

Præludium

Transparent Cadastral System

- in both a private and a public task performance



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Agenda



- 1. Introduction**
- 2. Basic framework conditions for cadastral systems**
- 3. The Danish and Swedish Cadastral System**
- 4. Professional practicing surveyors in Denmark and Sweden**
- 5. Conclusions**

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1. Introduction

1.1 Main claims

1.2 Basic key-points

*"A good Land Administration System (LAS) is a basic **infrastructural element** in a Community of law..... A trustworthy **multipurpose cadaster is basis** and at the core of a LAS."*

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1. Introduction

1.1 Main claims

A trustworthy Cadastral System depends on

- High focused political, legal and administrative **framework** conditions
- How the cadastral process is carried out **professionally** and **responsibly** by the surveyors

It is **less important** for credibility of the Cadastral System whether cadastral works are organized or carried out as a **private business** or as a **public administration**

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1. Introduction

1.2 Basic key-points

Framework

- Ownership of private property is **inviolable** and **protected** by constitution

Cadastral System

- A basic part of the **infrastructure** of society

Cadastral Works

- Carried out by **dedicated professional** surveyors in a **holistic, dialogue** based and **sustainable** task performance

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2. Basic framework conditions for cadastral systems

2.1 Political framework

2.2 Legal framework

2.3 Administrative framework

2.4 Professional framework

*" There is a **political consensus** that a trustworthy, transparent and multipurpose **cadastral system** is a basic **infrastructural pillar** in a community of law"*

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2. Basic framework conditions for cadastral systems

2.1 Political framework



Private property

- Private property is **inviolable** and **protected** by constitution
- Real estate/private property is the **basis for significant national and private economies**
- Trade and use of land is based on **market economy**
- Public **control** and **restrictions** to manage the balance between public and private interests
- Basic object for **securing rights** – ownership, easement, mortgage

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2. Basic framework conditions for cadastral systems

2.2 Legal framework

Legislation sets out a **clear framework** for responsibility, conduct and performance of cadastral work with a strong **account of the "Third party"** – neighbors, mortgagees, right holders, the community, the Cadastral Register



The Parceling Act

- Legal **obligation** to register land transformation
- Cadastral work is performed in a **private-public cooperation**

The Chartered Surveyors Act

- Cadastral work **main objective**
- **Personal responsibility**
- Ownership and management **restrictions**

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2. Basic framework conditions for cadastral systems

2.2 Legal framework

The Real Property Formation Act

- All kind of **changes** in the boundary of properties **must be handled** by the **Public Cadastral Authority**
- Cadastral work can only be practiced by a **person employed** by the **Public Cadastral Authority**
- The **Public Cadastral Authority** is **responsible** for claims and its consequence to a client

2. Basic framework conditions for cadastral systems

2.3 Administrative framework

eGovernance – INSPIRE and PSI-Directive

- **Good Basic data** to accelerate the adoption on and optimizing digital solutions in the public and private sector
- A **shared digital infrastructure** that is safe and sufficiently robust to meet future requirements
- Effective and reliable **sharing of core data** for and between all authorities
- **No redundant data** in the system. Data/information is collected once by the responsible authority, shared and downloaded at the source



2. Basic framework conditions for cadastral systems

2.4 Professional framework

Conducted by an academic profession – the cadastral surveyor

- **Public authority** – to solve e.g. boundary disputes
- **Dialogue based** and **solution orientated** task performance in an intersection of disparate interests
- **Code of conduct** as professional and ethic guideline for business performance

2. Basic framework conditions for cadastral systems

2.4 Professional framework

Professional-id of the cadastral surveyor

- Basis/foundation
- Professional performance
- Professional fields



3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

3.2 The Cadastre – Basic elements

3.3 The Cadastral Process in general

" Geodata is the gateway to eGovernance and cadastral data contributes as multi sector reference data"

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3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

Role/location of the Cadastral System in SDI

- Have a basic **infrastructural function** in the Spatial Data Infrastructure as an integrated part of The Land Information System
- National **authoritative basic data** collection
- Under **public responsibility** as regards maintenance and distribution of data
- **Free/open access** to all information – data must be in "game" to create value for society

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3. The Danish and Swedish Cadastral System


