Land Administration Systems
### -a major challenge for the surveying profession

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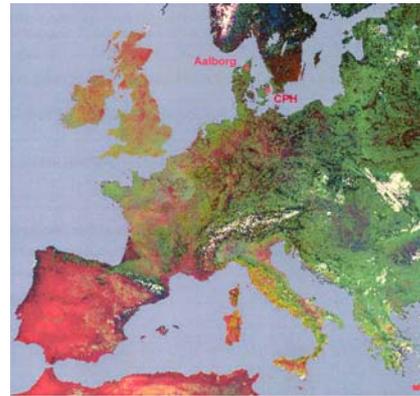
Key Points...

- **The humankind to land relationship is dynamic**
  - and so is the role of the cadastral systems

- **Cadastral systems are not end in themselves**
  - they facilitate development of efficient land markets and effective land use management from both an economic and environmental perspective towards sustainable development.

- **Surveying education must be interdisciplinary**
  - and provide skills for management and problem solving

...Key Points

- **The only constant is change**
  - the educational base must be flexible
  - the graduates must be adaptable

- **University graduation is not the end in it self**
  - it is only the first step in a lifelong educational carrier

- **Learning to learn is a must**
  - Professional and technical skills can be acquired and updated later in ones carrier, while skills for problem solving and skills for learning to learn can only be established through the process of academic training at the universities.

The Global Challenges

- **Technology development**
  - GPS, GIS, Internet
- **Micro-economic reform**
  - privatisation, decentralisation, downsizing, quality assurance
- **Globalisation**
  - from local to global
  - events in one part of the world impact on people in other parts of the world

- **Sustainable development**
  - developments that effectively incorporates economic, social and environmental concerns in decision-making
  - meet the needs of the present without compromising the ability of future generations to meet their own needs

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A Global Land Administration Perspective
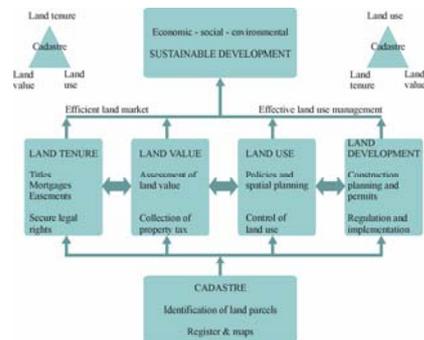
Evolution of Western Land Administration Systems
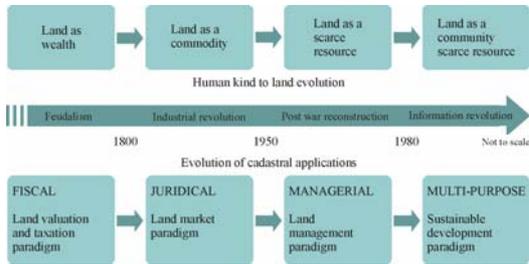
Land Registration Systems around the World

The Nordic Way…

| Country	Denmark	Norway	Sweden	Finland
Area	43,000 sq. Km	324,000 sq. Km	450,000 sq. km	337,000 sq. Km
Area Population	5.2 mill	4.2 mill	8.6 mill	5.0 mill
Properties	About 1,5 mill	About 2 mill	About 3 mill	about 2 mill
National cadastral authority	National Survey and Cadastre under the Ministry of Housing	National Mapping Authority under the Ministry of Environment	National Land Survey under the Ministry of Environment	National Land Survey under the Ministry of Agriculture
Cadastral surveys	Licensed surveyors in private practice	Municipal Survey Authorities; Licensed surveyors in private practice will be introduced	State Survey Authorities at county level; and some Municipal Survey Authorities	State Survey Authorities in rural districts; and some City Survey Authorities

…The Nordic Way

Country	Denmark	Norway	Sweden	Finland
Property Register Authority (land parcels)	National Survey and Cadastre maintaining the cadastral register and the digital cadastral maps	Municipal Survey Authorities; and the National Survey Authority maintaining the GAB-register	County and Municipal Survey Authorities; and the National Land Survey maintaining the Land Data Bank System	District and City Survey Authorities and the National Land Survey maintaining the Real Estate Register
Land Register Authority (title and mortgage)	Local district courts (Ministry of Justice)	Local district courts (Ministry of Justice)	Local district courts (Ministry of Justice)	Local district courts (Ministry of Justice)
Land Information System	Interactive subsystems linked together through a Cross Reference Register	GAB – register linked with the Land Book	Land Data Bank System	Central Information System on Real Estate Data

The Web-Cadastre
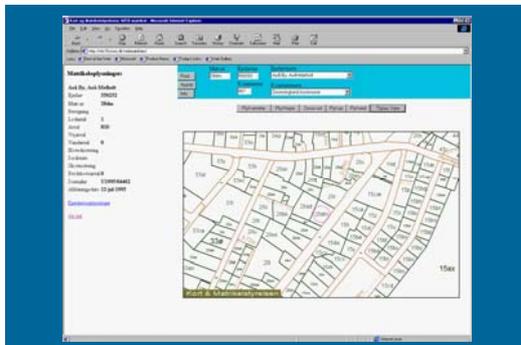
International Trends in Surveying Education...

