



Safety, Mobility, Sustainability and more

The potential of cross border data harmonisation in Europe

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Agenda



- OGC – quick intro
- Potential of cross border data
 - **Potential** for the development of software & added value services in Europe?
 - Optimally **benefit** from INSPIREs potential.
 - **Other** developments in the world of standardisation can help to optimise INSPIREs potential for safety, mobility and sustainability



- **The Open GIS Consortium (OGC)**

- Not-for-profit, international consortium of 467 industry, government, and university members

- Founded in 1994
- Work is based on collaboration and consensus!

OGC Mission

Our core mission is to deliver interface specifications that are openly available for global use, and which are used by Geospatial data producers and software transparently to the users.

Potential

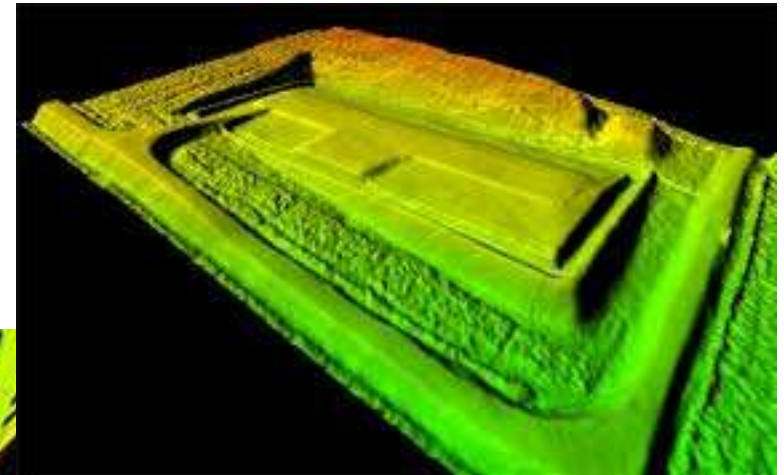
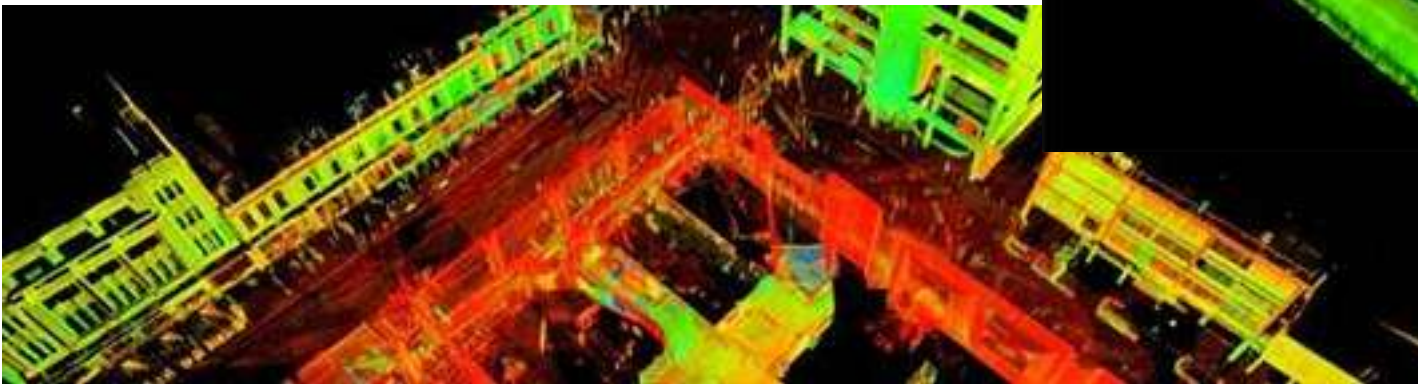


- INSPIRE datasets, what is the potential for the development of software & added value services in Europe?
 - We are early in the market, value of INSPIRE datasets needs more awareness
 - INSPIRE is instrumental for market development
 - Sets a legal framework and sets level of expectation and continuity
 - Its not about the data, it what you do with it
 - Open Data
 - Potential also in other datasets (for cross border initiatives)
 - Need to use Open Standards
 - OGC, INSPIRE, ISO, OASIS, W3C,

