GSDI Global Spatial Data Infrastructure

GSDI Association Activities Related to SDI Convergences

August 11th 2009
Bas Kok, GSDI Past-President

GSDI Global Spatial Data Infrastructure

• SDI Convergence
• Important conditions SDI development/implementation
• Focus on Europe
• Strategic Alliances
• Opportunities for communities in Americas
GSDI Capacity Building

• Newslist (news@gsdi.org - 1600 subscribers)
• Monthly Regional Newsletters - Africa, Latin America, Asia/Pacific (electronic)
• Working Groups - Technical, Legal & Economic, Standing Committees, etc.
• Email Discussion Forums
• Small Grants Program
• Annual Meeting plus Training Workshops
• Affiliated Projects: ESRI Global Map Grants, Intergraph Open Interoperability Grant Program

GSDI 11 Conference

SDI Convergence
Rotterdam, The Netherlands
15 - 19 June 2009 (www.gsci.org/gsdi11)
Successful SDI Development
USA

Goal - Make it easier, faster and less expensive to find
and use geospatial data

Successful SDI Development
Canada

1. National - geo experts
2. National - public
3. Regional - regional/local government
4. Regional - non-expert users
**Successful SDI Development**

**India**

- India departments and public organisation use space observation data for SDIs.
- Minister of Science and Technology works on National GEO Authority.
- India industry and knowledge capacities grow and develop new media.

**Australia**

Source: PCGIAP
American SDI Symposium:
Concepts, practices and projects

Colombian Space Commission and the Colombian Spatial Data Infrastructure - ICDE

DECREE 2442, 2006

Ministerio de Relaciones Exteriores
Ministerio de Defensa Nacional
Ministerio de Educación Nacional
Ministerio de Comunicaciones
Ministerio del Interior y de Justicia
Ministerio de Agricultura y Desarrollo Rural
Ministerio de Transporte

November 6th and 7th
BOGOTÁ - COLOMBIA
Focus on successful SDI implementation in Europe

- Optimized use of accurate cadastral and topographic data.
- Legal frameworks created.
- Strong involvement professional communities.
- Optimized access to citizens and active involvement eGovernment.

Successful Mix in Europe

- **INSPIRE**
  - Excellent dialogue networks of policy makers and spatial interest communities

- National Mapping Agencies
  - Leading role in EU Member States towards SDI approaches
  - Availability of topographic core data sets
  - Essential tools for eGovernment participation
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Source: INSPIRE
INSPIRE process

INSPIRE principles

- Data should be collected once and maintained at the level where this can be done most effectively
- Combine seamlessly spatial data from different sources and share it between many users and applications (the concept of interoperability)
- Spatial data should be collected at one level of government and shared between all levels
- Spatial data needed for good governance should be available on conditions that are not restricting its extensive use
- It should be easy to discover which spatial data is available, to evaluate its fitness for purpose and to know which conditions apply for its use

Source: INSPIRE
INSPIRE lays down general rules to establish an infrastructure for spatial information in Europe for the purposes of Community environmental policies and policies or activities which may have an impact on the environment.

INSPIRE to be based on the infrastructures for spatial information established and operated by the Member States.

INSPIRE does not require collection of new spatial data.

INSPIRE does not affect existing Intellectual Property Rights.
Successful Mix in Europe

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- **INSPIRE**
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Scope

Existing spatial data held by or on behalf of a public authority operating down to the lowest level of government when laws or regulations require their collection or dissemination.

SDI in Finland

- **The national geoportal** (developed by the National Land Survey) will be the main entrance to national and local spatial datasets and services
  - the pilot of geoportal will be launched in May 2009
  - The development of spatial data infrastructure and geoportal is a huge task for cooperation among the Finnish GI community.

