Global Geospatial Information Management Country Report – Finland

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NATIONAL LAND SURVEY OF FINLAND

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Background

Finland is member of the European Union. The INSPIRE Directive defines the European Community's spatial data infrastructure. It will standardize the administration of public data sets and services, and obliges the authorities to describe the scope of the directive of the spatial data sets and to bring them into the data network through the shared use. The directive came into force on 15.05.2007.

Implementation of the Directive is defined in the related implementing rules. The execution is based on international standards. The directive is based on the national spatial data infrastructures, as provided for in national legislation. In Finland, the law on spatial data infrastructure took effect on 17/06/2009 and the regulation on 10/12/2009.

Law on Spatial Data Infrastructure

In Finland, the Law on Spatial Data Infrastructure (421/2009) stipulate how the INSPIRE requirements are implemented in Finland. It does not expand the scope of the Directive. The Law defines the obligations of public authorities which administer the original spatial data, subject to the Directive. The scope of the law is defined in the Regulation on SDI.

The authorities must provide metadata on spatial data and services and integrate them in the search service. Also other geographic information producers can publish metadata in search service. The National Land Survey is responsible for the Search Service. It also provides guidelines for metadata compilation.

Authorities must prepare and keep up to date shared spatial data as well ensure that it is available for online viewing and data transfer. The National Land Survey (NLS) offers support services for the authorities to implement the spatial data infrastructure to implement. The NLS also monitor the quality and interoperability of spatial data.

Ministry of Agriculture and Forestry acts as the INSPIRE focal point in Finland. The ministry also directs and monitors the implementation of the Law on SDI. The SDI Advisory Board, appointed by the Government, supports the Ministry, assesses spatial data infrastructure development and use, and makes suggestions and statements.

The Regulation on SDI

The Regulation on SDI specifies the Law on Spatial Data Infrastructure. The regulation identifies location information managed by the authorities and the scope of the SDI Law relating to spatial data. The regulation also specifies the tasks of the NLS and the SDI Council.

General definitions for Finnish SDI in the regulation:

- Coordinator: Ministry of Agricultureand Forestry
- List of authorities involved (26 authorities + municipalities)
- Duties: metadata, view & downloadservices, reporting
- Support services by the National Land Survey: geoportal, discovery & transformation services, guidance, monitoring & reporting support
- National Council for Geographic Information (7 ministries + 8 other members)

In Finland, the following authorities are obliged by the SDI regulation:

- Environment Institute
- National Land Survey
- Meteorological Institute
- Transport Agency
- Geological Survey
- Statistics Finland
- Population Registry Centre
- Agency for Rural Affairs
- Natural History Museum
- Game and Fisheries Research
- Forest Research Institute
- National Forest Agency
- Food Safety Authority
- Agrifood Research
- Agriculture and Forestry Information Centre
- Board of Antiquities
- Defence Forcies
- Transport Safety Agency
- Institute for Health and Welfare
- Energy Market Authority
- Ministry of Employment and the Economy

In addition:

Regional authorities:

- economy, transport and environment centres (15)-
- regional councils (19)
- forestry centres (13)
- search and reque units (22)

Local authorities (336 municipalities)

National Council for Geographic Information

The National Council for Geographic Information was appointed by the Finnish Government on 11 February 2010. The task of the National Council for Geographic Information is to monitor the development of the infrastructure and the implementation of the Inspire Directive and to consider guidelines and the service practices connected with the implementation. Its tasks are laid down in the Act on Spatial Data Infrastructure.

The tasks of the Council :

- Follow-up the development of the NSDI
- Follow-up the implementation of the INSPIRE
- Handling of the Implementation Rules and Guidelines
- Handling of the national guidelines for the SDI implementation
- Handling of the terms of use for the national geoportal
- Writing initiatives and statements

Membership

- 7 ministries
- Agencies, cities, research, private sector

National Inspire Network

The National Inspire Network of Finland is a forum which aims to promote the implementation and use of the national spatial data infrastructure and the implementation of the Inspire directive; it also helps different sectors and all parties to take part in the work and benefit from its results. The National Inspire Network was established on 1 June 2009. It has approximately 300 experts from more than 100 organisations representing different sectors. The cooperation is on a voluntary basis and the Network works as working groups.

Each year, the Network meeting decides upon a plan of action, the implementation of which is the responsibility of a steering group. The work is supported by the National Inspire Secretariat, which is based in the National Land Survey of Finland. The Network encourages and activates parties from the spatial data sector to cooperate. The Network maintains the National Spatial Data Strategy and promotes and monitors its implementation. The parties involved in the Network cooperate to implement and develop the spatial data infrastructure and promote and monitor its use.

