



OpenGIS Standards and Interoperability. How is the OGC responding to the INSPIRE needs?

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With support from George Percivall, Athina Trakas,
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Agenda



- General Aspects and Introduction
- OGC's programs and process
- OGC and requirements



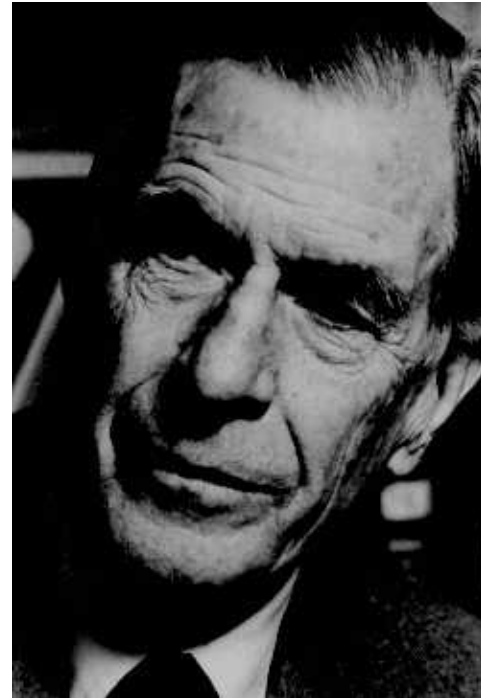
General Aspects and Introduction to OGC

Quote for the day



"The conventional view serves to protect us from the painful job of thinking."

– *John Kenneth Galbraith, economist*



The Great Thing About Standards

(responses to a very unofficial web poll)



- ‘...is that they hold the first true glimmer of light for the spirit of the world wide web. They are the gate to a road to a massive interconnected web of information available to anyone regardless of location, time, ability, device, software, or circumstances.’
- “...that they are our last, best hope to make the web what it was meant to be: a world-wide source of information, accessible to all, and not controlled by any single entity”
- “its half the cost and twice the fun”
- “is the way they taste”

Source: Andy Clarke, http://www.stuffandnonsense.co.uk/archives/the_best_thing_about_standards.html

So what does OGC do?



The OpenGIS® Vision

Achieve the full societal, economic and scientific benefits of integrating location resources into commercial, institutional and organisational processes worldwide.

The OGC Mission

To serve as a global forum for
and lead the development, promotion and harmonization of
open and freely available geospatial standards.

OGC at a Glance

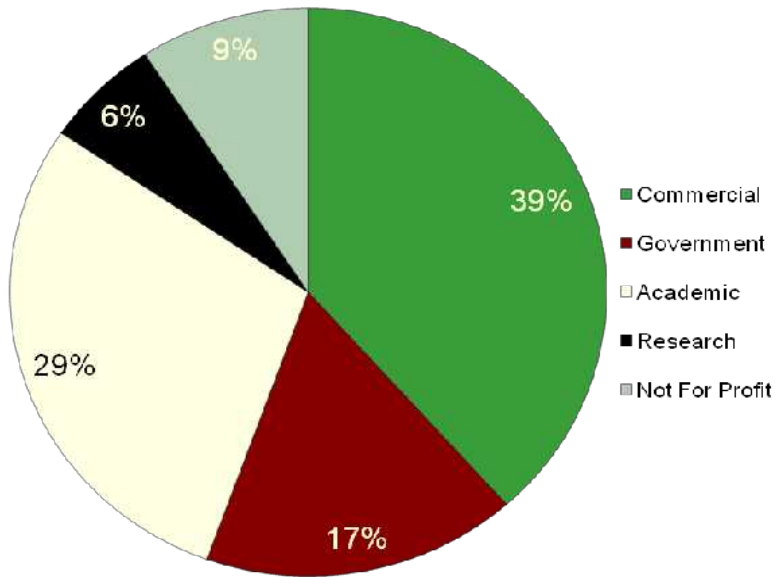


- **Founded in 1994, not for profit, consensus based and voluntary**
- **400 member organisations (industry, government, academia) (June 2010)**
<http://www.opengeospatial.org/ogc/members>
- **19 staff members**
- **30+ adopted OGC Standards (some are ISO Standards)**
<http://www.opengeospatial.org/standards>
- **Several hundred software products, implementing OpenGIS Standards** <http://www.opengeospatial.org/resource/products>
- **Broad user community implementing worldwide.**
- **Cooperation with other standards organisations, foundations and projects, e.g. CEN TC 287, ISO TC 211, IEEE, GEO, OSGeo, GIGAS and others.**