Potential



- Other cross border datasets – private sector
 - E.g. Fugro, Google, Bing, Cyclomedia, ...
 - Incorporate adjacent markets, like civil engineering and BIM



Potential



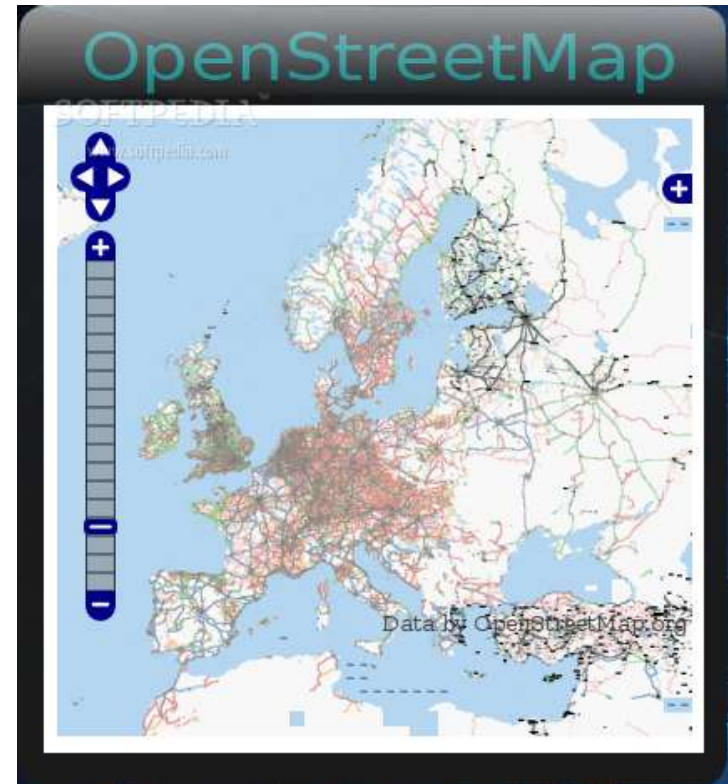
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Potential



- Other cross border datasets – Volunteers
 - Open Street Maps
 - Crowd sourced...
 - Quality?



Potential



- SME from the private sector
 - Route you (SME) – nicest routes (www.routeyou.com)
 - Combine public INSPIRE datasets with crowdsourced datasets



Potential



- Other

- GEO / GEOSS

- The Group on Earth Observations (GEO) is coordinating efforts to build a Global Earth Observation System of Systems, or GEOSS.
 - GEO was launched in 2002 World Summit on Sustainable Development and by the G8
 - GEO is a voluntary partnership of governments and international organizations. It provides a framework within which these partners can develop new projects and coordinate their strategies and investments.