- **The National Council for Geographical Information** will be formed according to the GI Law
  - Secretariat by National Land Survey of Finland

- In addition: National INSPIRE-network (voluntary based, open to all)
  - To help the implementation of SDI
  - Best-practice networking
  - Voluntary participation in development of the National Geoportal
  - Development of conditions for use of spatial data

Source: NLS Finland
**eGovernment structure**

**SUPPORT SERVICES**
- Identification
- Signature
- Payment...

**National basic information pool**
- Taxation
- National pension
- Corporate information
- VTJ
- KTJ
- Fringe and other
- AKS
- VERO
- KELA
- DIGIRAD
- Paikalliset

**Geographical information**

**Portals**
- Palvelun ohjaus (portaalit) ja hakut

**Identification**
- Tunnistaminen

**Signature**
- Vahvistus

**Payment**
- Maksaminen

**Source:** Ministry of Finance, Finland

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**Cluster of co-operating agencies**

**Geodata portal**
**Company portal**

**Service license portal**

**EU Service Directive**

**Harmonization of business support**

**Driving license portal**

**Source:** NLS Sweden
National Survey and Cadastre, Denmark

- Denmark’s central public source of geographic data
- National coordinator of surveying, mapping & registration of spatial information
- National authority for NSDI, surveying, mapping, charting, cadastral data and licensing surveyors

The law creates connections to eGovernment
The Spatial Data Service Community

Since 2002, the Spatial Data Service Community chaired by the National Survey and Cadastre has promoted Denmark's ambitious visions for eGovernment in the geodata sector.

The members ensure that geodata is effectively used as the central infrastructure of Denmark's eGovernment.

Key registers

- Separate law for each key register
- no law for overall system

- Personal Records Database
- Trade Register
- Buildings and Addresses
- Cadastre
- Topography (1:10,000 and smaller)
- Large scale topography
- Vehicles
- Wage, Employment and Benefit Relationships
- Income and Assets
- Property values.
Successful SDI Development - The Netherlands

2003 SDI Part of eGovernment Legislation Authentic Registers
- Cadastre
- Buildings
- Enterprise
- Population
- Addresses
- 1:10,000 topographic set
- 1:1000/2000 topographic set

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Kadaster information hub in eGovernment

- Key register cadastre
- Key register topography
- Distributor building and address information

(Possible) future tasks:
- Distributor large scale base map
- Distributor planning/zoning information
- Distributor valuation information
- Distributor sub-soil information
Key Geo-Register
Large Scale
Topography-BGT

Transition team BGT
Martin Peersmann
M. Meijer
H. van Eekelen
Overall BGT Programme Management
Ministry of Housing, Spatial Planning and the Environment

Policy Design Transition-strategy
Implementation at Producers Transition Management & Innovation
Implementation at Users Change Management & Cultural Change
Benefits To society

Phase 1 2009 2010 2012 2014

Legal Framework BGT-Law
Public-Private Partnership LSV GBKN → Key Geo-Register Large Scale Topography-BGT

Mandatory usage of National uniform Information Model for Topography (IMGEO)

Data production & Maintenance by legally mandated public service organizations →2012

Mandatory data usage by public service organizations →2014

Publicly-funded → Free access & data usage

Geo-registry Supervisory Agency
ICT – Test Environment Structure/Conversion

Information Model Geo-Information (IMGeo)

IMGEO:
Scheme of geo information models in The Netherlands

BGT object data:
Example of Large Scale Topography-BGT object data
NORA = Dutch Government Reference Architecture (Nederlandse Overheid Referentie Architectuur)

Flow of information for the basic registrations (BR) VROM
3D from 2D Cycloramas with photogrammetry

- Photogrammetry: Corresponding image points = Intersecting spatial directions
- Location of Cycloramas is known at dm-level & Geometry of Cyclorama is known at pixel-level

3D Cycloramas

3D from 2D Cycloramas with photogrammetry
Innovation of Data Presentation / Visualisation
Projection of Utilities network

Future National Large Scale Topography
BGT object dataset - WTC Rotterdam
Future National Large Scale Topography
BGT object dataset – 3D WTC Rotterdam

From IMGeo → Top10NL
Automated Generalisation

IMGOE 1:1000
TOP10NL 1:10.000
In Summary

Experiences in Europe show:
- NMAs play an important role in SDI development and implementation.
- Some SDIs are currently essential tools in national E-government processes.

Next steps:
- Strategic alliances and partnerships between SDI communities, NMA’s and GEO GEOSS as part of SDI convergence process in coming years.
- Opportunities for American Community to take part in this partnership and SDI convergence process.
- GSDI Association facilitates this process in the coming years.
- Convergence process needed for optimized decision making on global level.