3.1 Spatial Data Infrastructure

The Spatial Data Infrastructure builds in general on five basic principles

- Data shall be only **collected once**
- Data shall be **maintained** where this can be done most **effectively**
- Data shall be **combinable**, regardless of their source
- Easy **overview** of available data and internet services
- There shall be **clear conditions** which assure that data can be utilized by many users in many contexts

3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

-  The Cadastre – a **multipurpose** digital/analog register with a **two-part primary role** (The National Survey and Cadaster)
 - **Authoritative** property basic data register
 - **Reference data** for spatial eGovernment

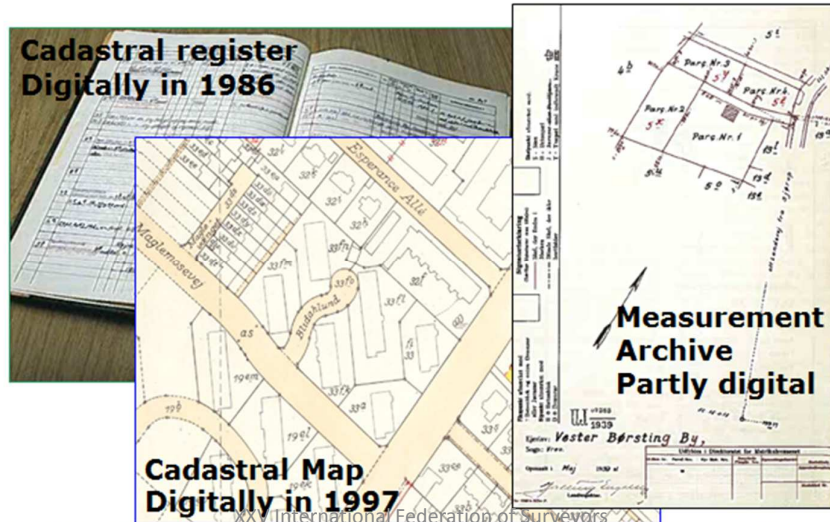
The Cadastre consists of three main elements

- Cadastral **Register** – information on property
- Cadastral **Map** – digital index map in UTM/ETR(89) ref.
- Cadastral **Archive** – detailed information on boundaries

3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure


-  The Cadastre consists of three main elements



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3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

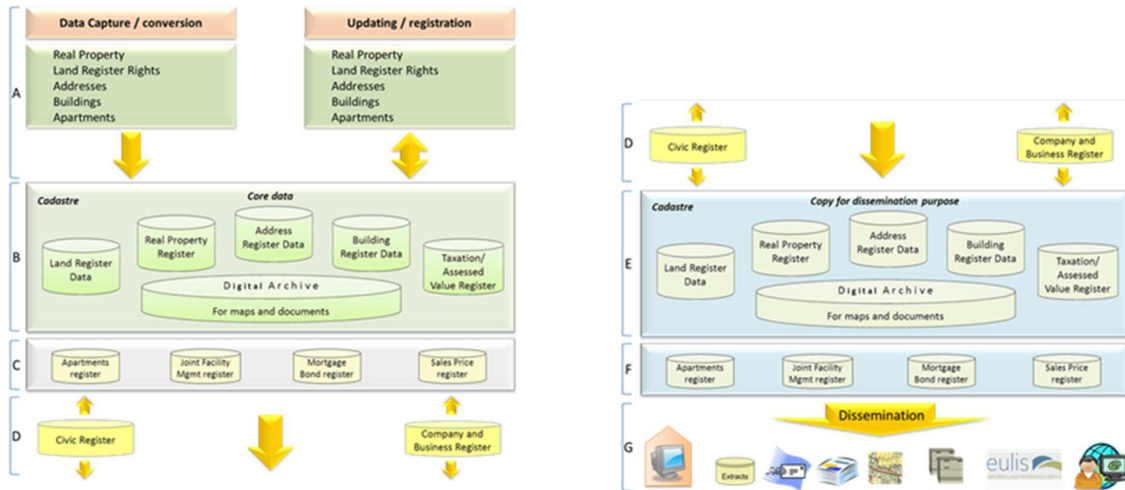
-  The Land Register – a digital register that includes basic data about **rights and burdens in property** (The Land Registration Court)
 - **General information** – owner, cadastral id, area etc.
The Land Register consists of three main elements
 - **Title information** – deeds, purchase price etc
 - **Easements** – restrictions
 - **Mortgages** – principal and mortgagee

