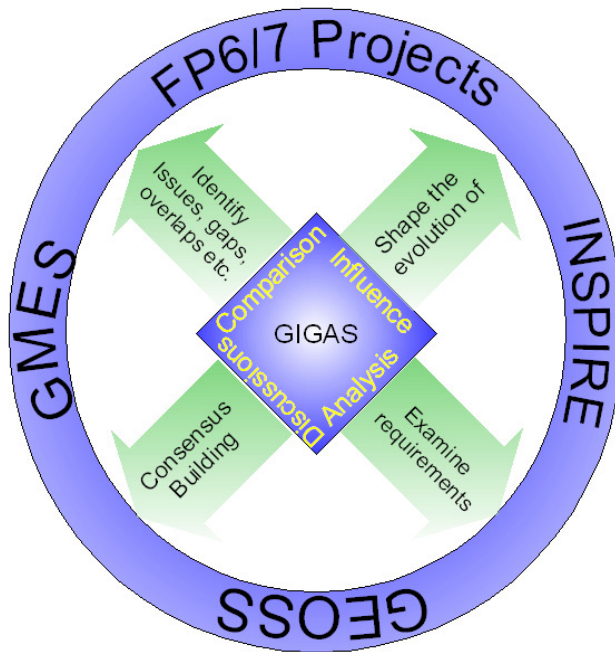


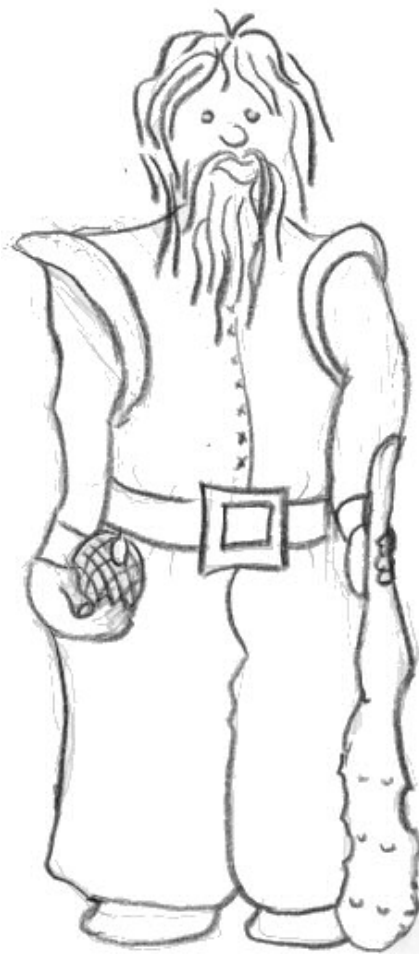
The GIGAS Project



Annet van der Horn

NEN

GIGAS: 3 giants



GEOSS

The Global Earth Observation System of Systems

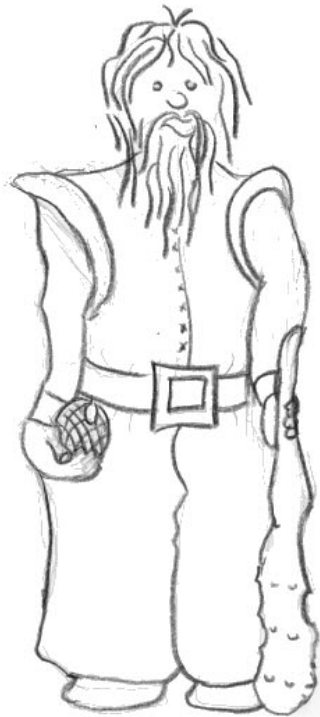


GEOSS

- proactively link together existing and planned observing systems around the world
- provide decision-support tools
- support the development of new systems where gaps currently exist
- promote common technical standards
- offers the 'GEOPortal'

INSPIRE

Infrastructure for Spatial Information in the European Community



INSPIRE

- Directive 2007/2/EC of the European Parliament and of the Council
- The INSPIRE Directive entered into force on the 15th May 2007
- To ensure that the spatial data infrastructures of the Member States are compatible and usable in a Community and transboundary context.
- Common Implementing Rules (IR) for Metadata, Data Specifications, Network Services, Data and Service Sharing and Monitoring and Reporting