Potential

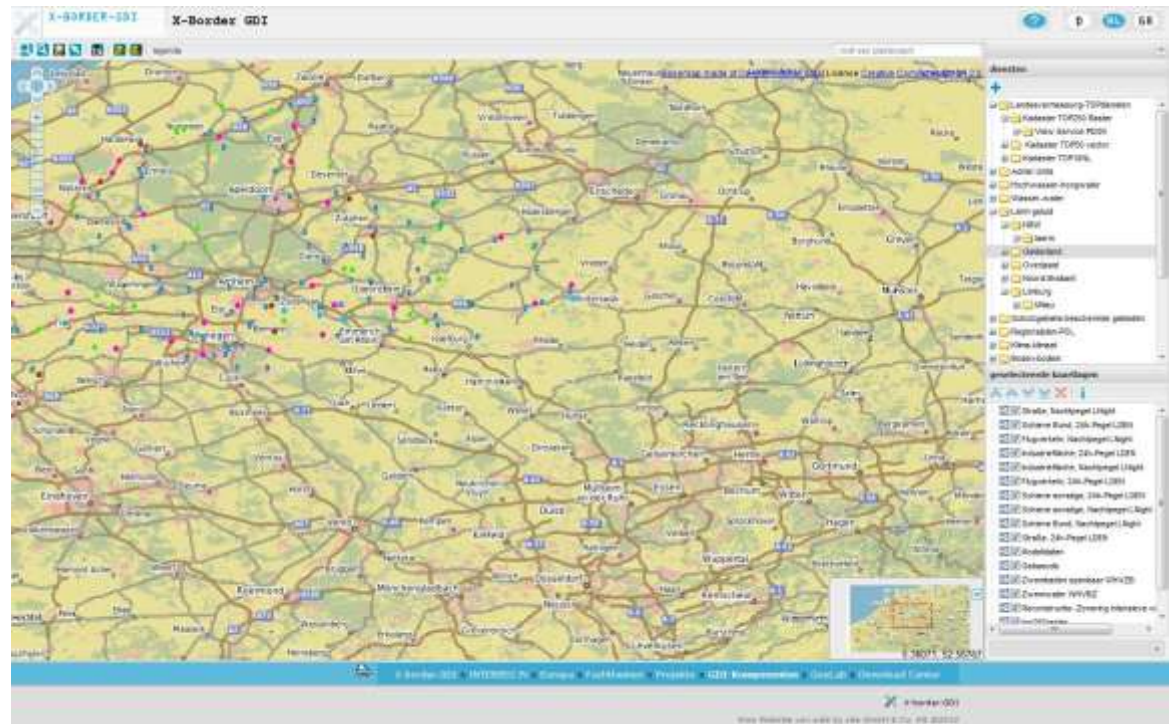


- Intermediate conclusion
 - INSPIRE datasets x *other* datasets = added value
 - Services: $f(\text{datasets})$
 - Based on open standards
 - caveat lector: read the EULA

Optimally benefit from INSPIREs potential



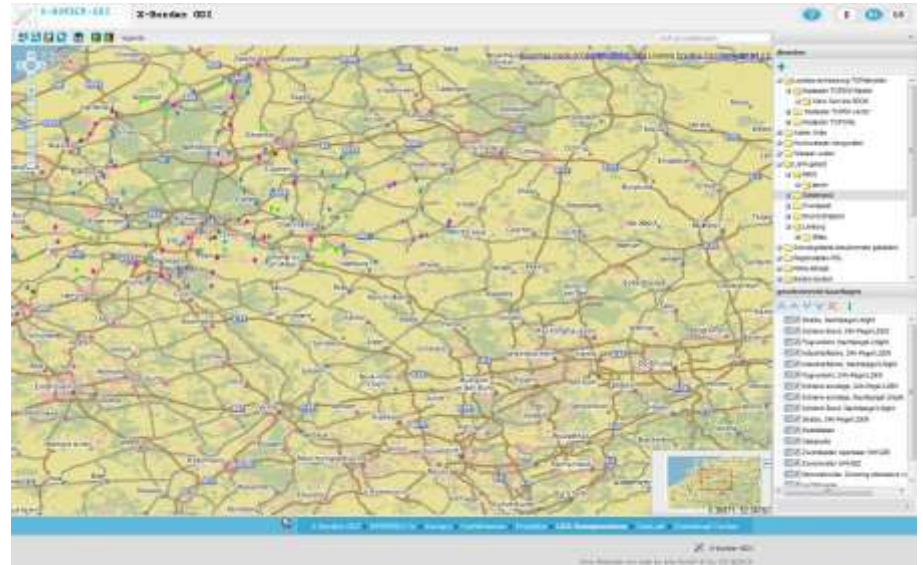
- Both in the stage of implementation and in management.
 - X-Border GDI (<http://www.x-border-gdi.org>)



