

## The Strategic Role of NMAs in SDI Development and Implementation

May 5th 2009

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GSDI President

FIG Working Week 2009  
3-8 May 2009, Eilat, Israel



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## Strategic Role in SDI Development and Implementation

- By
  - National Mapping Agencies
  - Cadastre Agencies
  - Land Administration Agencies
- Why
  - Their registrations are the backbone of our society and for SDI development.
  - Organizing platform management and coordination.
  - Linking pin role between professional community and policy makers.



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## SDI Essential Element in our Community

Geospatial sector in a strong position

- \* SDI's used in nearly every country.
- Growing consumer markets (mobiles, internet , etc).
- Private companies producing high advanced innovative products.
- Geodesy science in a well advanced stage: integrated systems, 3D modeling, real time 4D.
- Strong growth voluntary collected data in communities.
- Increasing use of cloud computing systems.
- GI essential part of security and safety sectors by Spatial Enabled Facilities.



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## Examples in Europe

Key role NMAs and Land Administration in SDI Development



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## FINLAND



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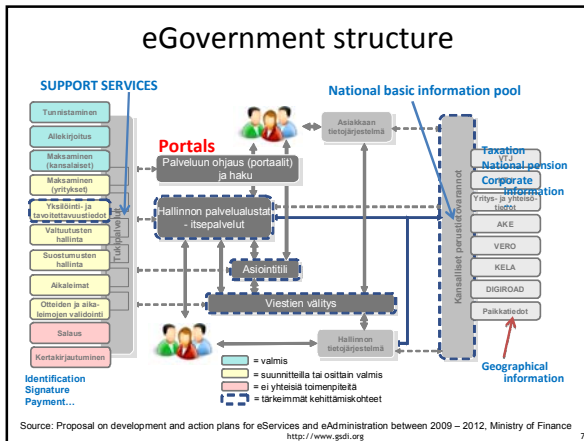
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## SDI in Finland

- **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

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### SDI in Finland

- The Government bill for the National SDI legislation in Finland was delivered to the Parliament in March 2009
- The bill is expected to be passed in May 2009
- European legislation and international standards are the basis for the implementation of the national spatial data infrastructure in Finland
- The accessible spatial datasets and the network services build up the infrastructure on which the usage of data will be established.

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### Lantmäteriet's role as coordinator

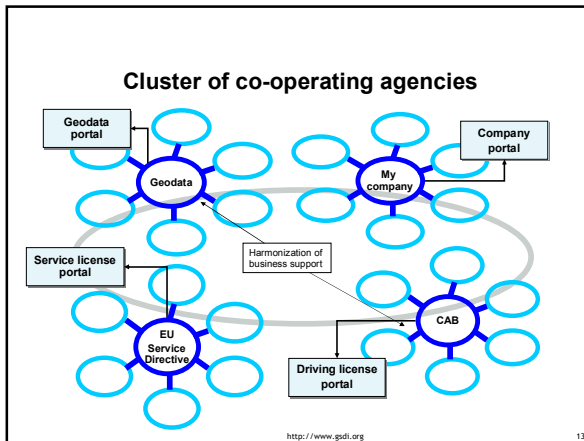
- National responsibility for coordination of basic geographic information and property information (geodata).
- Coordination and support to implementation of EC Directives within the GI sector.

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### Key principles

- Based on user-demands
- Flexible and easy adjustment to meet new requirements
- Efficient and cost-effective provision of information
- Co-operation
- Support the development of private sector
- Contribute to e-governance
- International - INSPIRE

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DANISH MINISTRY OF THE ENVIRONMENT  
National Survey and Cadastre

MAPS, GEODATA AND SPATIAL INFRASTRUCTURE

## 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

Metadata

Sector-specific data

Sector-specific data

Sector-specific data

Sector-specific data

Sector-specific data

Multi-sector data

Reference data

## National Survey and Cadastre, Denmark

is responsible for implementation of the INSPIRE directive in Denmark

The law creates connections to eGovernment

LOCATION - a gateway to e-Government

Infrastructure for Spatial Information Act

Passed by the Danish Parliament 9 December 2008

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DANISH MINISTRY OF THE ENVIRONMENT  
National Survey and Cadastre

MAPS, GEODATA AND SPATIAL INFRASTRUCTURE

## 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.

# THE NETHERLANDS

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- ## Vision Netherlands' SDI
- Government is able to use all location based information for her internal processes and external services.
  - Citizens and companies are able to view and use location specific information from the government.
  - Companies are able to create value added services from governmental geo-information
  - Government, companies and research organizations are cooperating in order to develop and innovate the Dutch SDI.
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VROM

**GIDEON – Key geo-information facility for the Netherlands**  
 Approach and implementation strategy (2008 – 2011)

GI-council  
*strategic*  
 Geonovum *tactical*  
 RGI/Geoland *R&D*  
 eGov programs  
*operational*

**kadaster** 21

- ## Key registers
- 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.
- Separate law for each key register  
 no law for overall system
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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
- 
- 
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## Example: Combining mapping and real estate information