The INSPIRE secretariat

The INSPIRE secretariat (based in the NLS) supports the implementation of the INSPIRE Directive and organizes for example traoining on Inspire issues.

National SDI strategy 2010-2015

Vision: The spatial data infrastructure has improved the quality of services and decision-making and made public administration, industry and research more efficient, and, supported by research and education, it has generated new business and new services for the public.

Objectives and aims for 2015:

High-quality and easily accessible spatial data form the basis for service improvements and new services

1. The public sector will endeavour to meet the growing needs of society at large by producing spatial data that are of a high quality, up-to-date, comprehensive and interoperable.
2. Spatial data will be available at the service interfaces of the processes maintaining the data.
3. The terms and conditions governing the use of spatial data will be clear and harmonised, and the use of spatial data concerning individuals will be well-managed and governed by guidelines.
4. The pricing of spatial data will not be an obstacle to its use.

A smoothly functioning division of labour between the private and public sectors and within the public sector will help to put the use of spatial data on a more efficient basis

5. The production of spatial data will be put on a more efficient basis by eliminating overlapping work.
6. Spatial data produced by the public sector will be widely available for use by the markets as well as for research and public administration.
7. Companies will create a large number of innovative solutions based on spatial data for the needs of public administration and other sectors of society.

The spatial data infrastructure will improve the quality of life and the quality of processes carried out in society at large

8. Spatial data services will support people in their everyday activities and during their leisure time.
9. Spatial data will be widely used in decision making and it will support the participation of citizens.
10. Spatial data will be used for managing a large number of functions essential for society at large.
11. The use of spatial data and spatial data technology will provide a solution for the monitoring and assessment of the state of the environment.

Research and training in the spatial data sector will support the use of spatial data and the development of the spatial data infrastructure

12. Increasing training will help put spatial data expertise on a more in-depth basis in many sectors.
13. Research using spatial data will grow and expand into new branches of science.
14. Research and development of spatial data services will be at the cutting edge internationally.

National Geoportal is the Core of the Finnish SDI

Paikkatietoikkuna - Finnish Geoportal

Paikkatietoikkuna is a national portal that, with words and map pictures, presents the spatial data produced and exploited in the Finnish society. Map window offers a possibility to browse dozens of map levels, produced by different organizations, on different themes, such as terrain, soil and land use as well as traffic network. In addition to the basic services of geoportals, the Finnish portal enables design and publishing of embedded maps by building on the web service interfaces of many data providers at the national and local levels.

The roots of the national geoportal in Finland dates back to 1980s' when the first spatial data directory service was released. In the mid 1990s, the Map Site offering the browsing of topographic maps was opened in the Internet and since then the service has been one of the most popular web sites in Finland with annual 100 million map searches.

The National Geographic Information Strategy 2005-2010 set the target for the implementation of a national geoportal. The National Land Survey of Finland started a pilot project in 2008 and the pilot portal was opened in July 2009. The pilot portal was available for about one year while the national geoportal was under construction.

The national geoportal of Finland, Paikkatietoikkuna in Finnish, was introduced on the 1st of June 2010. The portal is composed of open source components and its development continues by agile system development methodologies so that several new functions have been released after the opening.

