Operational SDIs:
The Sub-national Dimension in the European Context

INSPIRE Conference 2010, Krakow, Poland
- Regional Experiences -

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SDI Developments towards INSPIRE in the last 10 years

First Step of SDI development:

accelerated diffusion throughout the world

- Most countries in Europe have taken steps to implement components of a national SDI
- The INSPIRE initiative played an important role in promoting this diffusion process in Europe
- Similar developments have taken place throughout the whole world
SDI diffusion throughout the world

- Establishment of the Global Spatial Data Infrastructures Association (1996)
  - promotion of best practices sharing of experiences
  - capacity building in the Americas, Africa, Asia, Pacific, Europe

- Establishment of INSPIRE, Infrastructure for Spatial Information in Europe (2007) built on the SDIs of 27 Member States
  - answers to many environmental challenges
  - common policy and standards

- GMES, Global Monitoring for Environment and Security
  - European Earth Observation Programme

  - United Nations SDI
Second step of SDIs

shift from national SDIs to sub-national SDIs

• From strategic SDIs to operational SDIs or

  From “talking about SDIs to doing SDIs” (Ian Masser)

• Success at the sub-national level has become a crucial point of the overall success

• These two developments have been recognised in a number of recent European initiatives.
eSDI-Net+

Network for promotion of cross border dialogue and exchange of best practices on Spatial Data Infrastructures (SDIs) throughout Europe

Establishment of a Thematic Network funded within the eContentplus programme of the European Commission

ECP-2006-GEO-320005
Objectives of eSDI-Net+

• To establish a Thematic Network as **platform for communication** and exchange among stakeholders involved in the creation and use of SDI`s

• To **bring together potential SDI stakeholders** in order to increase awareness and to facilitate the creation of
  - guidelines
  - standards
  - best practices

• To establish **communication mechanisms between European and local levels** to maximize benefits of INSPIRE, GMES, GALILEO and e-government programmes

• To develop solutions for **multicultural and multilingual** access, exploitation, use, and reuse of digital GI content in Europe
Thematic Network – Initial Partners

Geographic coverage
Organisations from 15 European countries from the different regions in Europe

Involvement of Stakeholders
• Providers of digital geographical data (local, national and regional public authorities, private organisations and institutions)
• Users of digital geographical data (research institutes, universities, software manufacturers)
• National and international GI umbrella Associations
• Consultancy and Network Management
Consortium Members

1. Technische Universität Darmstadt®, Germany (TUD)
2. AGH University, Poland (AGH)
3. AM/FM GIS Italia, Italy (AMFM)
4. Association for Geospatial Information in South-East Europe, Bulgaria (AGISEE)
5. Association of Geographic Information Laboratories for Europe, Netherlands (AGILE)
6. Association USIG (Users of Geographic Information), Portugal (USIG)
7. CNR-IMATI, Italy
8. EUROGI, Netherlands
9. Fraunhofer Gesellschaft, Germany (FHG-IGD und FOKUS)
10. GISIG, Italy
11. Hungarian Association for Geo-information (HUNAGI)
12. Research Institute for Artificial Intelligence, Romania (ICIA)
13. Intergraph, Czech Republic (INGR)
14. Kuovola Region Federation of Municipalities, Finland (KRF)
15. Linköpings Universitet, Department of Computer and Information Science, Sweden (LIU-IDA)
16. Regione Piemonte, Italy (PIEMONTE)
17. Katholieke Universiteit Leuven, Belgium (K.U.Leuven R&D)
18. The South East European Research Centre, Greece (SEERC)
19. The University “Jaume I” (King James I), Spain (UJI)
20. University of Rome “La Sapienza”, Italy (URS)
Aspects relating to standards, dissemination of information and exploitation of the results

1. **INSPIRE**
   - JRC + EuroGeographics at the **Advisory Board**
   - Partners are represented in **INSPIRE committees**
   - **Related projects** in the INSPIRE context
   - **Workshops and presentations** at the INSPIRE Conferences

2. **OGC**: bilateral meetings and membership of partners

3. **Industry**: INGR partner; ESRI in Advisory Board; participate in project events and workshops