Optimally benefit from INSPIREs potential



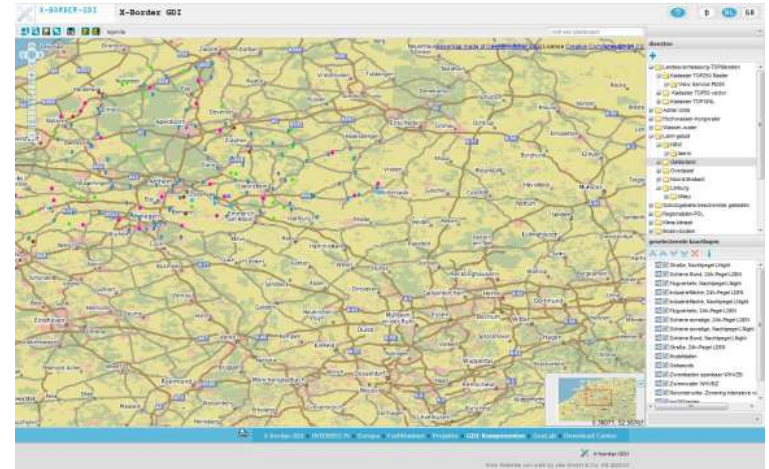
- X-Border GDI (<http://www.x-border-gdi.org>)
 - Tourism
 - Risk management
 - Mobility & Traffic
 - Agribusiness
 - Water Management
 - Nature
 - City Planning
 - Industrial areas



Optimally benefit from INSPIREs potential



- X-Border GDI (<http://www.x-border-gdi.org>)
 - Lessons learned
 - Listen to user requirements
 - » Municipalities, tourism, ...
 - Cross border issues
 - » Scaling, projection, rasters clipping, overlap
 - » Model, Ontology, Semantics
 - Geo Software support needs attention
 - Driven by enthusiastic people
 - Regulatory driven = within border
 - Funding after project ends?



Optimize benefits



- Intermediate conclusion
 - X-borders initiatives demonstrate value
 - Need to find ways to secure knowledge
 - » OGC ?

Other developments

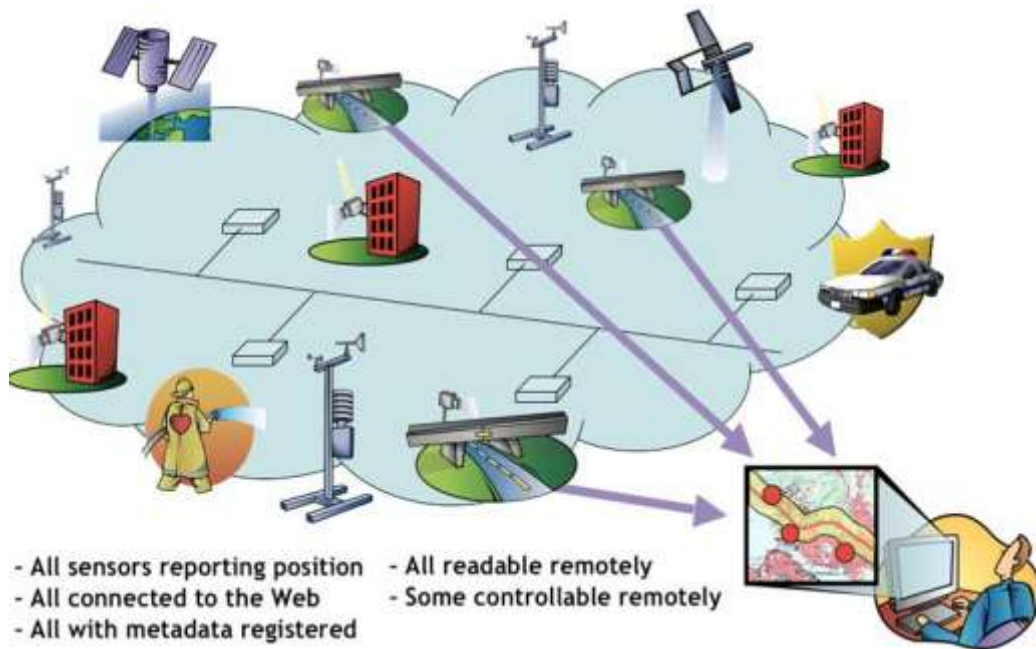


- Which other developments in the world of standardisation can help to optimise INSPIREs potential for safety, mobility and sustainability.
 - SWE
 - AR
 - IoT
 - Linked Data
 - ...