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3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

🇸🇪 The structure of the Swedish Land Information System



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3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

🇸🇪 The Swedish Real Property Register




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3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

-  The Real Property Part consists of
- Register information – properties, plans, regulations, rights
 - Cadastral Map – digital index map Reference for spatial eGovernment

The Real Property Part includes basic data about (Lantmäteriet and 38 municipalities)

- Property identity
- Easements from cadastral procedure
- Plans, restrictions and regulations
- Legal survey


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3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure

-  The Land Register part includes basic data about (Lantmäteriet)
- Title information – deeds, purchase price etc.
 - Leasehold Mortgage – principal and mortgagee
 - Rights, restrictions
 - Notifications

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3. The Danish and Swedish Cadastral System

3.1 Spatial Data Infrastructure



The screenshot displays a web-based cadastral system interface. On the left is a map showing property boundaries in red and orange, with a white cross-shaped parcel highlighted. The map includes labels for 'VÄSTERS' and 'VALLBACKEN'. To the right of the map is a detailed property information panel with sections for 'General', 'Property', 'Location Map', and 'Area'. The 'Property' section includes details like 'Designation: Normalbyggnadsområde 2:1', 'Label change in the land register: 1985-12-28', and 'Land register update until: 2004-12-31'. The 'Area' section shows 'Parcel Total: 1520 km²' and 'Share: 10%'. Below the map is a historical document with handwritten text in Swedish, titled 'Landskytters och Wäffvans Stad, som förklarade sig...'. The document lists various parcels and their owners, such as '1. Wäffvans stad', '2. Wäffvans stad', etc.

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3. The Danish and Swedish Cadastral System

3.2 The Cadastre – Basic elements

The Cadastre provides

- Unique **identification** of every land parcel
- Complex **information** about **real property** for legal and fiscal purposes - securing rights, restrictions, taxes, administration of land use, building control, sale of real estate etc.
- Digital **spatial integrity** with other basic data by register information and the cadastral map

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3. The Danish and Swedish Cadastral System

3.2 The Cadastre – Basic elements

The basic elements in the Danish Cadastre

- **Real property units** – the land parcels – as a closed objects in the digital Cadastral Map in the UTM-reference system
- A unique administrative **identification nr.** for every land parcel
- **Informative attributes** in the Cadastral Register – area, area of private roads, public registration as agricultural property, forest conservation areas, windfall and coastal zoning

3. The Danish and Swedish Cadastral System

3.2 The Cadastre – Basic elements

The basic elements in the Swedish Cadastre

- **Real property units** – the land parcels – in the 3D digital Cadastral Map in the SWEREF 99 / RH2000 reference system, including building, fences, trees, water areas etc.
- Ownership flats – **condominiums**
- **Joint property units** and **joint facilities**
- **Informative attributes** in the Cadastral Register – area
- **"Arken"** – The national Digital Cadastral Archive – cadastral dossiers including **measuring sheets** of all property boundaries

3. The Danish and Swedish Cadastral System


3.3 The Cadastral Process in general

The Cadastral Process

- Reflects a **change in property division** often combined with a change of use of the property / the physical environment
- Is the **formal and legal acts and agreements** that ensure the implementation of property development
- Is **conducted by the surveyor** as the professional advisor and case responsible
- Starts by an **application**

3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

-  The Danish Cadastral Process is performed in a **private-public cooperation model**

The private practicing chartered **surveyor**

- Conducts the **case preparation and management** in the intersection between public and private interests
- Creates the **legal foundation and documentation** of the cadastral changes and the future use of the property
- Takes part in both an **advisory and design** stage in property formation due to the role as private counsellor

3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

- The Danish Cadastral Process is performed in a private-public cooperation model

The **cadastral authority** – The Danish Geodata Agency

- Is responsible for The Cadastre, the **statutory/legal basis** for the cadastral area as well as **monitoring and control tasks** in relation to the cadastral process
- Conducts the **processing, quality assurance** and **registration** of the cadastral changes
- Have the responsibility for **displaying and distribution** of data and for **dissemination** of property change

