Norway digital
implementing the national spatial data infrastructure – and Inspire

Varazdin

Arvid Lillethun
arvid.lillethun@statkart.no
Technical director
Norwegian Mapping Authority
Context

- eGovernment strategies
- Building a system for easy access
- Services on the internet
- Relevant spatial data
- Broad use in public and private sector
- better decisions- more effective planning
- The Norway digital - an example of a well-working system
Policy and regulation
The major concept in the White Paper is the establishment of the Norwegian SDI.

«Norway digital» - a common fundament for value adding.

The Parliamentary White Paper presented by the Norwegian government and accepted by the Parliament on June 18, 2003.
New geodata legislation under development

- NSDI Act is being developed
- Inspire - transposition into national law - 2010?

1. National needs – detailed data, broader and deeper content
2. Inspire requirements – simplified data
Organisation and partners
### «Norway digital»
The NSDI organisation

- 620 partners
- national
  - all ministries
  - national agencies
- regional
- municipalities
- state owned energy firms
Easy access to all data

- each organisation pay a yearly entry fee
- all partners share all data
- Mapping agency data to all partners
- provide delivery services to non-partners
  - commercial
  - non-commercial
Different layers are provided from different organisations

The National Inspire committee needs to define which national organisation are to be responsible for delivering each theme
Norway digital organisation

- Other ministries
- Ministry of Environment
- NSDI Advisory board
- Norwegian Mapping Authority
- NSDI secretariat
- The national NSDI committee
- Regional ND
- Technological forum
- Thematic forum
- Geovekst forum
Standards
Citizens and private sector

Public sector, national and European

Stick to standards!

Service based infrastructure

context
regulation
organ. & partners
standards
data and use
financing data
technical solution
Long term standardisation

- more than 15 years of standardisation - ISO
- textual specification and data models in national feature catalogue
- all relevant themes
  - reference data, topography, elevation, hydrography, property, building...
  - heavy focus also on environmental issues....
- Active use - being implemented in municipal and national databases
Broad participation

thematic standardisation committees – broad participation from government and industry - since 1993
NSDI technical working groups
– all norwegian system providers participating

- users depend on a good relationship to private system providers
- mutual benefits - use their skills - they learn the new Inspire standards
Spatial data and users
A working infrastructure with lots of online services - wms/wfs

Variety of users and user applications

Regional administration systems

National planning applications

National web viewers for the public

Environmental impact assessment applications

Local cadastral and master plan applications

National infrastructure - data connected to Internet as online services

Internet servers providing geodata services

Underlying spatial topographic or thematic databases

National and regional organisations owning and providing data
Statistics - 2009 so far

- Norway digital partners
- 200 different map services with national coverage
- with 2000 layers....
- Delivered through Norwegian Mapping Authority services:
  - View services: 60 million wms-requests
  - Tiled wms services: 170 million tiles since April
  - Downloaded files: approx. 1 million

context
regulation
organ. & partners
standards
data and use
financing data
technical solution
Each municipality – system for property information, buildings, addresses

Linked to the NSDI
Maps for all farmers

- internett solution
- each farmer get map of own land, property, fields
- statistics for own land
Use in all municipalities

- large volume
- in land use planning
- following building act
Educational maps agreement with the Directorate for Education

Access for all pupils
geoDep – for the Ministries

data and use

context

regulation

organ. & partners

standards

financing data

technical solution
Flood zones - wms

context

regulation

organ. & partners

standards

data and use

financing data

technical solution
Air photos over time, can be used to detect pollution, land fillings etc.
Cultural heritage

Large volume recordings – 500,000 registrations
Biodiversity and protected sites - detailed map information

Biodiversity localities - exact location within properties
Financing of data and infrastructure
Financing the NSDI

- Ministry of Environment
  - coordination cost
- Each ministry – underlying national agencies
  - responsible for own data
- Geovekst and Norway digital
  - cost sharing
- Municipalities
  - Cadaster and master plans
- Pricing
  - Sales of data to private firms
  - All environmental data free of charge
  - Online services with raster maps free of use
  - Charging for download of data
- All revenue used to update data
Long tradition of national co-operation – 15 years – e.g. Geovekst, cost-sharing for establishment and updating of GI

- Municipalities: 34%
- Mapping Authority: 24%
- Telecom: 8%
- Agriculture: 8%
- Road Admin.: 14%
- Energy companies: 9%
- Others: 3%

Large scale geographic information
Techical issues of the infrastructure

- context
- regulation
- organ. & partners
- standards
- data and use
- financing data
- technical solution
National geoportal

- Overview of all available data and web map services (WMS/WFS)
- The geoportal is not an end-user application – most users will never use the geoportal

New development 2009-2010 - based on open source geoNetwork – system to system communication (catalogue service web CS-w)
Infrastructure based on online services

- WMS/ WFS Web map services specified by ISO and Inspire

context
regulation
organ. & partners
standards
data and use
financing data
technical solution

Pollution authority  Mapping agency  Municipality  Agric authority
Developing faster access, better services

Google feel-alike view services
summing up

- step by step
- long term
- follow international standards – Inspire
- broad cooperation
- respect each others fields
- good will
Links – Norwegian solutions

- www.geonorge.no
- www.kartiskolen.no
- http://www.norgeibilder.no/
- http://kart.kystverket.no/
- www.norgedigitalt.no
- www.statkart.no
Many thanks for your attention!