# ESTONIA



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Estonian Land Board

## Initiating platforms for data sharing

Our main platform for data sharing is our Web Map Server, basically it is a technical part of SDI

It consist of:

1. Infrastructure of OGC services (WMS, WFS, etc)
2. User environment (Web Map application)

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## Web Map Server

- Web Map Server is consisting of different web map applications (services)
- Some applications are public, some are "targeted applications", made for special user groups or co-operation partners
- Usage of the public applications (services) is free of charge for everybody
  - No payment
  - No login, no username, no password
  - Just open the application and use it
- For using targeted applications, login is necessary

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## How to access

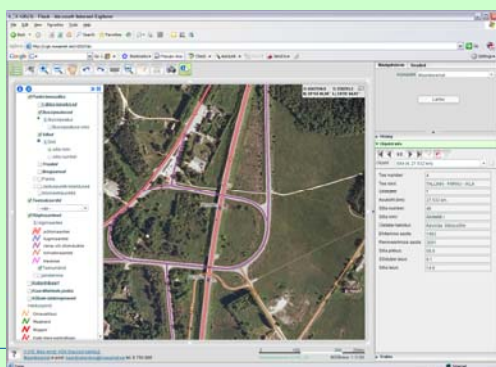
- Public Web Map Server in English is available:  
[http://www.maaamet.ee/index.php?lang\\_id=2&page\\_id=205&menu\\_id=91](http://www.maaamet.ee/index.php?lang_id=2&page_id=205&menu_id=91)
- Public WMS service containing our maps is available:  
<http://xgis.maaamet.ee/wms-pub/olus.ge?>
- You can view our maps and cadastral data using Google Earth, KMZ fail can be downloaded at:  
[http://www.maaamet.ee/datas/maaamet\\_wms\\_olus.kmz](http://www.maaamet.ee/datas/maaamet_wms_olus.kmz)

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## Thematic applications

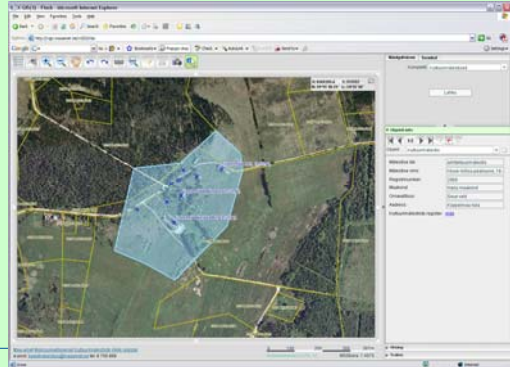
### Road register information



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## Thematic applications

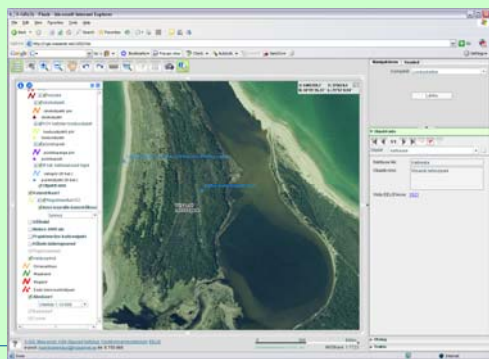
### Cultural Heritage Objects



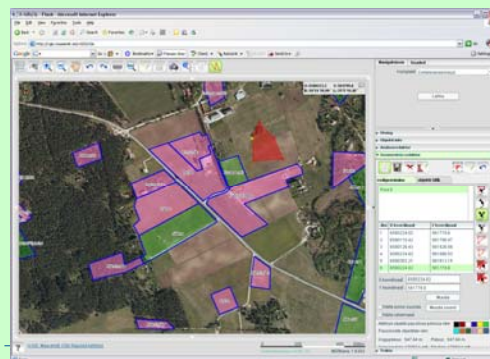
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Public applications  
Nature protection



Data management applications  
Detail plan management



Thematic public map applications, this means maps are already part of their business processes

- Web map application for Natura 2000 (2009) areas
- Web map application for National Register of Monuments
- Web map application for Estonian Nature Information System
- Web map application for Physical Planning Management
- Web Map application for Road Register
- Web map application for Cultural Heritage Objects

making institutional arrangements for SDI regulations.

Biggest arrangement is the overtaking of INSPIRE directive to national legal system. Spatial data law is under extensive elaboration and all the related institutions will be included.