GMES

Global Monitoring for Environment and Security



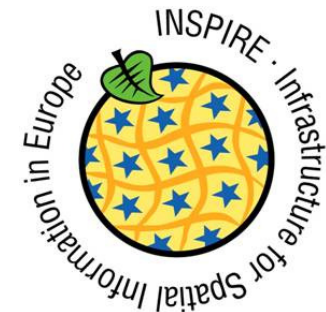
GMES

- An European earth observation programme
- Provides reliable and up-to-date information on how our planet and its climate are changing
- 6 thematic areas: marine, land, atmosphere, emergency, security and climate change.
- 3 monitoring services: land, marine and atmosphere
- set of systems which collects data from multiple sources (earth observation satellites, ground stations, airborne and sea-borne sensors)

GIGAS

GEOSS, INSPIRE and GMES an Action in Support

- 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



GIGAS Consortium



Fraunhofer (IGD, IITB), JRC,
ESA, OGC-E, Spacebel, STFC,
CNR, ii, TUD, AED-SICAD, NEN,
StatKart, TAS-F, SpotImage,
ARC, Infoterra, ED, IGN, ERDAS
→ 19 partners

The GIGAS consortium



Project Data

- Full Title: **GEOSS INSPIRE and GMES an Action in Support**
- Funding Scheme: **Support Action**
- Duration: **1st of June 2008 – 31th of May 2010**
- Consortium: **19 partners (Co-ordinator Fraunhofer IGD)**



European Commission -
Information Society and Media



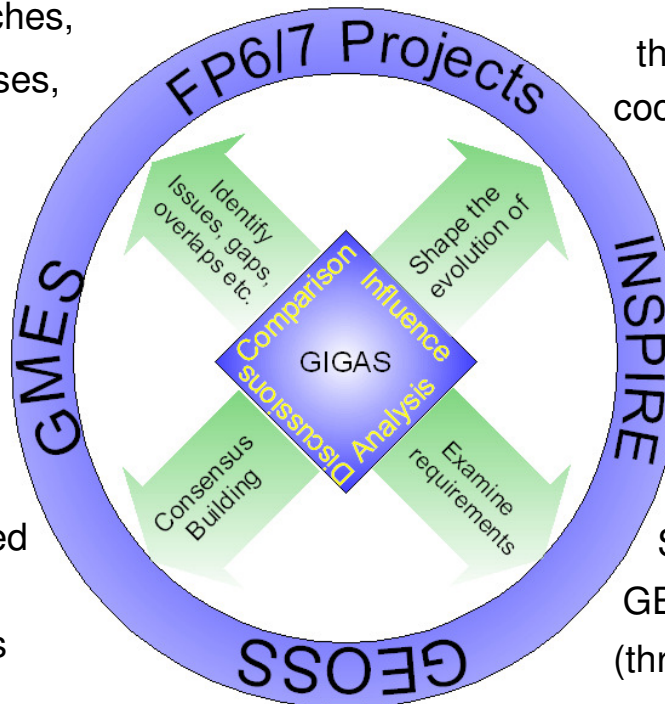
Approach

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.



3. Discussion consensus

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

4. Influence

Suggest modifications to INSPIRE, GEOSS and GMES and be proactive (through direct participation of GIGAS partners) in influencing and shaping their evolution

GIGAS Workshops and Open networking events



RESULTS

- Reports
- Recommendations
- Shaping actions
- And more

Technology watch reports (versions 2)

- Architecture
- User Management
- Catalogue and Metadata
- Cross-Initiative Scenario
- Data Interoperability
- Data Access and Processing
- Technology Watch Summary