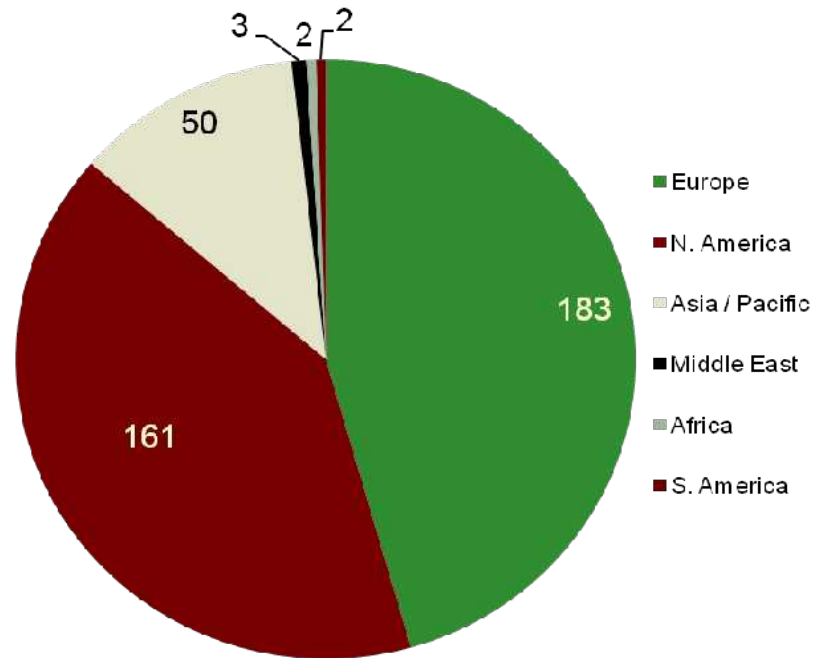
OGC Snapshot



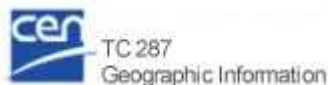
OGC Membership Distribution By Type



OGC Membership Distribution By Region



International Standards Community



- Open Geospatial Consortium (OGC)
- International Organization for Standards (ISO)
- Centre de Normalisation Européen (CEN)
- World Wide Web Consortium (W3C)
- Internet Engineering Task Force (IETF)
- Organization for the Advancement of Structured Information Standards (OASIS)
- Open Mobile Alliance (OMA)
- Open Source Community (OSGeo)
- buildingSMART International / Alliance (bSi / bSa)
- IEEE Technical Committee 9 (Sensor Web)
- Open Grid Forum (OGF)
- Others

OGC

OGC at a Glance – some members



Principal & Strategic



Department of Science & Technology



erdas
The Earth to Business Company



lat/ion
gesellschaft für raumbezogene
informationssysteme mbH



Homeland
Security



PCI
Geomatics
Committed to GEO-Intelligence Solutions



BENTLEY



ROLTA



EADS
ASTRIUM



ESRI



USGS
science for a changing world



**NATIONAL GEOSPATIAL-
INTELLIGENCE AGENCY**



imagination at work



INTERGRAPH



SeiCorp, Inc.



BAE SYSTEMS

NORTHROP GRUMMAN
Information Technology
TASC



Google



ORACLE



NOAA



LOCKHEED MARTIN



NASA

And many more...

OGC

What is an OGC Standard?



- A document, established by consensus
- Approved by the OGC Membership
- Provides, for common and repeated use, rules, guidelines or characteristics
- Achieves maximum interoperability in its given context
- Implementable in software
- OGC standards are *Open Standards*
 - Freely and publicly available
 - No license fees
 - Vendor neutral

