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NORWAY DIGITAL – THE MOST COMPREHENSIVE ADMINISTRATIVE CO-OPERATION IN EUROPE

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Background information on the Norwegian SDI

In Norway, geographic information got a massive boost in 2003. A government white paper on creating the national spatial data infrastructure (NSDI) under the name Norge digitalt (ND; Norway Digital) was approved by the parliament that year. The white paper was prepared by the Ministry of the Environment, under which authority also resorts Statens kartverk (SK; the Norwegian Mapping and Cadastre Authority), which has been commissioned to coordinate the work on ND. ND, and its portal (www.GeoNorge.no), are operational, and still expanding. Within ND many useful technological solutions have been created (incl. many WMS, and also the first WFS). But ND is also a framework for co-operation within the public sector. Nearly all state departments and agencies, as well as local governments (the municipalities) have joined, or are in the process of joining ND. To join one has to do two things:

- pay a yearly contribution related to the importance of basic geodata and the size of the organisation,
- make ones geodata available to all other participants.

In return one gets free access to all geodata from all the other partners.
The motto translates into “Give a little, get a lot”.

Norway

Norway is a very diverse country. It has many mountains and otherwise less populated areas, and stretches itself for over 2000 km along the North Sea. The total land area is 324,000 km^2, with a population of 4.7 million. The sea area is approx. 2 million km^2.

How is the government organised?

In Norway the coordination of the NSDI is given to SK, under the authority of the Ministry of the Environment. Policy has been set in the 2003 white paper. Several stakehol-

der groups are involved in the further refinement of the concept; technologically, organizational and from users perspective.

Government involved in NSDI is roughly organised as follows:

- State government (Ministry of the Environment with SK residing under it, as well as 40 other departments and agencies with responsibility for thematic mapping and information),
- 19 counties (both as regional units of the state government, and as their own local governments), incl. Oslo,
- 431 municipalities.

Land administration in general used to be divided among several players in Norway, but SK is becoming more and more the focal point in this. The land registry function has moved from 87 local courts to the central SK office in the last years. The cadastral survey work is done by the municipalities, who pass on the results to SK. A new integral computer system for a more comprehensive (national) cadastre with online updating from the municipalities will be implemented in 2007/2008.

Every municipality has a geodata unit or department. Normally it combines the cadastral and mapping work. In most cases it is part of the division for planning and building control. An important product is the situation map that has to be present with every building permit application. Clients would apply for such a (paper) map in person and pay a fee. Increasingly these maps can be applied for via online self help services.

In Norway it is a generally accepted principle that 'thematic' geodata is freely available. For environmental data this is set by law. Both national and local governments have such data available online (often only in raster formats, good for viewing and some background applications). But on request one can get the vector version as well.

There is a long standing tradition in standardisation, including metadata, for all (public sector) geo-information in Norway, under the name SOSI. This standard has been developed by SK and has been implemented throughout the entire public sector, which contributes to quickly having results with ND. The private section is also using SOSI to a large extent.

Norway is not a member country of the European Union, but it has very strong ties to the EU, as it is part of the European Economic Area, as well as Schengen. Most EU directives are implemented into Norwegian legislation as well, often sooner than in many member states. The EU directive on Public Sector Information (PSI) is in the process of being implemented. On the subject of free access to public data, Norway will go somewhat beyond the minimum requirements of this directive.

Norway Digital

There is no legal base for ND. The base document is the white paper. SK has established a secretariat for the coordination of ND. As part of the decision to set up ND and have SK coordinate it, the marketing activities of SK were sold. Marketing SK geodata to the private sector was handed over to a government owned limited company under the name of Norsk Eiendomsinformasjon as (NE), which also functions as the one-stop shop for all ND-geodata to outsiders. Other ND-partners are however free to sell their thematic data themselves as well (SK is not).

There are many issues not dealt with in the white paper, which are solved in an ad hoc manner. This gives room to maneuver, but also leads to annoyance with the private sector, since they are not clear which (former) clients will disappear into the ND-system, and which clients will stay outside the co-operation (or can be acquired). There is for instance no clear definition of public sector, and for historical reasons some private partners are included in ND as well. A question is whether this leads to unacceptable differences between private sector players within and outside ND.

There is a principal agreement for ND, and a specific partner contract that has to be signed by SK, that includes the geodata that is going to be supplied by this partner, the requirements for a service level agreement and the financial side. Based on the 'ND calculator' the partners' contribution is determined.

