

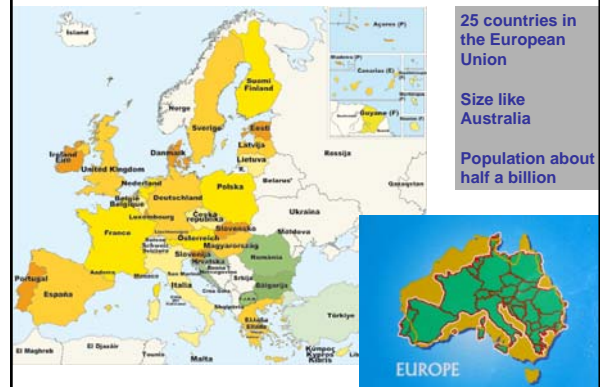
The Integration of Natural and Built Environment Data

The Experience of Europe with a Focus on Denmark

Prof. Stig Enemark
Aalborg University, Denmark
Vice-President of FIG

THE SEVENTEENTH UNITED NATIONS REGIONAL CARTOGRAPHIC CONFERENCE FOR ASIA AND PACIFIC, BANGKOK, 18-22 SEPTEMBER 2006

The European Perspective



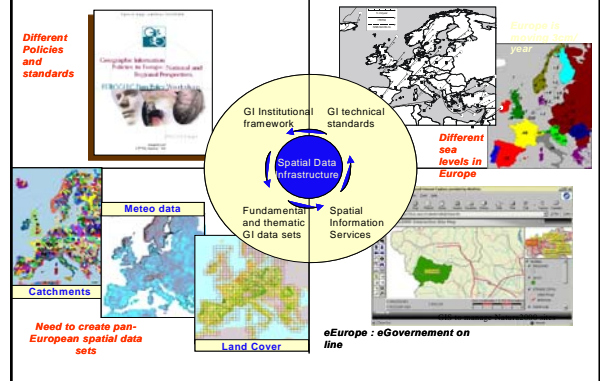
The INSPIRE Concept

The INSPIRE Concept

INSPIRE is ambitious. The initiative intends to trigger the creation of a European spatial information infrastructure that delivers to the users integrated spatial information services. These services should allow the users to identify and access spatial or geographical information from a wide range of sources, from the local level to the global level, in an inter-operable way for a variety of uses. The target users of INSPIRE include policy-makers, planners and managers at European, national and local level and the citizens and their organizations. Possible services are the visualization of information layers, overlay of information from different sources, spatial and temporal analysis, etc.

EU-Commission, 2004.

The INSPIRE Framework



The INSPIRE Time Schedule

Time schedule for implementation:

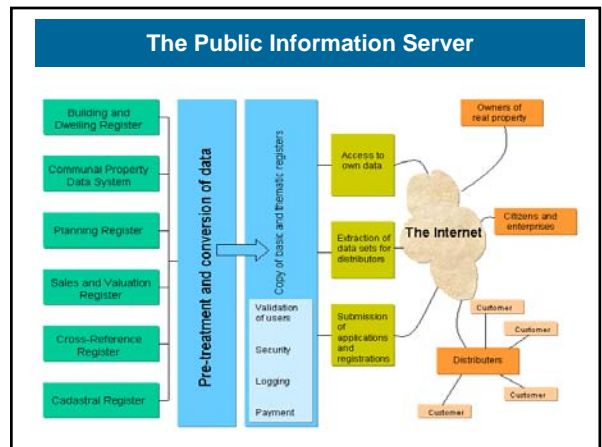
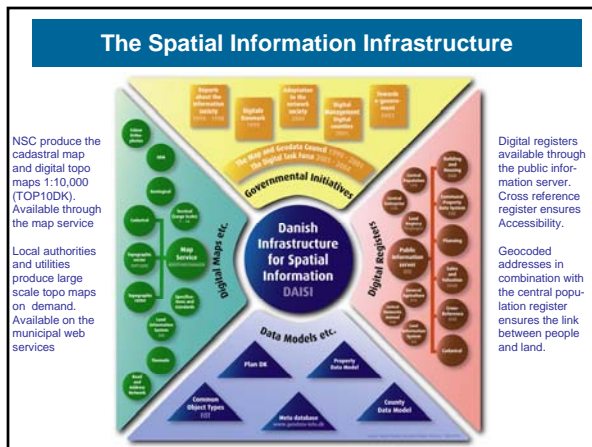
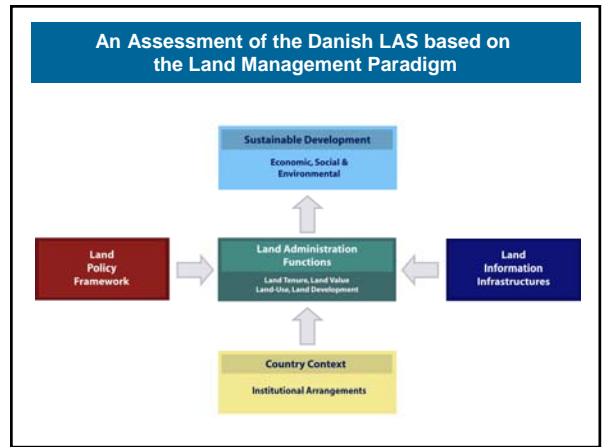
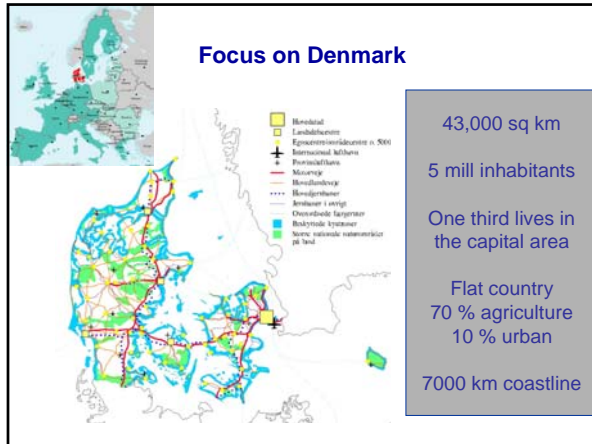
- End of 2008: Implementing rules for metadata, network services, monitoring, and reporting
- End of 2011: Implementing rules for the use of spatial data and data sharing between public bodies
- End of 2013: datasets as described in the Annexes will be available
- End of 2014: INSPIRE will be fully operational.

INSPIRE works on two parallel lines:

- A top-down European approach
- A bottom-up GI sector approach

Key European Trends and Characteristics

- Environmental concerns seems to be the key political driver for INSPIRE and also for National Spatial Information Infrastructures.
- Most European cadastres are complete and highly accurate allowing their utilization in a range of management and planning activities
- Most European countries have developed authoritative, government administered registers to manage people, location and land-use activities.
- Institutional issues seems to be the major barrier for achieving comprehensive and integrated solutions



The Municipal Web Service

Different kind of maps, plans, and GIS analysis



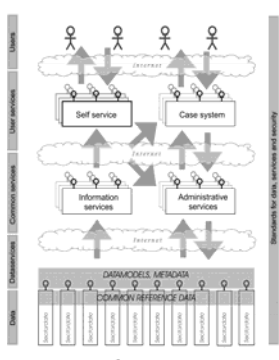
Information
GIS analyses
Self service
Interactive case work

Maps Plans Statistics

Large scale map Cadastral map Topographic maps
Orthophotos Historical maps

Det Digitale Nordjylland

The Service –Oriented IT Architecture



Users: All kind

User services: Self services collect and organise data from different sources for specific purposes. Case systems design and support the processes in government administration

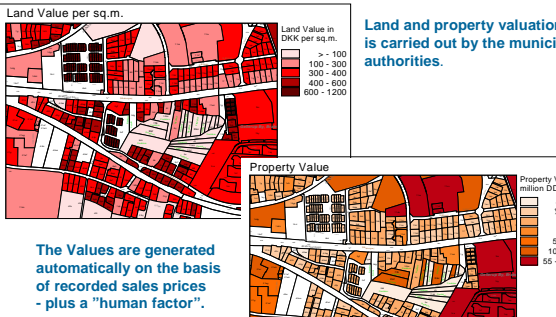
Common services: Information services support the distribution of data. Administrative services secure the process of access to and updating of the data

Data services: Provide functionality for distribution and administration

Data: Official (authentic) governmental Registers and map databases

- Quality, authenticity, and actuality
- Flexibility and accessibility
- Standardisation

Land Valuation and Taxation

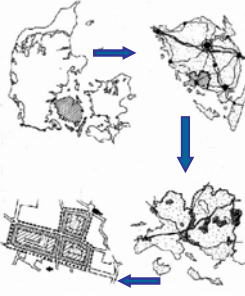


Land and property valuation is carried out by the municipal authorities.

The Values are generated automatically on the basis of recorded sales prices - plus a "human factor".