4. Dissemination & **Awareness** building

→ **Network Sustainability**
Collaboration with related initiatives

Network Environment
- related initiatives & projects, politics, user community, market
- INSPIRE Initiative
  - Regulations
- GMES projects
  - HUMBOLDT
- eContentplus projects
  - GIS4EU
  - NATURE-SDiplus
  - EURADIN
  - OneGeologyEurope
  - Plan4All
  - ESDIN
- Other related projects
  - CASCADROSS
  - SPATIALIST
  - VESTA-GIS
  - NESIS

eSDI-Net+ Network
- network members, partners and members of participating organisations
- Dialogue
- User needs
- Recommendations
- Exchange of SDI best practices
- Stakeholders' view
- Information about available tools and approaches
- SDI-Net+ consortium
  - Representatives from SDI key players throughout Europe
- Potential members
  - Further SDI stakeholders covering the whole Europe
- Related networks and organisations
  - SDI stakeholders
  - GI key players
  - JRC, EUROSTAT, ESA
eSDI-Net+: from local to global and back

- **Start with the bottom-up approach:**
  - Identify and document intelligible SDI solutions at local, national and regional levels having INSPIRE principles in mind
  - Determine common issues

- Evaluate possible integration of good practices

- Identify best practice solutions on existing SDIs

- Feedback to the INSPIRE community and the stakeholders

- **Followed by the top-down approach:**
  Transfer of experiences back to sub-national level to learn from each other
How did we select Best Practices?

1. Methodology for describing sub-national SDIs
2. Selection of sub national SDIs by consortium partners
3. Evaluation framework to “compare” SDIs
4. Evaluation criteria application and table of indicators
5. Jury selection of awarded SDIs
Assessment methodology

Key aspects of the SDI selection:

1. Technological, innovative level and originality of the SDI
2. Implementation and/or readiness for INSPIRE principles
3. Level of fostering cooperation between different users (proof of visibility and/or user feedback)
4. Possibility of extension or transfer to other countries and regions

106 questions are used to describe an SDI
## Regional and national SDI workshops

<table>
<thead>
<tr>
<th>SDI Selection Timeline</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May</td>
<td>Jun</td>
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<tr>
<td>Southeast Europe</td>
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<td>UK/Ireland</td>
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<td>Portugal/Spain</td>
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<td>Hungary</td>
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<td>CZ/Slovakia</td>
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<td>Italy</td>
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<tr>
<td>Germany</td>
<td></td>
<td></td>
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<tr>
<td>Netherlands/Belgium</td>
<td></td>
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<tr>
<td>France</td>
<td></td>
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<tr>
<td>Scandinavia</td>
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<tr>
<td>Poland</td>
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### Timeline

- **Identification and Preparation**: Nov-Jun
- **Questionnaires and Interviews**: Jun-Dec
- **Assessment and Selection**: Dec-Feb
- **Workshop**: Feb-Jul
- **Report**: Jul-2009
- **Recommendation of Best Practices for the Award**: 2009

### In Summary:
- >200 solutions identified in 32 Countries
- 12 Workshops
- 135 SDIs evaluated
- → 12 SDI Best Practices
# Assessment methodology

## Evaluation criteria and indicators

<table>
<thead>
<tr>
<th>Five main criteria</th>
<th>32 weighted indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SDI «size» (quantity)</td>
<td>6</td>
</tr>
<tr>
<td>2. SDI «quality» (meeting user requirements)</td>
<td>7</td>
</tr>
<tr>
<td>3. Co-operation and subsidiarity</td>
<td>7</td>
</tr>
<tr>
<td>4. Sustainability</td>
<td>4</td>
</tr>
<tr>
<td>5. Users usability</td>
<td>8</td>
</tr>
</tbody>
</table>

→ Led to the Best Practice Award 2009 in 4 Categories
### Outstanding European SDIs (1/4)

**Tecnological aspects**

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forth Valley GIS</td>
<td>Scotland, UK</td>
<td><a href="http://www.forthvalleygis.co.uk">www.forthvalleygis.co.uk</a></td>
</tr>
<tr>
<td>SNIG - Sistema Nacional de Informação Geográfica</td>
<td>Portugal</td>
<td><a href="http://snig.igeo.pt">http://snig.igeo.pt</a></td>
</tr>
<tr>
<td>IDERIOJA: Infraestructura de Datos Espaciales del Gobierno de La Rioja</td>
<td>La Rioja, Spain</td>
<td><a href="http://www.iderioja.org">www.iderioja.org</a></td>
</tr>
</tbody>
</table>
# Outstanding European SDIs (2/4)

