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 basis must be flexible
  - the graduates must be adaptable

- University graduation is not the end in itself
  - it is only the first step in a lifelong educational career

- Learning to learn is a must
  - professional and technical skills can be acquired and updated later in career, while skills for problem solving and skills for learning to learn can only be established through the process of academic training in 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

A Global Land Administration Perspective

- Land tenure
- Land value
- Land use
- Land transaction
- Property rights
- Land record
- Land market
- Land development
- Land administration
- Sustainable development
Evolution of Western Land Administration Systems

The Nordic Way...

Country  | Denmark | Norway | Sweden | Finland
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Area (sq. km)  | 43,000 | 560,000 | 45,000 | 37,000
Area (sq. km)  | 3.2 m² | 6.2 m² | 5.6 m² | 5.0 m²
Population  | About 5.5 m² | About 2 m² | About 3 m² | About 2 m²
Properties  | About 1.5 m² | About 1.5 m² | About 1.5 m² | About 1.5 m²
National cadastral authority | National Survey and Cadastre, Ministry of Housing and Urban Development | National Survey and Cadastre, Ministry of Housing and Urban Development | National Survey and Cadastre, Ministry of Housing and Urban Development | National Survey and Cadastre, Ministry of Housing and Urban Development
Cadastral surveys | National Survey and Cadastre, Ministry of Housing and Urban Development | National Survey and Cadastre, Ministry of Housing and Urban Development | National Survey and Cadastre, Ministry of Housing and Urban Development | National Survey and Cadastre, Ministry of Housing and Urban Development
land parcels Authority | Land Register Authority (title and mortgage) | Local district court (title and mortgage) | Local district court (title and mortgage) | Local district court (title and mortgage)

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)
  - 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

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The Educational Challenge

![Diagram](image1)

- **Measurement Science**
- **Spatial Information Management**
- **Land Administration**

Design/build/manager the natural/built environment and connected spatial/legal rights

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The only Constant is change ...

![Graph](image2)

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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.

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Learning to Learn

- Professional and technical skills can be acquired and updated later in one’s 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

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