OGC Sensor Web Enablement Standards



Enable discovery and tasking of sensor assets, and the access and application of sensor observations for enhanced situational awareness

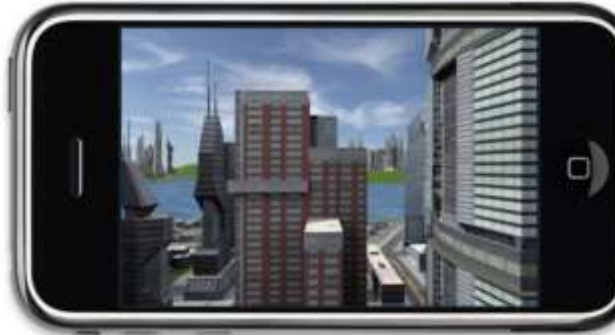


- ✓ Sensor Model Language (SensorML)
- ✓ Sensor Planning Service (SPS)
- ✓ Sensor Observation Service (SOS)
- ✓ PUCK

--Complementary Standards--

- ✓ IEEE 1451 smart sensor standard
- ✓ OASIS (alert) standards

Augmented Reality



<http://www.webviewservice.org/>



Augmented Reality Markup Language (ARML) under development as a profile of OGC KML



OGC®

Source: <http://en.wikipedia.org/wiki/File:Wikitude.jpg>

3D Portrayal Interoperability Experiment (IE)



- Describes the results of an Interoperability Experiment (IE) on the portrayal of 3D geospatial information. The report contains technical details on processing 3D information in an OGC service environment as well as best practices on how to portray large data sets in urban planning scenarios, taking into account architectures and capabilities of interactive 3D graphics.
 - Represents hundreds of hours of research, development, and experimentation



Social Networking User Generated Information / Crowdsourcing



Source: <http://www.usahidi.com/>

Haiti
The 2010 Earthquake in Haiti

Transitioning to Nouda.Mt

Ushahidi

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Ushahidi

HOW TO HELP ABOUT

ALL CATEGORIES

- 1. URGENCIES | EMERGENCY
- 2. URGENCIES LOGISTICS | VITAL LINES
- 3. PUBLIC HEALTH
- 4. MENACES | SECURITY THREATS
- 5. INFRASTRUCTURE DAMAGE
- 6. NATURAL HAZARDS



Source: Erik (HASH) Hersman. Flickr

- Ushahidi
- InRelief
- OpenStreetMap
- Sahana
- CrisisCommons

InRelief.org
VIZCENTER

79
Olivier SIVIC
Aula Floods

X 24
EXERCISE 24

InRelief.org
My InRelief
Home
InRelief Updates
Collaboration Groups
Sitemap

Current Events
Flooding in Aule
Gulf Of Spee
Mexican Earthquake

IMAGES FROM INRELIEF.ORG'S Picasa Gallery
InRelief.org Current Events

Houses are half submerged in heavy floodwater in Ploazani - Mond

Source: www.inrelief.org

Sahana Technology and Features

- Environments
 - Linux, Windows, Portable App
 - VM, LiveCD, LiveUSB
- Translation & Localization
 - Poote, Character sets
 - Right-to-left scripting
- Messaging:
 - SMS, GPRS, e-mail
- GIS & Open Standards:
 - KML, WMS, GeoRSS, WFS
 - EDXL, CAP, JSON, XML
- Mobile Accessibility
 - Android, iPhone, iPad
 - Blackberry, NetBooks, Cellphones