- **Management Skills** - versus specialist skills

  from   traditional technical skills and push button technologies

  to   interpretation and management of data meeting the needs of the clients

- **Project Organised Education** - versus subject based

  from   traditional technical skills (knowing how) add-on approach

  to   management and problem solving skills (knowing why) focus on "learning to learn"

...International Trends in Surveying Education

- **Virtual Academy -** versus classroom lecture courses

  from   traditional on-campus activities
  to   a more open role of serving the profession and the society

- **Lifelong Learning -** versus vocational training

  from   learning for life
              through university graduation
  to   lifelong learning
              through CPD-strategies and distance learning

The Educational Challenge

MEASUREMENT SCIENCE — SPATIAL INFORMATION MANAGEMENT — LAND ADMINISTRATION

Design/build/manage the natual/built enviroment and connected spatial/legal rights
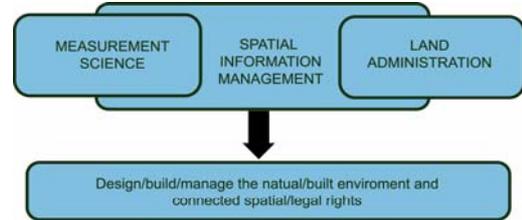
THE EDUCATIONAL PROFILE OF THE FUTURE

The only Constant is change ...

… The only Constant is change
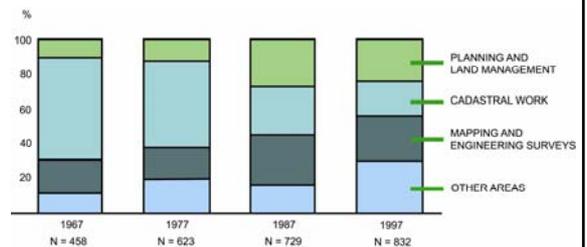
Project-organised Education

Taught courses assisted by actual practice is replaced by project-work assisted by courses.

From description and analysing to synthesising and assessment.

Learning to Learn

- Professional and technical skills can be acquired and updated later in ones carrier, while skills for problem solving and skills for learning to learn can only be established through the process of academic training at the universities.

Group Work

Problem-based Education

Textbook-knowledge is replaced by the necessary knowledge to solve theoretical problems.

From understanding of common knowledge to ability to develop new knowledge.

Key Philosophy

Tell me and I will forget
Show me and I will remember
Involve me and I will understand
Step back and I will act

Chinese proverb

The Curriculum
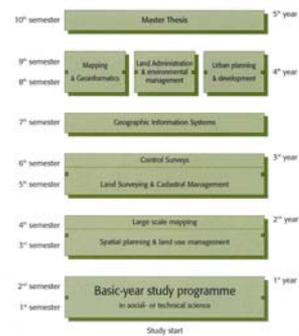
Promotion
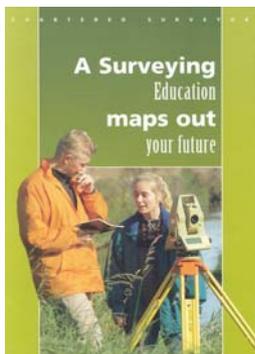
Enrolment and Graduation

The Educational Challenge

THE PROFESSIONAL COMPETENCE MODEL
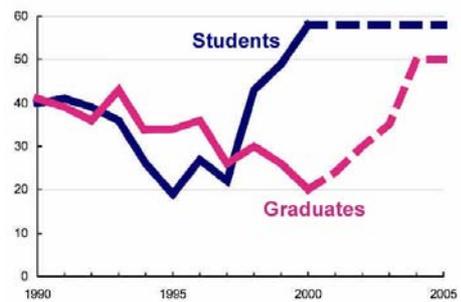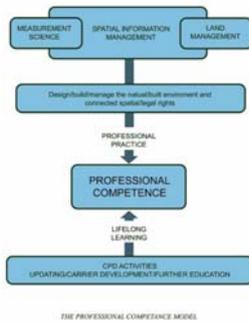
University Provision of CPD

- **Short term just-in-time training**
  - all costs paid

- **Open education**
  - Graduate surveyors/engineers
  - One year course, part time (two years)
  - Distance learning + 5 week-end seminars
  - Master degree, Master of technology Management
  - subsidised by the state

- **Lifelong learning**
  - Faculty concept
  - One week programme each year (end of August)
  - Free of costs

At the edge of the map

Facing the new world