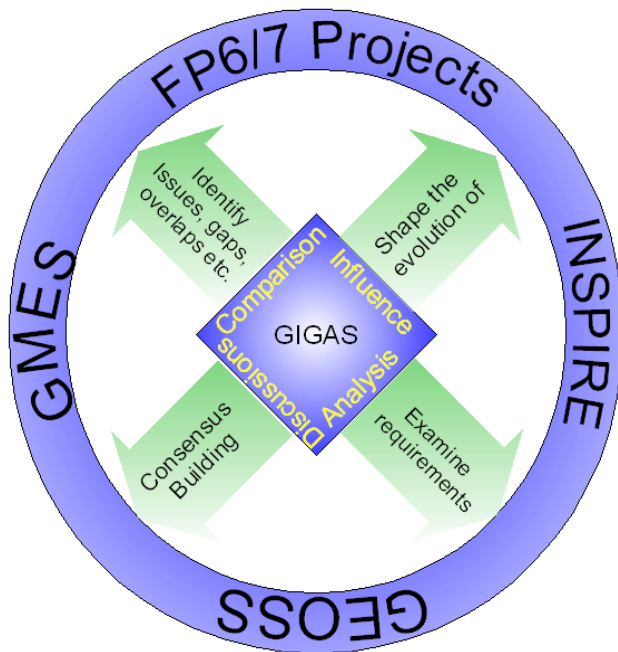


GIGAS - GEOSS, INSPIRE, and GMES an Action in Support



Towards eEnvironment
March 25-27, 2009
Prague, Czech Republic

Dr. Eva Klien
Fraunhofer Institute for Computer Graphics
Research (IGD)
Darmstadt, Germany

- **GEOSS** (Global Earth Observation System of Systems)
 - Built by the **Group on Earth Observations (GEO)** on the basis of a 10-Year Implementation Plan running from 2005 to 2015.
 - Seeks to connect together all existing Earth Observations resources and to make it easily accessible with the aim of support better decision making on 9 Societal Benefit Areas
- **INSPIRE Directive**: *establishing an Infrastructure for Spatial Information in the European Community* (14 May 2007)
 - Legislative instrument that lays down a general framework for a European Spatial Data Infrastructure (SDI) for the purposes of Community environmental policies and policies or activities which may have an impact on the environment. It builds upon National SDIs operated and maintained by European Member States
- **GMES** (Global Monitoring for Environment and Security)
 - GMES is a joint initiative of the European Commission and European Space Agency that consists of 3 components:
 - Space Component that relies on existing or planned European space infrastructure (co-financed by the EU and ESA)
 - In-Situ Component that relies on facilities, instruments and services at national, regional and intergovernmental levels inside and outside the EU.
 - Service component on Marine, Atmosphere, Land, Emergency at pre-operational stage

Interoperability on European Level?

■ Shared commonalities:

- focus on environmental monitoring,
- use of geomatic and geographic information,
- their Europe- or worldwide dimension,
- their reliance on international standards and
- the advanced Spatial Data Infrastructures that are needed for their implementation

→ **all three initiatives are significantly contributing to the implementation of SEIS as a basis for improving sharing of environmental-related data and information and the provision of services**

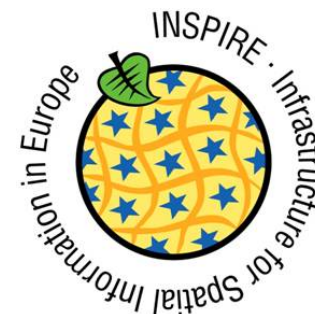
■ However:

- Different organisational models, different stakeholders, different governance, different funding, different levels of implementation, different approaches for technical development, different timelines

→ **risk of evolving into separate, incompatible services and not profiting from the benefits of an interoperable approach**

...an Action in Support to the GEOSS, INSPIRE and GMES

- Coherent and interoperable development of these initiatives
- Concerted adoption of standards, protocols, and open architectures
 - ✓ Recommendations to increase architectural coherence
 - ✓ Strengthened EU contribution to international standardisation
 - ✓ Agenda for further strategic research



Project Data

- Full Title: **GEOSS INSPIRE and GMES an Action in Support**
- Funding Scheme: **Support Action**
- Duration: **24 Month**
1st of June 2008 – 31th of May 2010
- Effort: **3.084.359 / 2.099.989** (Requested EU contribution)
- Consortium: **19 partners (Co-ordinator Fraunhofer IGD)**



European Commission -
Information Society and Media



GIGAS Consortium



- Technical representatives of the three initiatives (GEOSS, INSPIRE, GMES)
- Representatives of three main standardisation organisations (ISO, CEN, OGC)
- Representatives of SME stakeholders and research institutes

Fraunhofer (IGD, IITB), Joint Research Center (JRC), European Space Agency (ESA), OGC-Europe, Spacebel SA, Science and Technology Facilities Council (STFC), Consiglio Nazionale Delle Ricerche (CNR), Interactive Instruments, Technische Universität Dresden, AED-SICAD AG, Stichting Nederlands Normalisatie-Instituut (NEN), Statens Kartverk, Thales Alenia Space France, Spot Image (SI) SA, EOX IT, Infoterra France SAS, Elsag Datamat spa, Institut Geographique National, ERDAS