27 May 2010 <http://www.SahanaFoundation.org>

Source: <http://www.sahanafoundation.org>

Source: <http://www.openstreetmap.org>

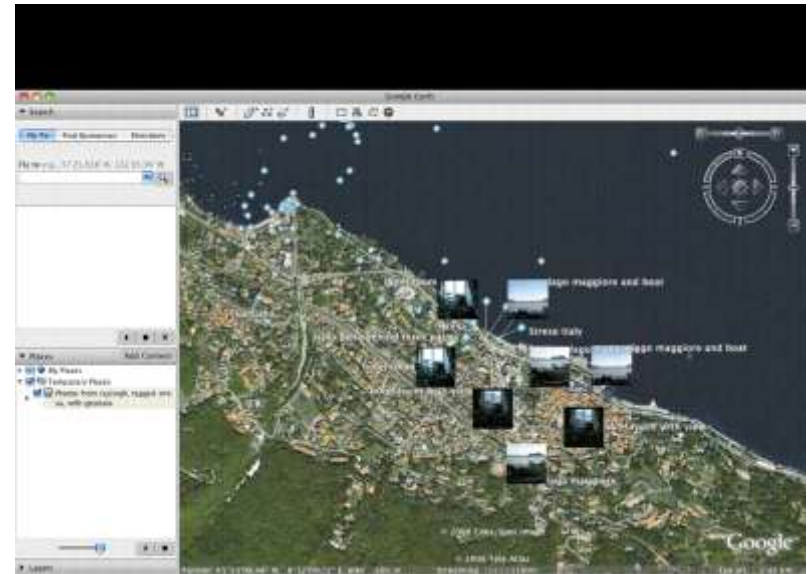
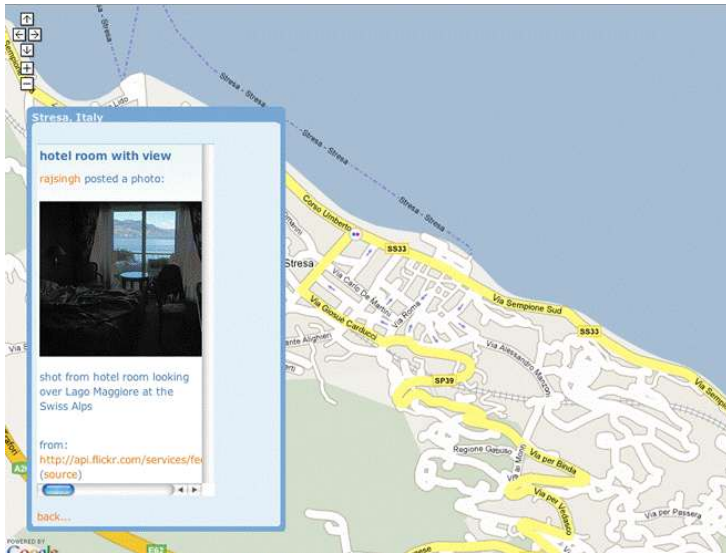
Leveraging Citizen Contributions



Standards for the “Mass Market” (consumer focus)

- Emphasis on lightweight solutions, e.g. Open GeoSMS
- KML is an OGC standard
- GeoPDF moving to OGC Best Practice
- GeoRSS, GeoJSON

Flickr geoFeed map (GeoRSS)



Tomorrow: The Internet of things

Location apps
Sensor webs
Location marketing
Indoor/outdoor location
Building information models



Environmental monitoring
Predictive maintenance
Machine-to-machine communication
Augmented reality
Smart buildings
Smart pipes
Smart grid



Today's Internet

Conclusions



- Potential
 - INSPIRE datasets x *other* datasets = added value
- Optimize
 - X-borders initiatives demonstrate value, but how to keep them alive after project ends?
- Other Developments
 - SWE, IoT, AR, ...
 - » Community involvement

Based on Open Standards

Conclusion



X-Border (INSPIRE datasets x *other* datasets)
= value

based on Open Standards



Questions?

Thank you

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