

Geodata – The Backbone of Effective eGovernment

By Bettina Carina Larsen, *The Digital Taskforce*, May 2006

For citizens, companies and authorities that use geodata in their daily activities, the need for close cooperation between public institutions has never been greater. Secure access to useful and updated geographic information demands that an array of otherwise disparate public bodies align their resources and capacities in collaborative efforts. This is also a precondition for effective eGovernment. Therefore, the Spatial Data Service Community (SDSC) has been established to ensure the accessibility of such data as addresses, cadastral information and road names. These data, like all information that can be geographically located, has been coined 'geodata'.

Geodata plays a central role in many public authorities' daily activities. According to Eva Born Rasmussen, manager at Denmark's National IT and Telecom Agency, geodata is "the backbone of effective eGovernment" and a key component of central administrative information in Denmark. The Ministry of Science, Technology and Innovation has recognised the government's reliance on stable access to accurate geodata and, as a result, is committed to the SDSC's initiatives. The National IT and Telecom Agency serves as the Ministry's proxy in the group.

Geodata

Geodata refers to information about a place. This can be an area (a discrete property or a lake), a line (a road or a river) or a point (a rail station or a mountain summit).

Geodata can be used as a foundation for networking a range of central administrative information. For many public authorities, geographic location used together with other registers or databases has proved a valuable tool in a number of administrative tasks. It is crucial that geodata can continue to be seamlessly integrated into diverse public systems and applications.

A single, shared map

Throughout Denmark, public authorities, regional and local governments and private institutions maintain maps of the regions in which they work. Because local mapping has historically been widely dispersed and driven by independent needs, country-wide maps of Denmark have been difficult and expensive to maintain. The SDSC has launched the project FOTdanmark to remedy this situation. As the regional government organisation's representative Sofie Astrid Jensen explains, the project's goal is to "establish a common basemap for public authorities at all levels".

To make this vision into a reality, features such as lakes, roads and houses must have matching definitions in all participants' databases. The acronym FOT refers to the Danish for "Common Data Definitions". "Once all public geographic databases have been streamlined, they will be able to share data and draw from central databanks. "In other words, we have to standardise our data," clarifies Eva Born Rasmussen.

When FOTdanmark is in place, it will be possible to link Denmark's basemap to a range of data that has been difficult if not impossible to view on a single map. By zooming in on an aerial photo and clicking on a house, a registered property and road or another feature, users should be able to access a wide range of information from various public registers. This will make it faster and easier to establish geographic understanding of an area and will, according to Eva Born Rasmussen, "open up new, innovative prospects for public administration".

A need for public cooperation

To realise these aspirations, Denmark's public authorities have to work together to develop standardised data definitions. A range of public institutions and relevant private interests are participating in FOTdanmark on both creating data standards and investigating future possibilities for data exchange. So far, they have decided to use OIOXML and GML as the basis for data exchange and have begun to pinpoint which data should have high priority for standardisation and integration into Denmark's eGovernment infrastructure.

Eva Born Rasmussen reinforces the necessity of public partnership in these activities. "Because so many authorities rely on geodata, their input in the establishment of data standards is critical. Public institutions across the board will link to Denmark's basemap when it's launched." According to Rasmussen, this will also affect the way the country is governed in the future. "By linking standardised geodata to public registers, we are building an infrastructure for public administration that crosses institutional boundaries. And we'll continue to build as time goes on"

“We have to remember, though, that the biggest challenge in eGovernment is governance-- more specifically, joining resources and reaching mutual agreements. The SDSC is a good example of how institutions can work together to recognise their common needs and technical challenges. They are also establishing a framework for continued cooperation. Five years ago, this would have been a foreign concept. We’ve come a long way, but there are still challenging decisions to be made, especially concerning data ownership, royalties, software development and copyright. But these aren’t challenges we’re facing only in the SDSC. They’re also challenges in eGovernment at large,” says Rasmussen.

Savings and efficiency

When Denmark’s digital basemap is in place, both regional and central government institutions will reap the benefits of improved efficiency and greater effectiveness. These benefits will include continuous data updating to both Denmark’s basemap and all related registers, as Sofie Astrid Jensen explains. This will mean the end of double data entry, as information will be only registered and updated once- at its source- and all linked registers and maps will be subsequently ‘informed’ and updated.

Improving the public use of geodata in Denmark also means greater security in the long term. Eva Born Rasmussen clarifies, “In the case of natural disasters or terror attacks, we need immediate access to information about the affected area’s layout and resources. Accurate, updated and standardised maps and data can be decisive. No one benefits if an ambulance is sent to the wrong address... and then what should the medical staff do? Pull out an old telephone book to find out where they’re going?”

Geodata has become a talking point at EU level. In early 2007, a new EU Directive to harmonise geodata across Europe will come into effect. INSPIRE (Infrastructure for Spatial Innovations in Europe) will make geodata available to citizens, organisations and public authorities across the continent. “If an industrial accident leads to the pollution of a river in Poland, our internationally linked data should make it possible to exchange information and activate warning systems in potentially affected downriver countries.”

As a result of the SDSC’s work to implement FOT, Denmark is well on its way to meeting the requirements of the INSPIRE directive. “We already meet the Directive’s basic requirements in the environmental sector,” Eva Born Rasmussen emphasizes.

The Spatial Data Service Community was established in 2002 to coordinate public collaboration of geodata resources. The Community members include the National Survey and Cadastre, Local Government Denmark, Danish Regions, The National Agency of Enterprise and Construction, the Directorate for Food, Fisheries and Agribusiness, the Road Directorate and the Ministry of Science, Technology and Innovation. Together, their goal is to establish digital solutions that support effective eGovernment.

Learn more about the Spatial Data Service Community at <http://www2.xyz-geodata.dk/English/introduction.htm>

Learn more about INSPIRE at <http://inspire.jrc.it>

This article appeared on the website for the Digital Taskforce, at e.gov.dk. The Taskforce supports Denmark’s public institutions while the country’s eGovernment is being developed. The website provides information about Denmark’s eGovernment strategy and a number of collaborative digital projects in the public sector. e.gov.dk also displays news about Denmark’s eGovernment, case studies of other eGovernment strategies in practice and a series of guidelines and tools. The Taskforce’s English website can be found at <http://www.e.gov.dk/english/egovernment/index.html>