http://www.geoportal.fi/web/en

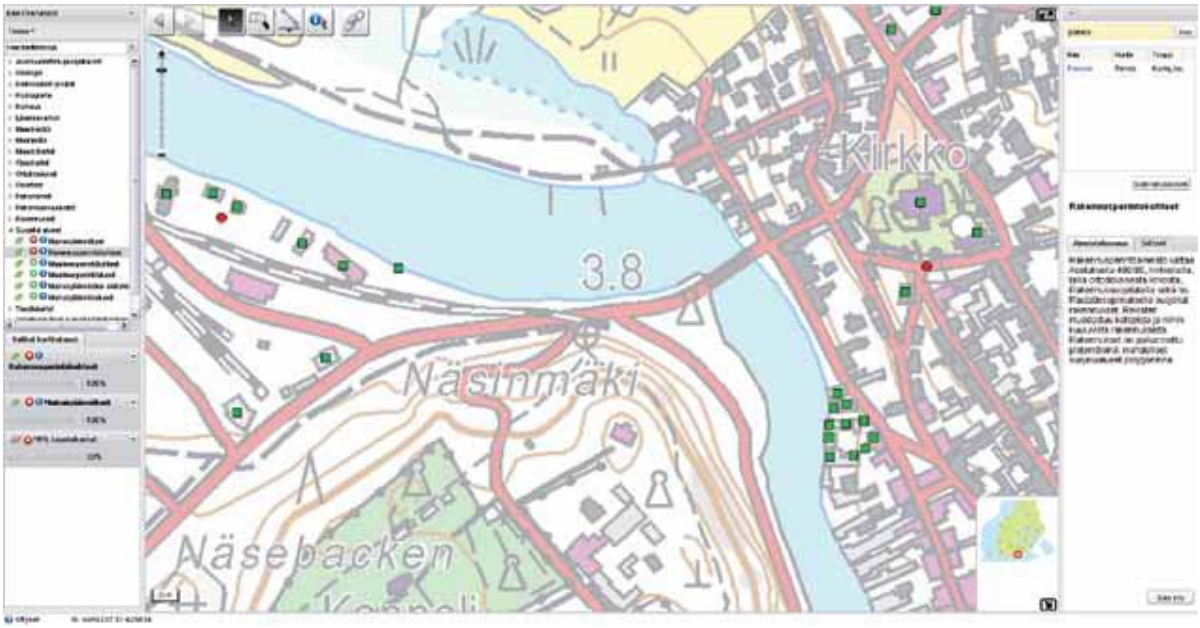
Map window for viewing data

The geoportal provides spatial data discovery and view services as well as guidelines for implementing the Inspire directive and for building the national spatial data infrastructure. In addition, the portal enables the publishing of embedded maps. All the services are free of charge which limits the supply of datasets to some extent.

Today, the map user interface is the most popular part of the portal offering the browsing of more than 150 different map layers provided by 20 data suppliers. They include both national agencies and major cities. The maps are available in various categories, such as terrain, real property, soil, land use, and transport networks. In addition to ordinary functionalities, the maps can be viewed as transparent layers on top of each other.

The view services are based on standard web map service interfaces (WMS). In addition, the portal enables standard web feature services (WFS) and browsing of features in an integrated view where data are visualized as maps and tables of attributes. The downloading of data for reuse is coming available, but the availability of data products will depend on licenses and user profiles.

The map window client running in a browser is supported by the geoportal server that takes care of rights management and visualization of features, for example.



Paikkatietoikkuna is a portal demonstrating that information maintained in a scattered fashion can be made available in interface services as interoperable data.

Metadata is available for discovery

Metadata of spatial datasets have been collected in Finland at the national level since 1985. Today, the creation of metadata is based on the international standards and the European implementing rules. Now the metadata covers not only about 200 datasets but also some 30 service interfaces.

On the national geoportal, the browsing of the metadata is based on the standard Catalog Service for Web (CSW) interface, which allows all queries listed in the Inspire guidelines. The national metadata service is implemented by applying GeoNetwork that is an open source code library for the purpose. In 2010 in the Nordic cooperation project, GeoNetwork was developed in order to reach better flexibility and modularity.

To users, the spatial data infrastructure manifests itself as data products available for reuse. The geoportal contains a schema service that allows the browsing of data product specifications including their xml-schemas.

Embedded maps bring benefits

The geoportal allows users to design embedded maps. Using the map publisher wizard, the user can choose backround maps or ortophotos and other map layers to be included in the embedded map. Moreover, the publishers can customize the map size and even select tools like an index map, scale bar, address search etc. The usability is nurtured with the reliable principle 'what you see is what you get'.

The NLS is developing the national geoportal in cooperation with several spatial data producers and some of them also offer maps for embedding.

Data policy

In Finland, the government principles 3.3.2011 state that public data should be available for re-use (free of charge, harmonised licensing). For open data infrastructure implementation the following timetable was set: List of datasets (2011), Metadata (2012) and Files and open service interfaces (2013).

On 1 May 2012, the National Land Survey of Finland (NLS) will open its topographic datasets to the public and to companies to be used freely and free of charge. Thus, the NLS implements the objectives set in the Programme of Prime Minister Katainen's Government for making public databanks available to all interested parties. A Decree on fees charged by the NLS was issued on 21 December 2011, and it is estimated to substantially increase the use of map data.

The most important dataset to be opened is the Topographic Database that includes information for instance on roads, addresses, buildings and waterways in Finland. The accuracy of location data in the Topographic Database corresponds with scale 1:5 000 - 10 000. The NLS also predicts that laser scanning data, aerial photographs and orthophotos, digital basic and topographic maps as well as the Background Map Series will be in great demand. The NLS is prepared for an increasing demand of datasets by improving services in such a way that the free datasets will be accessible as easily as possible.

A licence fee will still be charged after April 2012 for other datasets produced by the NLS, such as data in the Land Information System, printed maps and map printouts.

Since the beginning of 2011 the Place Name Register and the general map products in scales 1:1 000 000 and 1:4 500 000 have been free of charge. The Municipal Boundary Map was opened for free use in autumn 2011.