Comparative analysis report

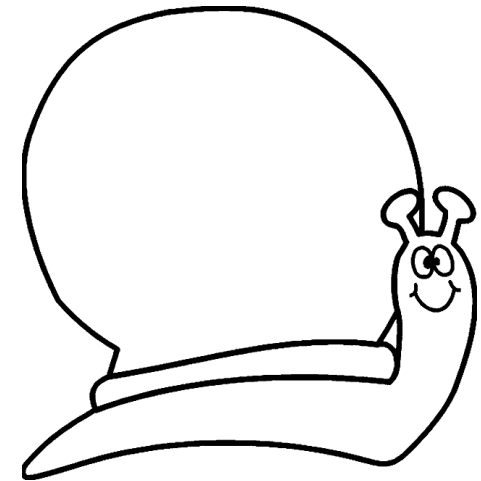
“Metadata, catalogues and resource discovery is a common and fundamental topic addressed in the three initiatives. All have similar use cases: discover metadata records in order to access appropriate datasets and services. **All apply ISO and OGC standards, but use them in their own way and build specific profiles.** All choose some technologies, which are not necessarily compatible with each other. These different approaches and solutions work within each initiative, but not across initiative boundaries and thus lead to inefficiencies and interoperability limitations.

A client software developed for GMES catalogue services cannot interact as is with INSPIRE catalogue services and vice-versa. **Connector components need to be developed.** This means that cross-initiative interoperability is not ensured. This means that harmonized discovery of data in a cross-initiative scenario is not possible at the moment.”

Aim:

Contribute to a **rapid uptake of standards**

- INSPIRE, GEOSS and GMES aware of standards
- INSPIRE, GEOSS and GMES decide on how to use which standards



GEO SIF ET

■ GEO Standards and Interoperability Forum (SIF)

European Team (SIF ET) established:

- Established by the GEO Architecture and Data Committee
- To help advance the interoperability goals of GEOSS
- To support GEO organizations offering components and services to GEOSS
- To recognize and promote Special (disciplinary) Interoperability Arrangements

MoU OGC, ISO/TC 211, CEN/TC 287

- Better service to member countries
- Version and harmonization control
- Better support for each other
- Change request portal
- Test bed
- Shared projects

backward compatibility

- ISO/TC 211 Ad Hoc study group strategy for configuration management and backward compatibility
- Simon Cox convenor



Open, persistent test-bed

- Design of an open, persistent test-bed in which organisations or external projects can integrate their (compliant) services

“It is recommended

- to initiatives and organizations like INSPIRE/GEOSS/GMES/OGC/AGILE/EuroSDR/DGIWG and existing and future research projects to design, develop and test new types of interoperable geospatial services and interfaces in the context of this testbed, and
- to the EC/EU and related organizations to foster research by offering this sandbox environment.”

Recommendations to ISO standards

- Comments and proposals for changes have been submitted to ISO by GIGAS members.

WFS in ISO 19142

- Include requirements for data access services, in particular for the **INSPIRE download service**, in the new revision of Web Feature Service, standardised in ISO as (EN) ISO 19142 (and Filter Encoding as ISO 19143).