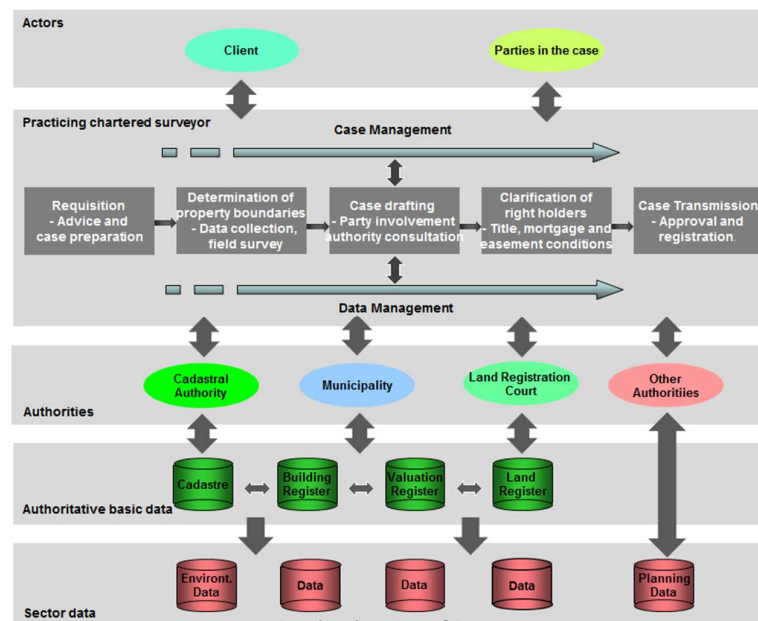
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3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

- The Danish Cadastral Process



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3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

- 🇸🇪 The Swedish Cadastral Process is performed by Public Authorities – Lantmäteriet or municipalities with cadastral authority

The cadastral authority

- Is responsible for The Cadastre, the **statutory/legal basis** for the cadastral area as well as **monitoring and control tasks** in relation to the cadastral process
- Conducts the **cadastral case and management**, in the intersection between public and private interests
- Is responsible for the case **processing, quality assurance, decide on compensations, registration** in the Cadastre and the Cadaster digital map and finally **archive** of the cadastral dossiers in "Arken"

3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

- 🇸🇪 The Swedish Cadastral Process is performed by Public Authorities – Lantmäteriet or municipalities with cadastral authority

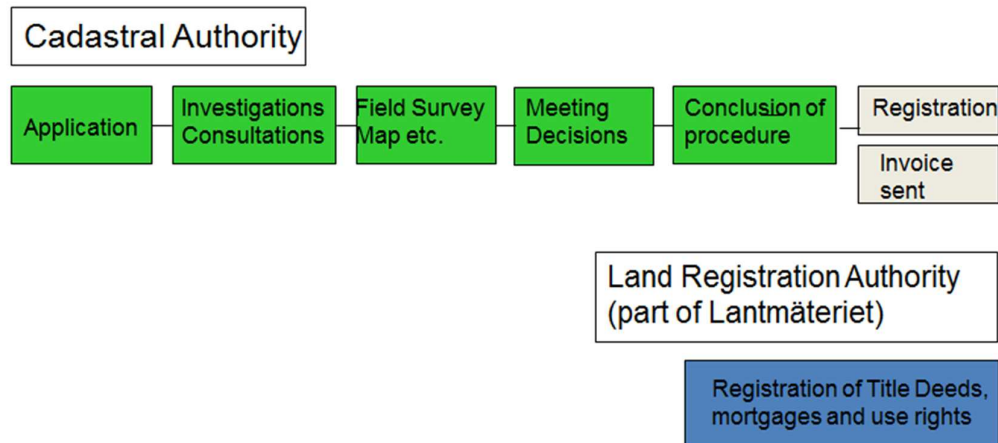
The cadastral authority – cont.