→ 19 partners

Objectives

- Promote the coherent and interoperable development of the GMES, INSPIRE and GEOSS initiatives through their **concerted adoption of standards, protocols, and open architectures**.
 - **Analyse the gaps** between the different initiatives and **propose strategies** to overcome them
 - **Highlight best-practice examples** from finished FP6 or ongoing FP7 projects relevant for the identified gaps
 - **Initiate a consensus process** on a broad basis for public consultation and consensus building
 - **Shape the initiatives** by providing short term action items
 - **Influence the relevant standardisation bodies** to ensure the long-term action
 - **Provide an agenda for further strategic research areas** to ensure investigation on the problems that are unsolved today

Consensus-driven Approach

WP2
Pier Giorgio Marchetti, ESA

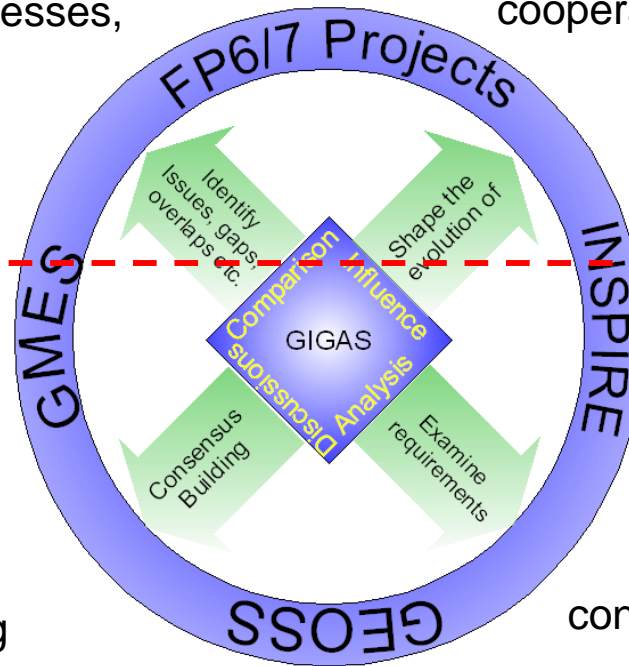
1. Analysis

Monitor each initiative and selected FP projects (architecture approaches, requirements, consensus processes, and resultant service-oriented interfaces and encodings)

2. Comparison and Recommendations

Identification of possible synergies that can be built and further areas of cooperation, to highlight the gaps and overlaps within the initiatives.

-- 2 iterations --

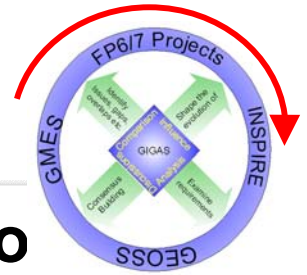


4. Influence

Suggest modifications to INSPIRE, GEOSS and GMES and be proactive in influencing and shaping their evolution

3. Discussion consensus

Recommendations will be revised through a broad consultation to achieve as wide a consensus as possible

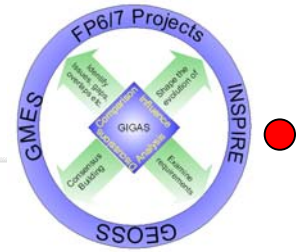


Analysis, Comparison and Draft Recommendation (loop 1)

- Methodology and Refine Scope & Targets
- Technology Watch Reports (V 1)
 - Architecture interoperability
 - Catalogue, metadata and resource discovery
 - Sensor Planning Service
 - User Management
 - Ordering
 - Web Map Service
 - Observation and measurements
 - [Data harmonisation / Semantic Interoperability]
- Comparative Analysis Report (V 1)
 - Identify interoperability gaps
 - formulate draft recommendations



final review phase



GIGAS Workshop

“Towards Harmonisation of SDI Initiatives”

28/29 January 2009, Brussels



- To discuss the most critical gaps that are currently impeding true interoperability between initiatives like GEOSS, INSPIRE and GMES
- To offer the possibility to the stakeholders to express their needs, reservations and to influence the recommendation process to increase interoperability

It is recommended

[To whom (targeted stakeholders and the role they play)]

[Action]

[dependencies]

[rational]




Convergence and Outreach (loop1)

- Consensus building :
 - Based on a study of the interoperability situation, draft recommendations (GIGAS consortium) to
 - The 3 initiatives (GEOSS, INSPIRE, GMES)
 - The standardization bodies (ISO, OGC, CEN)
 - Input to the research agenda
 - **Involve stakeholders for refinement and feedback**
 - **Regular Stakeholder Workshops** for presenting and discussing the draft recommendations
 - **The GIGAS Forum**
 - Output : **consolidated recommendations**
- Inform and shape : channel the recommendations
- Impact monitoring and assessment

ongoing

GIGAS Forum



The platform is the key for connecting the European community and build the European voice