OGC Activities Driven by Community Needs



Education & Research



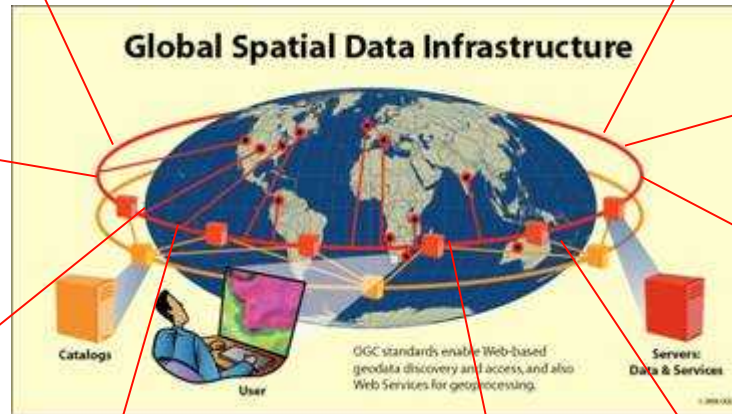
Sustainable Development



Utilities



Health



E -Government



Emergency Services



Consumer Services



Energy



Geosciences



Major OGC Specifications

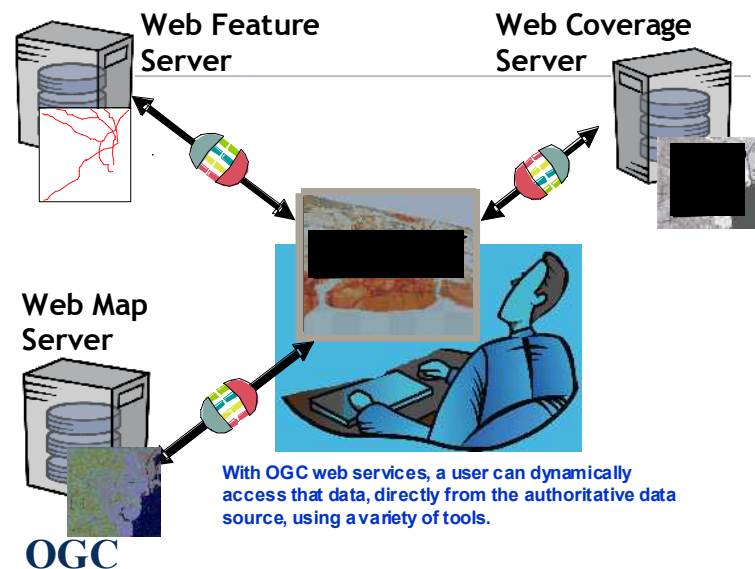


Some examples

- **Web Map Servers (WMS)**
- **Web Feature Servers (WFS)**
- **Web Coverage Servers (WCS)**

As well as the:

- **Catalog Service for the (CSW)**
- **Web Map Context (WMC)**
- **Geography Markup Language (GML)**





Programs and Process

How does OGC work?

<http://www.opengeospatial.org/projects>



- **Consensus process** – that is reflecting a common understanding of requirements and a membership driven process.
- **Formalised standards development process** – based on commonly agreed, structured and well defined policies and processes (→ Specification Program <http://www.opengeospatial.org/ogc/programs/spec>).
- Making use of **innovative processes** – for testing, verifying and documenting user requirements (→ Interoperability Program <http://www.opengeospatial.org/ogc/programs/ip>).



OGC and INSPIRE

Interfaces in the standards setting process



Many OGC members are involved in the INSPIRE process and vice-versa:

- **INSPIRE Legally Mandated Organisations (LMO):** IGN (F), BKG (D), DEFRA (UK), Finnish Meteorological Institute, Geonovum (NL), etc.
- **INSPIRE Spatial Data Interest Communities (SDIC):** OGC France Forum (F), SDI of Catalonia (ES), OGC Hydrology DWG
- **Drafting Teams, Thematic Working Groups,** thematical overlapping (e.g. Hydrology, Meteorology and others from Annexes)
- **IOC Task Force**
- Collaboration with the **Joint Research Center (JRC)** and other EU agencies.
- Some OGC Interoperability Program Initiatives reflect INSPIRE topics.



Organisation & Working Groups

Activities & Working Groups

- Individual NHMS and WMO are active in INSPIRE reviews as LMOs.
- Participation in TWG Atmospheric Conditions + Meteorological Geographical Features (AC, MF).
 - Chair: Bernard Strauss (Météo France).
- OGC Meteorology Domain Working Group.
 - Chair: Chris Little (UK Met Office), Co-Chair: Marie-Francoise Voidrot (Météo-France).
- WMO: Inter-Programme Expert Team on Metadata and Data Interoperability (IPET-MDI).
 - Chair: Jeremy Tandy (UK Met Office).
- E-INSPIRE-ET, an EUMETNET technical working group.
 - Chair: Wim Som de Cerff (KNMI).