- Handles the **property formation and boundary determination** taking into account the legal framework and the third parties
- Handles establishing of **utility easement, joint facilities and joint property unit management**

3. The Danish and Swedish Cadastral System

3.3 The Cadastral Process in general

The Swedish Cadastral Procedure



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4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

4.2 Professional business and disciplinary requirements

4.3 Professional representations of interests

*"In order to fulfill societal expectations and concerns regarding the performance of cadastral work the surveyor have to fulfill a variety of **requirements** for professional exercise of the activity. These requirements can be **regulated by law**, or be part of **self-regulation** of the profession."*

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4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

Education

- **Academic level** – 5 Years on University level consisting of a bachelor (3 years) and master (2 years) in surveying and cadastral science
- **Problem Based Learning**

4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

Professional practice

- At **least three years performing** general cadastral work in a chartered surveying company or in a cadastral administration doing cadastral work, undergoing further education

Appointment

- Awarded according to State law based on **approval of professional skills**, by National Geodata Agency – based on documentation of minimum three years relevant cadastral/surveying work in practice

4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

Continuing Professional Development

- Not compulsory but de facto. **Recommendation** 37 hours per year – professional training, knowledge sharing and dissemination

4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

Education

- In general a **Master degree in Surveying** – but due to a lack of surveyors at the moment also bachelor degree

Professional practice

- **Introduction program** as an **assistant surveyor** by cadastral authority – including legislation, field surveying, practical handling on the technical system, how to manage a meeting, ethics rules etc.
- 2-3 year **individual** plan to complete competences to become a **decision surveyor** during this period

4. Professional practicing surveyors in Denmark and Sweden

4.1 Professional qualifications and prerequisites

Continuing Professional Development

- The central governmental agency Lantmäteriet **supervises continuously** the land surveyor's competence and gives **regularly support**

4. Professional practicing surveyors in Denmark and Sweden

4.2 Professional business and disciplinary requirements

Obligatory insurance

- An obligatory insurance system defined by the State authorities – National Geodata Agency

Board of appeal

- A **penalty board** under State authorities – National Geodata Agency – independent from the surveyor's organization, to **settle complaints** about the surveyor's work. Have the power to periodically or permanently revoke the appointment to provide cadastral work

4. Professional practicing surveyors in Denmark and Sweden

4.2 Professional business and disciplinary requirements

Disciplinary board

- A committee defined by the surveyor's association providing advisory opinions and guidelines on professional matters and defining the "Bonus Pater professional"

Remuneration Board

- A disciplinary board defined by the surveyor's association considering **complaints of fees** and gives **opinion** on the costs and the professional performance of the work

4. Professional practicing surveyors in Denmark and Sweden

4.2 Professional business and disciplinary requirements

Ethical codes

- A national ethical code as **guideline for the surveyor's work** and The CLGE Code of Conduct – ratified by most European Countries

4. Professional practicing surveyors in Denmark and Sweden

4.2 Professional business and disciplinary requirements

"Insurance" – responsibility

- The **cadastral authority** – Lantmäteriet or the municipality – is **responsible** for every claim and its consequence to a client. The surveyors are not personally liable

"Advisory board"

- The cadastral authority – Lantmäteriet – is responsible for giving **juridical and technical support** and produces tutorials and courses directed to the land surveyors.

4. Professional practicing surveyors in Denmark and Sweden

4.3 Professional representations of interests

-  The Danish Association of Chartered Surveyors (DdL) – **personal**
 - Responsible for the **professional, economic and social interests** of the surveying profession as well as member's personal work and professional interests

The Danish Association of Licensed Surveyors (PLF) – **companies**
Mission

- **Develop and strengthen** the liberal chartered surveying companies
- Representation of **political, professional and business interests**

4. Professional practicing surveyors in Denmark and Sweden

4.3 Professional representations of interests

The Swedish Professional for Built Environment - Samhällsbyggarna

- A professional **interest organization**
- Have adopted CLGEs **Code of Conduct** as guideline for professional work



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5. Conclusions

5.1 Conclusions

A well-functioning Cadastral System must be based on

- A **nationwide transparent** system - **protecting** private properties
- The System is ranked as a part of the **infrastructure** of the society
- **Accepted legal framework**
- **Strong administrative framework**
- High Professional **qualifications and prerequisites**
- **Dialogue based**, secure and efficient processes
- Professional business and disciplinary **requirements**



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Postludium



Thank You for Your attention

- this is how we perform in Denmark and Sweden

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