- To facilitate communication amongst the registered members to achieve a broad consensus on the recommendations coming from the GIGAS Consortium.
- To ensure that the recommendations are sufficiently discussed and agreed upon by stakeholders representing various interests, ensuring that GIGAS recommendations reflect all stakeholders' concerns.
- To facilitate communication and coordination with other relevant fora

www.thegigasforum.eu

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Welcome to the GIGAS project



The [GEOSS](#), [INSPIRE](#) and [GMES](#) an Action in Support (GIGAS) promotes the coherent and interoperable development of the GMES, INSPIRE and GEOSS initiatives through their concerted adoption of standards, protocols, and open architectures. Given the complexity and dynamics of each initiative and the large number of stakeholders involved, the key added value of GIGAS is bringing together the leading organisations in Europe who are able to make a difference and achieve a truly synergistic convergence of the initiatives. Among them, the Joint Research Centre is the technical coordinator of INSPIRE, the European Space Agency is responsible for the GMES space component, and both organisations together with a third partner, the Open Geospatial Consortium play a leading role in the development of the GEOSS architecture and components. This core group is supported by key industrial players in the space and geographic information sectors, with the scientific leadership of the Fraunhofer Institute.

This [consortium](#) will achieve the objectives set through an iterative and consensus-based approach which includes: in-depth analysis of the requirements and barriers to interoperability in each of the three initiatives and strategic [FP 6/FP 7](#) projects; comparative evaluation of this activity as input to a forum of key stakeholders at a European level; consensus building in the forum on how to update and integrate the architectures of GMES, INSPIRE and GEOSS, and influence standards development and adoption. From these recommendations follow actions to shape the direction of the initiatives and to define a roadmap for future development, including the key research topics to be addressed to sustain the convergence of the initiatives. GIGAS thus will contribute to the emergence of a collaborative information space for accessing and sharing distributed environmental resources in Europe. This will represent a milestone towards building a Single Information Space in Europe for the Environment.



GIGAS is a Support Action funded under the 7th Framework Programme of the European Commission. The project runs from June 2008 to May 2010.

GEOSS What's new

- Next GEOSS Sensor Web Workshop in Japan
- White Paper on the GEOSS Data Sharing Principles
- Peru becomes the 77th member of GEO

Latest INSPIRE News

- [Comitology register for proposal for INSPIRE Implementing Rules for Discovery and View Services published 2009-01-13](#)
- [Comitology register for proposal for INSPIRE Implementing Rules for Monitoring and Reporting published 2009-01-13](#)
- [INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 published 2008-12-19](#)

GMES What's new

- [Urban Atlas 2009-01-19](#)
- [Jason-2 2009-01-16](#)
- [Emergency Management 2009-01-12](#)

GIGAS News

- The GIGAS project was presented at the EPROS (European Plan for Research in Official Statistics) Working Group Meeting organised by EUROSTAT in Luxembourg on 7 November 2008. For more information, please contact [Mrs Eva Klien](#).
Dec. 2nd 2008

GIGAS Events

- **Towards harmonisation of SDI initiatives**
Centre Albert Borschette, 36 rue Froissart, Brussels, Belgium
Jan. 28th - 29th 2009
[\[more info\]](#)

Latest ISO News

- [Safer ski-touring with new ISO standard 2009-01-14](#)

Latest OGC News

- [Climate Change Integration Plugfest to be launched at FOSS4G 2009-01-20](#)

Contributions to the Community

- **Consensus process** that facilitates communication between INSPIRE, GEOSS, GMES and the standardisation bodies
- **Understanding requirements, commonalities and discrepancies** between INSPIRE, GEOSS and GMES architectures and identify common interoperability needs
- Contribute to a **rapid uptake of standards**
- **Design of an open, persistent test-bed** in which organisations or external projects can integrate their (compliant) services
- Recommendations for the **new research agenda 2011-2012**

How to get involved?

Short-term:

- Workshop on GIGAS Forum on Thursday afternoon (14:00-16:00)
- Filling out the GIGAS Questionnaire

Long-term (to be continued after GIGAS):

- Participation in the GIGAS Forum's online consensus building process
 - discuss the most critical interoperability gaps
 - achieve consensus on recommendations
 - suggest and discuss new recommendations

Thank you for your attention

**Join us at the Workshop:
The GIGAS Forum: Bringing together
GEOSS, INSPIRE, GEOSS, and SEIS**

**Workshop W6 (PS30), Hall E, Thursday 14:00-16:00
Eva Klien, Alessandro Annoni, Pier Giorgio Marchetti**



Bringing together GEOSS, INSPIRE, GEOSS, and SEIS

Workshop W6 (PS30), Hall E, Thursday 14:00-16:00

Eva Klien, Alessandro Annoni, Pier Giorgio Marchetti

14:00-14:20: The GIGAS project – a consensus-driven approach for influencing the evolution of environmental systems and initiatives (Eva Klien)

14:20-14:40: Monitoring and analysing interoperability gaps– methodology and outcome examples (Pier Giorgio Marchetti)

14:40-14:50: Discussion

14:50-15:10: The GIGAS Forum - a place to meet, discuss and find solutions and best practices for interoperability problems (Alessandro Annoni)

15:10-15:30: Discussion

15:30-15:40: Future activities (Eva Klien)

15:40-16:00: Discussion