Within ND a number of groups operate, like a technical forum, a user forum and a thematic forum.

Within ND the national portal has been set up. Several hundreds of Web Mapping Services (WMS) already operate in this framework. It is not set up with centralized services, and SK is not protecting its own services, but supports others putting theirs up as well. To be in line with the access policy from the white paper, SK had to limit free access to its services. They are only freely available to ND partners. A system called BAAT for authentication and authorisation has been introduced at the start of 2007. To have access as a non-ND partner, one has to sign a contract with NE. NE pays on a royalty base to ND for the geodata sold to non-ND parties. NE is supposed to be a reseller, which does not directly deal with end-users. This approach does no longer really fit in to today's realities of e-commerce, and NE is increasingly selling to end-users themselves. Several ND partners still have their own services available freely (outside of ND).

Within ND the following is available:

- web based download service from 215,000 geodata sets, and 50,000 thematic datasets as well,
- user defined queries on the topographic map to extract data in real time (1:50,000+),
- WMS drawing close to two million hits per month, and WFS being set up, but not used much yet,
- access to API (for proprietary applications), e.g. for the new cadastre.

ND is operated by co-funding of its partners, based on the 'ND calculator' determined contribution. Out of the close to 20 millon Euro budget, 25 % comes from SK. The present income from private sector sales of ND data is a few percent.

GeoVekst

The base geodata is considered as something of its own in Norway. Base geodata deals with large scale topographic mapping, usually in scales between 1:1000 and 1:5000. Under the name GeoVekst, a number of organizations (the road authority, energy companies, municipalities, agricultural authorities, SK and telecom) have been undertaking co-funded mapping projects since 1992. For each geographical area (usually part of a municipality) technical details and sharing percentages are determined. The work is tendered out to the Norwegian geomatics industry. SK has the project management. From the 431 municipalities, 424 have participated in GeoVekst programs. The more populous municipalities have not partici-

pated, and have financed the base geodata themselves. They usually sell this data to the other parties against prices that are made comparable to what it would have cost them to join in a partnership. These municipalities prefer this approach, because they are in full control, whereas in other cases SK is the coordinating partner. At present these larger municipalities are in the process of joining ND, but since they will bring the base geodata themselves, this is likely to be reflected in their contribution, but negotiations on this are not finished.

In Norway there is a wide understanding that with such a large territory and comparable small population, the base geodata can only be collected and kept up-to-date at desirable detail through cost-sharing arrangements, be it partly by co-funding and partly by paying a price for acquiring the data. Since the base geodata is collected with the intention of being used as the geo-reference for all other (thematic) geodata from all corners of the public sector, it is considered that all use of this data is its primary use, and therefore one can not speak of re-use of this data at all. Even within the private sector there is acceptance with this approach by a part of the companies.

The co-operating model of GeoVekst is today fully integrated in ND as the basic for the much wider co-operation.

ND is the public SDI

ND can be seen as an exemplary development towards a NSDI. The number of parties joining, the organizational and financial arrangements, the services-oriented and distributed approach, etcetera, all contribute to this success. However, the focus lies very heavily on the public sector. The private sector is not a partner in ND (except a few historical cases). NE operates as a one-stop-shop for VARs to get the data and pass it on to end-users, but it operates as a market player. It charges for the data, and a percentage of that finds its way back into ND (and the partners).

In general the border between public and private sector should be clearly defined. This creates a level (and stable) playing field for all. ND should have its 'natural' limits, and the private sector then knows where they can invest, and what is beyond their reach.

Similarly the geodata from ND should be available to outsiders under clear and equal conditions. NE as a one-stop-shop can facilitate this.

Why will ND be a true success?

ND is INSPIRE (Infrastructure for Spatial Data in Europe) in practice. All INSPIRE principal rules are taken care of:

- data are collected once and maintained at the level where this can be done most effectively,
- it is possible to combine seamless spatial data from different sources and share it between many users and applications,
- it is possible for spatial data collected at one level of government to be shared between all levels of government,
- spatial data needed for good governance should be available on conditions that are not restricting its extensive use,

- it is easy to discover which spatial data is available, to evaluate its fitness for purpose and to know which conditions apply for its use.