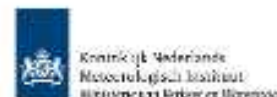


EUMETNET INSPIRE Expert Team (E-INSPIRE-ET)

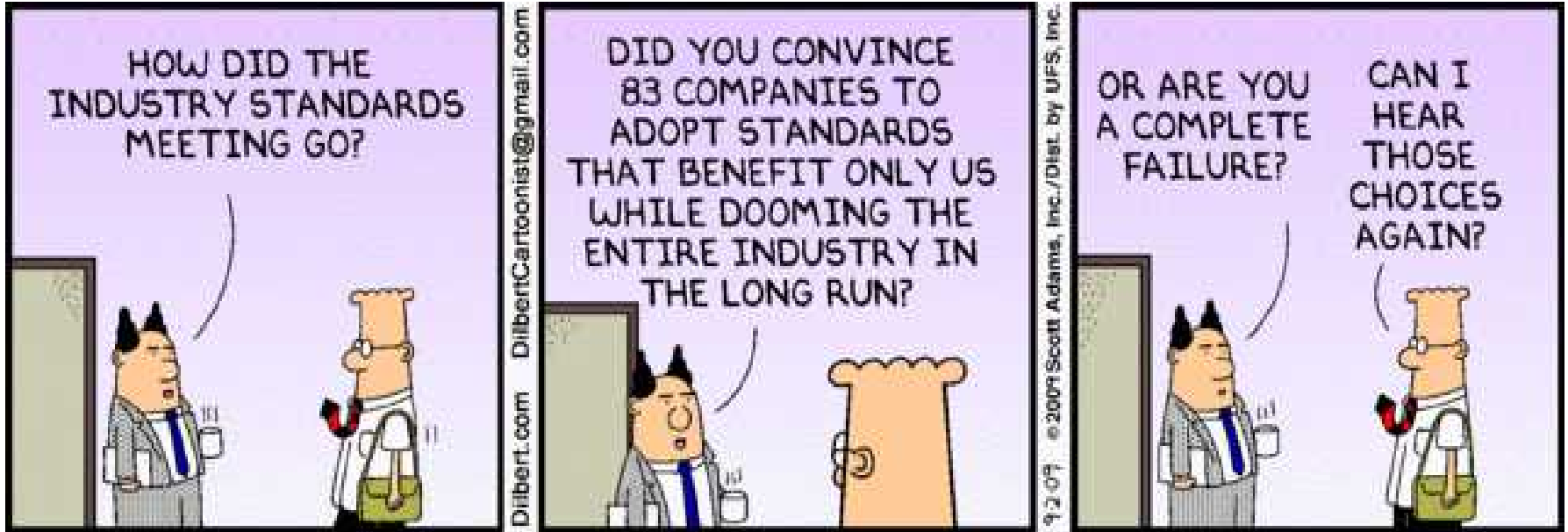
E-INSPIRE-ET

Composition & relations:

- Chair: Wim Som de Cerff (KNMI).
- Participants: UK Met Office, EUMETNET, SMHI, Met Norway, Meteoam Italy, Meteo Portugal, Météo France.
- Alignment with INSPIRE TWG, WMO IPET-MDI and OGC-Meteo DWG through UK Met Office, SMHI, KNMI & Météo France.



Standards?



Avenues for Public Input



- Requests for Information
- Requests for Comment
- Call For Participation
- OGC Public Forum
- Change Requests

• **Links:** <http://www.opengeospatial.org/standards/requests>

http://portal.opengeospatial.org/public_ogc/change_request.php

**Current Requests and Initiatives**

- » The OGC Seeks Participants for Surface Water Interoperability Experiment
- » OGC Calls for Industry Input on multi-INT Decision Fusion
- » OGC Seeks Comments on Candidate GeoAPI 3.0 Interface Standard
- » OGC Seeks Comments on SWE Common Service Model Interface Standard
- » More...

OGC On-line Change/Requirement Request

Instructions

The below Request form is for submitting official change requests for current publicly available OGC documents and Standards, and for official new requirements not related to current documents or Standards. These documents or Standards would include, but are not limited to: Implementation Standards, Abstract Specifications and Best Practices Papers. All request submissions will be vetted for appropriate content. If there are blatant errors or

Making Changes to Support INSPIRE



- We encourage members and the public to make suggestions for improving OGC standards, or for developing alternatives to better fit users' application requirements, including to support INSPIRE
- Several members of the INSPIRE IOC Task Force are active OGC members – this is good for cross-fertilizing ideas and approaches
- Please note: existence of INSPIRE's due date does not by itself speed up processing feature requests and change requests within OGC. It is up to the submitter to champion the requests or find proxies to champion the changes!
 - If you don't shepherd your request, who will?
 - And if someone else does, are you sure they are looking out for your interests?