SPAIN



Geoportal IDEE



**Spanish SDI Geoportal**

- **Geoportal opened 2004-06**
  - 7 languages.
  - 8 OGC Services:
    - WMS, WFS, WFS-Gaz, WCS, CSW, WMC, WCTS, SLD
- **National Level**
  - Many of the INSPIRE Annexes I & II covered via WMS & WFS
  - 7 Ministries involved
- **Regional Level**
  - 14/17 Regions (+ 3 on progress)
- **Local Level:**
  - > 100 Nodes
- **Lot of thematic and specific SDI projects**
  - > 20
- **Powered by** 

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**NSDI: National Geographic High Council**

- **Ministry of Infrastructure & Transports**
  - **NATIONAL GEOGRAPHIC HIGH COUNCIL**
    - Advisory collegiated body
    - MISSION: Planification & Coordination of Cartography
    - Set up by Royal Decree 1792/1999
    - Representatives
      - 7 Ministries
      - 17 Regional Governments
      - 2 Federation of Local Authorities
    - Technical Secretariat: IGN Spain
    - Commission on Geomatics
      - WG IDEE (NSDI)

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**NMA's in other parts of the world are taking similar initiatives**

- Cooperation GSDI and UN Commission PCGIAP (Asia Pacific).
  - Development Spatially Enabled Government (SEG).
  - Joint Workshops in South Korea (50 countries).
    - Country Reports on Japan, Australia, Malaysia, Singapore, South Korea.
- SEG part of eGovernment in Australia en Singapore.
  - SEG started in Australia by former Minister Gary Nairn in 2007.
  - Minister Nairn keynote speaker at GSDI 11 Conference.
  - Singapore Land Authority leading agency in eGovernment.
    - SLA to organize GSDI 12 in Singapore in October 2010.

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**SINGAPORE**

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**SLA SINGAPORE LAND AUTHORITY**



**Singapore's NSDI: the SG-SPACE**

Creating Value

A Fresh Perspective

New Dimensions


Dr Victor Khoo  
Manager, Survey Services

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**Fast Facts about Singapore SLA SINGAPORE LAND AUTHORITY**

- Island citystate and smallest country in South East Asia
- Size: 707 sq km
- Population: Estimated at 4.59 million (Jun 2007)

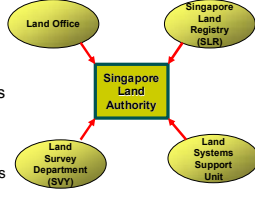


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## Singapore Land Authority (SLA)




- SLA is a statutory board formed in Jun 2001.
- Merger of 4 former land departments
- Vision** – To be a world-class land authority
- Mission** – To optimise land resources for the economic and social development of Singapore
- Role**
  - Manager of State land and properties
  - Regulator of survey and land registration practices
  - Creator and provider of land information
  - Lead agency for NSDI (SG-SPACE)



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## SLA's Role related National SDI



- Responsible for the national geodetic infrastructure
- Responsible for the cadastral survey and title registration
- Administer the national cadastral information system
- Manage online platform for government users to access shared information
- Collaborate with partners to develop spatially-enabled products
- Provide consultancy services to government agencies in the implementation of geospatial programmes in their key processes
- Lead agency for Land Data Hub – sharing of land information (scope enlarged to SG-SPACE)
- Lead agency for SG-SPACE

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## SG-SPACE Initiative




- Singapore GeoSPAtial Collaborative Environment
- Approved S\$12 million fund for SG-SPACE over 3 years
- Co-Lead by the Ministry of Law (MinLaw) and Ministry of Information, Communication and Art (MICA)

A national collaborative initiative to create and sustain an environment where geospatial data, policies and technologies are integrated to foster innovation, knowledge and value creation for the government, enterprises and community

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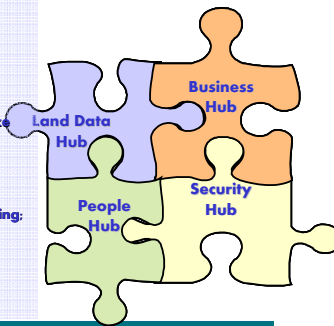
## Vision and Goals of SG-SPACE



**Vision**  
Towards a spatially enabled Singapore

**Goals**  
Providing a mechanism to make available the interoperable, organised and authoritative geospatial information for:

- National level decision making;
- Public security;
- Cost effective business; and
- Location awareness among citizens.



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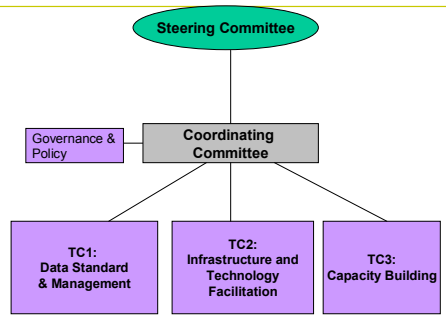
## SLA's Role in SG-SPACE



- Parent ministry (Ministry of Law) co-chair an inter-ministry steering committee for SG-SPACE
- CE co-chair the an inter-agency coordinating committee for SG-SPACE
- Co-chair in various technical committees and working groups
- Dedicated staffs to manage, administer and guide agencies in relation to SG-SPACE
- Governance team to lead in geospatial policies

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## Management Structure

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## Many Opportunities for NMAs around the Globe

### *GSDI / NMA Actions*

- Expanding cooperation with platforms and NMAs in other regions.
- Making use of each other's successes in the development and implementation of SDIs in all parts of the world.
- Working on SDI convergences on global level starting at the GSDI 11 Conference 2009 (NL).



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