The main reason why SK is in a unique position to succeed with ND is because:

- we have the red thread – "give a little and get a lot" –, which is a win – win situation for all co-operating partners,
- we build on existing co-operation models where already almost all the municipalities participate,
- we are a leading nation on international standardization; the national geodata standard SOSI was implemented 20 years ago. We chair ISO/TC211,
- we have developed object oriented primary geographical databases,
- we have a wide access to broad band, Internet and tailor made management systems for location based information,
- SK as coordinator is totally integrated with geodesy, topography and hydrography, cadastre and land registration in one and the same organisation,
- SK has no commercial activities,
- we have political back-up from the entire parliament and the government.

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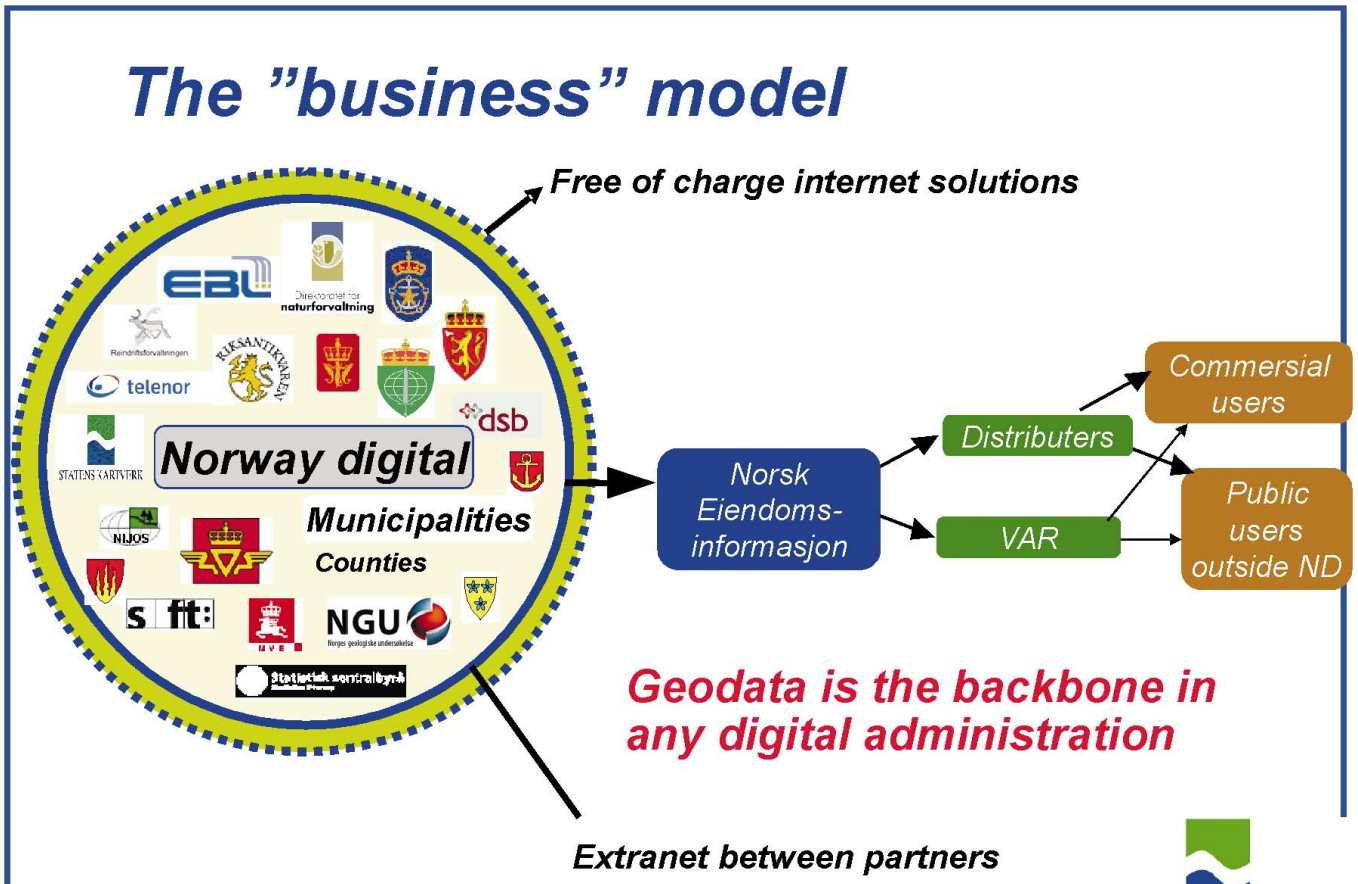
The ”business” model



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NORWEGIAN MAPPING AND CADASTRE AUTHORITY

Model of Norway Digital
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