OGC, ISO and CEN Some GIGAS results

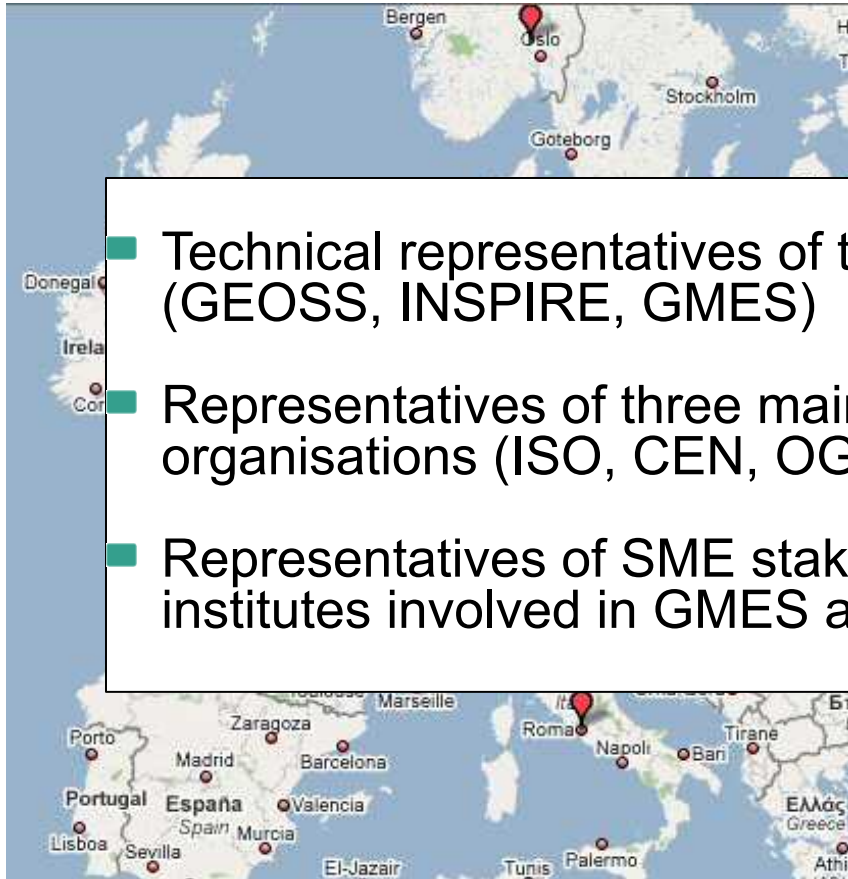
...an Action in Support to the GEOSS, INSPIRE and GMES



- Coherent and interoperable development of these initiatives
- Concerted adoption of standards, protocols, and open architectures
 - ✓ Recommendations to increase architectural coherence
 - ✓ Strengthen EU contribution to international standardisation
 - ✓ Information Platform for discussion and consensus for the stakeholder communities



GIGAS Consortium



Fraunhofer IGD / IITB,
Joint Research Center,
European Space Agency,
OGC-Europe,

- 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 involved in GMES and FP6/FP7 projects

ities Council
erche,
en,
satie-Instituut,

Spot Image (SI) SA,
Austrian Research Centers GmbH
(substituted by EOX)
Infoterra France SAS,
Elsag Datamat spa,
Institut Geographique National,
ERDAS

→ **19 partners**

OGC, CEN and ISO

<http://www.opengeospatial.org/pressroom/newsletters/201004/#C4>



OGC, CEN/TC 287 and ISO/TC 211 Agree to Increase Coordination

The CEN/TC 287 workshop on best practice for National Spatial Data Infrastructures (NSDIs) convened in Saint-Denis, Paris, France on 1 March 2010. This provided an excellent venue and opportunity for organizational representatives of CEN/TC 287, ISO/TC 211 and OGC to discuss ways in which **coordination between these standards bodies** can be improved to better address European and international standards requirements. Discussions also included representatives from participating user communities, and led to general **agreement for closer, more formal cooperation** between OGC and CEN/TC 287, as well as agreement to consider continued improvements in OGC and ISO/TC 211 coordination. Emphasis was also placed on the testing of standards for viability, fulfillment of purpose, ease of implementation and **improvements in interoperability**. The mantra "test early, test often" was reflective of this need. (...)

All parties agreed that continued exploration of process improvements would be valuable to the community, with particular focus on **improved coordination, reduction in duplication of effort, and streamlining of standards coordination processes.**

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Some last thoughts...



“Interoperability seems to be about the integration of information. What it’s really about is the coordination of organizational behavior.”

David Schell
Chairman and Founder
OGC





**Thank you for your attention!
Questions? Inform yourselves!**

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