OWS SOAP Binding

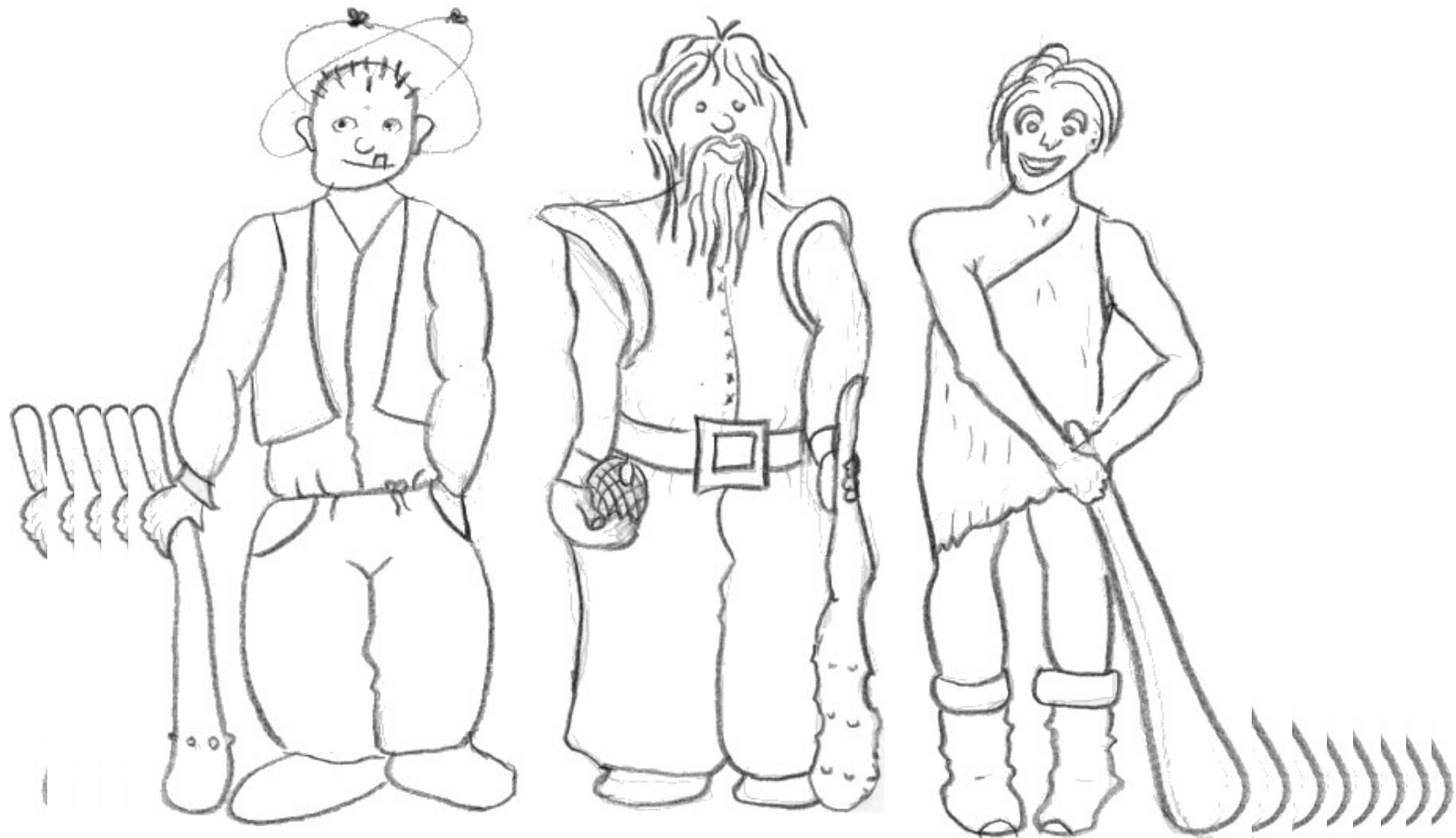
- “It is recommended to the Open Geospatial Consortium (OGC), ISO/TC 211 and CEN/TC 287 to support SOAP/HTTP-POST binding, according to [INSPIRE Technical Guidance](#) and related technical documents in addition to KVP/HTTP-GET binding.”



Revision of (EN) ISO 19115

Relevant to the GIGAS initiatives:

- modifications to the **CI_ResponsibleParty** to allow more flexible re-use of registered parties in different roles
- **generalization of some definitions** to allow more consistent use of ISO 19115 at different aggregation levels (dataset, data-series, feature, etc)
- **clearer separation of general metadata from the dataset-specific parts** of the model – these are currently entangled in a single document and package.



Thank you for your attention

Links to targeted Initiatives, Organizations and Projects:



European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung



Open Geospatial Consortium, Inc.



International
Organization for
Standardization



COOPERATION



Sixth Framework Programme



GROUP ON
EARTH OBSERVATIONS

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<http://www.thegigasforum.eu>



European Information Services
for Environment and Security



INSPIRE - Infrastructure for
Spatial Information in Europe



Shared Environmental
Information System for Europe