should be:

- collected once and maintained at the appropriate level;
- seamless;
- shared;
- available;
- easy to find and access;
- presented in an understandable visual form.

15th April deadline Call for experts for INSPIRE drafting teams - on line

Euro-Mediterranean Disaster Information Network

- Initiative of EC to promote the sharing of disaster-related information and data, research, results, knowledge and expertise. The initiative aims at harmonising methods to improve pre-disaster planning as well as hazard, vulnerability and risk assessments.
- Disaster themes: forest fires, storms, floods, earthquakes, volcanoes, landslides, avalanches & technological hazards, ICT for DM, etc.

EU-MEDIN Portal - Microsoft Internet Explorer provided by European Commission

File Edit View Favorites Tools Help

Address <http://www.eu-medin.org/>

EU-MEDIN

Login

Nickname

Password

Why register?

Who's Online

There are currently, 1 guest(s) and 6 member(s) that are online.

You are Anonymous user. You can register for free by clicking here

Welcome to the official portal of the EU-MEDIN project

Research in natural hazards is being supported by the Research DG of the European Commission since 1986 with the overall objective of unravelling and understanding processes, comprehensive risk assessment, forecasting and risk management and mitigation. Advances have been made in seismic research, forest fires, landslides, floods, volcanic hazards, avalanches and technological hazards, particularly with the development of improved models and technologies for hazard forecasting, risk assessment and mitigation.

The European Mediterranean Disaster Information Network (EU-MEDIN) is an initiative of DG Research that will foster co-ordinated and increased access to data and expert know-how before, during, and after a disaster strikes. The availability of reliable and timely information could contribute to our knowledge for reducing impacts of hazards and risks and bring about improved disaster preparedness in Europe in the near future.

The EU-MEDIN project aims to improve the interaction and synergy between the actors of European research in the field of natural risks and disasters and all organizations, institutions or individuals interested in disaster management research and development issues.

research on natural disasters

assessment, prevention and mitigation

EU-MEDIN INITIATIVE

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www.eu-medin.org

Survey

What is the type of Risk you are more interested in?

- Earthquakes
- Floods
- Forest fires
- Landslides
- Industrial accidents
- Avalanches
- Extreme weather
- Desertification

EU projects, metadata on project results, events, who's who in the EU disaster science community

Have a look!

Desertification	Early Warning	Earth Observation	Earthquakes	EC Services
Economics	Environment	Floods	Forest Fires	General Issues
ICT 4 Risk Mgmt	Industrial Hazards	Landslides	Multi-Risk	Psycho-Social
Remote Sensing	Space Weather	Steering Committee	Storms	Volcanoes

For more Info

IST website:

http://europa.eu.int/information_society

<http://www.cordis.lu/ist/>

Mailbox: INF50 - G5@cec.eu.int

GMES: <http://www.gmes.info/>

INSPIRE: <http://www.ec-gis.org/inspire/>

EU-MEDIN: <http://www.eu-medin.org>

GEO: <http://earthobservations.org/>

Experts welcome to help us evaluate project proposals:

http://www.cordis.lu/experts/fp6_candidature.htm

Thank You for your Attention !