Land-Use Planning

Decentralised Responsibility



National planning
The Minister establishes the overall framework through guidelines and directives

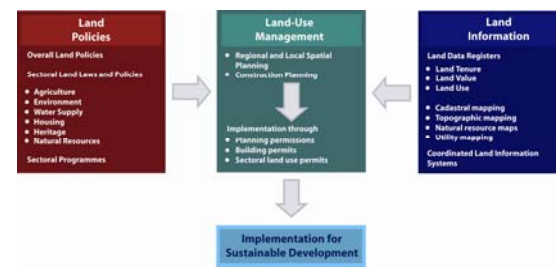
Regional plans
The 12 regions revise their regional plans every 4th. year

Local plans
More than 30.000 plans have been prepared since 1977

Municipal plans
The 275 municipalities revise their plans every 4th. year

Framework control:
Planning at lower levels must not contradict planning decision at higher levels.

Integrated Land-Use Management



Land Policies
Overall Land Policies
Sectoral Land Laws and Policies
Agriculture
Environment
Water Supply
Housing
Heritage
Natural Resources
Sectoral Programmes

Land-Use Management
Regional and Local Spatial Planning
Construction Planning
Implementation through:
Planning permissions
Building permits
Sectoral land use permits

Land Information
Land Data Registers
Land Register
Land Value
Land Use
Cadastral mapping
Topographic mapping
Natural resource maps
Utility mapping
Coordinated Land Information Systems

Implementation for Sustainable Development

The system ensures that undesirable development does not occur; and that desirable development is in line with the land-use regulations for sustainable development. However, the system can not ensure that desirable development actually happens at the right place and the right time.

www.ddl.org/thedanishway

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E-mail: ddl@ddl.org

Challenges and New Initiatives

Challenges and Barriers	New initiatives
<ul style="list-style-type: none"> No overall Land Policy ? No national policy for the Spatial Data Infrastructure ? Implementation of e-government ? Merging of the Cadastre and the Land Book ? 3-D and Marine Cadastre ? The Property Concept ? 	<ul style="list-style-type: none"> The ICT architecture The Land Book The Property Concept The Cadastral map The Multipurpose Cadastre Implementation of the new administrative reform

The Service –Oriented IT Architecture

This is the big issue that will drive the development of the LAS with regard to both policies, institutions and administrative processes

The Land Book

The Land Book was digitised by 1997.

The new project:

- Digitisation of the of archives
- Adjustment of procedures to better reflect the ICT opportunities.
- On-line registration based on standard forms.

The organisation will change:

- Closing down the local land registries
- Establishing one national land registry authority

New Model ?

- Titles registered in the cadastre
- Easements registered at the cadastral map
- Mortgage registered through the financial sector

The Property Concept

The property concept is a legal term defined slightly different in the various land acts (cadastre, land book, and valuation). There is a need to find a common term that should also accommodate other types of properties and complex commodities

The Accuracy of the Cadastral Map

A call for the educated use of the map

There is a need to improve the accuracy of the cadastral maps (by upgrading) to obtain better consistency with the large scale topographic maps.

The Multipurpose Cadastre

Should the cadastre host the land-use regulations ?

Today: Yes
In the future: No !

Currently, the cadastre is hosting a few land-use regulations such as the coastal protection zone, the dunes protection zone, and soil contaminated areas. From a legal as well as an administrative point view this is very problematic.

In the future, using the service oriented IT- architecture, the cadastre will still be the basic (authentic) layer of registration. But the registration will be the responsibility of the various governmental authorities.

This, again, calls for an educated use of the map to ensure consistency between the cadastral information and land-use restrictions.

Land Information and Land-Use Planning - new administrative structure



The new administrative reform
by 1 January 2007.

275 municipalities → 100 > 30,000
14 counties → 5

Land-use responsibilities moves from
The 15 counties to the new 100
municipalities

Where and how does the knowledge
and information bases move ?

"It is all politically decided, but nobody really knows how to deal with it"

Final Remarks



- The objective of this presentation is to present the European perspective in terms of the INSPIRE initiative - and to analyse the Danish LAS in terms of being an ICT enabled system for sustainable development.
- It can be concluded that the systems works well in support of sustainable development through an efficient land market and effective land-use management.
- The property layer is well integrated for asset management and the planning control system is well tailored for an decentralised and integrated approach to land-use management.
- The Land Information Infrastructure and the institutional arrangements need continuous attention to be adapted to ITC developments.
- The general awareness of the land management area as a coherent whole could still be improved.

The Danish Way - bridging the gaps



Thanks
for your attention