## Organisational and institutional aspects

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Location</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre Régional de l'Information Géographique (CRIGE-PACA)</td>
<td>Provence-Alpes-Côte d'Azur, France</td>
<td><a href="http://www.crive-paca.org">www.crive-paca.org</a></td>
</tr>
<tr>
<td>GDI Nordrhein-Westfalen</td>
<td>North Rhine-Westphalia, Germany</td>
<td><a href="http://www.geoportal.nrw.de">www.geoportal.nrw.de</a></td>
</tr>
<tr>
<td>Infrastruttura per l’Informazione Territoriale (IIT) della Lombardia</td>
<td>Regione Lombardia, Italy</td>
<td><a href="http://www.cartografia.regione.lombardia.it">www.cartografia.regione.lombardia.it</a></td>
</tr>
</tbody>
</table>
## Outstanding European SDIs (3/4)

### User involvement

<table>
<thead>
<tr>
<th>IDEC Infraestructura de Dades Espaciales de Catalunya</th>
<th>Catalunya, Spain</th>
<th><a href="http://www.geoportal-idec.net">www.geoportal-idec.net</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>X BORDER GDI (Cross border Geo-data infrastructure XGDI)</td>
<td>Province of Limburg, Netherlands</td>
<td><a href="http://www.x-border-gdi.org">www.x-border-gdi.org</a></td>
</tr>
</tbody>
</table>

![Map of Catalunya](image)
Outstanding European SDIs (4/4)

**Thematic SDIs**

| National Land & Property Gazetteer and National Street Gaze | English Regions & Wales, UK | www.nplg.org.uk |
| SIG Pyrénées | Aquitaine, Midi-Pyrénées et Languedoc-Roussillon, France | www.sig-pyrenees.net |
| Plansystem.dk | Denmark | www.plansystem.dk |
| Norway Digital-ND | Norway | www.geonorge.no |

http://www.esdinnetplus.eu/best_practice/outstanding.html
European SDI Best Practice Awards 2009
Learning from Best Practices
International Conference in Turin, Italy, Nov. 26th-27th 2009
Available Results - Summary

- **Sustainable network** as a platform to exchange experiences in the field of SDI and GI
- **International contacts** to SDIs, GI and SDI key players, GI associations and related networks and projects
- **12 regional and national SDI workshops** to present SDI best practices at local, national and regional levels
- **More than 200 SDIs from 32 countries analysed** in interviews and at workshops
- **12 European SDI Best Practices** highly commended at the European SDI Best Practice Awards 2009 in Turin, Italy in November 2009
- **SDI Best Practice Database** containing data of 135 sub-national SDIs (will be public soon)
- **SDI assessment methodology** developed by the eSDI-Net+ project
- **SDI self-assessment framework** will be finalised soon
Lessons Learnt

• Each SDI is a special case
  - with its specific requirements and needs
  - with its individual solution

• We can learn from each other
  • Leadership and supportive structures are essential
  • Dialogue is not only helpful, but needed
  • Exchange experiences (do not re-invent the wheel)
    (the information has not yet reached all the level to be involved)
  • Good practices as examples are motivating
    - well-known ones: e.g. Catalunya in Spain, North-Rhine Westfalia, Germany
    - less known ones: e.g. IDERijoa in Spain, X-Border-GDI (NL, BE, Ger)

• SDIs will not grow in a week
  ➔ get started and grow over time
Next steps toward sustainability

- Promote Best Practices
  - workshops to bring these experiences back to sub national level
  - Dissemination of lessons learnt
  - Continue the SDI assessment process
  - Call for a next Best Practice Award
- Provide a SDI Self Assessment Framework
- Extend the network
- Generate impulses at the European and international level
  - JRC, EUROSTAT, ESA, …
  - United Nations, Digital Earth, …

⇒ Strive for a sustainable network: eSDI-Net+ under EUROGI flag
eSDI-Net+: a network to continue!

- Long-term sustainability with support of EUROGI
- Continue updating the database of SDIs
- Continue the series of the showcase workshops
- Involvement of the SDIs and the network partners in the workshops of related projects
- Personnel allocated to support the development of the eSDI-Net+ network and PR measures
- Integration of the eSDI-Net+ website in EUROGI’s website, maintained by EUROGI, showing the ongoing developments of the network and in the SDI field
www.esdinetplus.eu