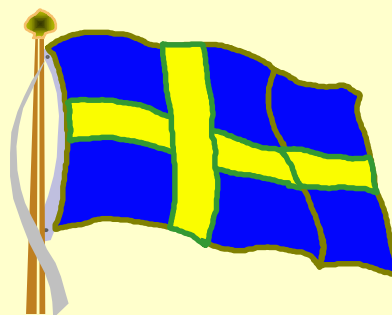
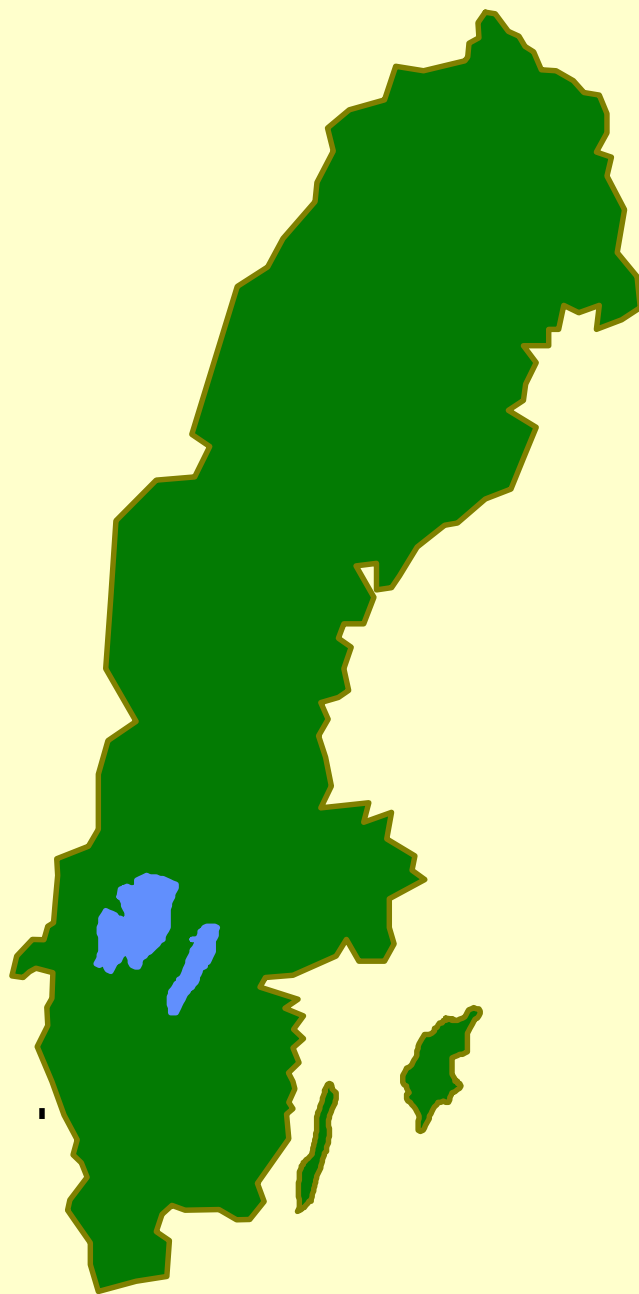




*The Role of the Swedish Land
Information System*

In the Business Society

Tommy Österberg
Swedesurvey



SWEDEN

- 9 million inhabitants
- 450 000 sq. km
- 21 Counties
- 291 Municipalities
- 4.6 million properties in the Real Property Register

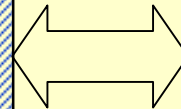
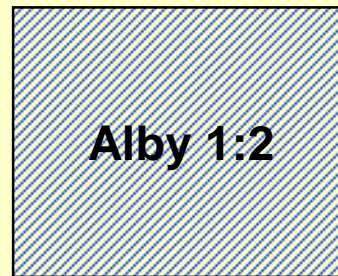
Land in Sweden, areas

	<i>1,000 km²</i>	<i>%</i>
<i>Cultivated land</i>	36	8
<i>Forests</i>	240	53
<i>Populated areas</i>	13	3
<i>Swamps</i>	50	11
<i>Mountains</i>	72	16
<i>Lakes, rivers</i>	39	9
<i>Total</i>	450	100

The Swedish Land Information System

• Real Property Register

- Area
- Address
- Coordinates
- Easements
- Buildings and apartments
- Public land use regulations



Geographic data bases

- Land use
- Topography
- Hydrology
- Vegetation
- Constructions

Land Register

Title and Owner
Mortgages
Encumbrances

Taxation Register

Land Use
Constructions
Value

Population Register

All people living at
the real property, civic
number, postal address

The Swedish Organisation of Land Administration

Land Registration, Registration of Rights

- Ministry of Justice
- **National Courts Administration**
- Local Land Register Authorities, 7

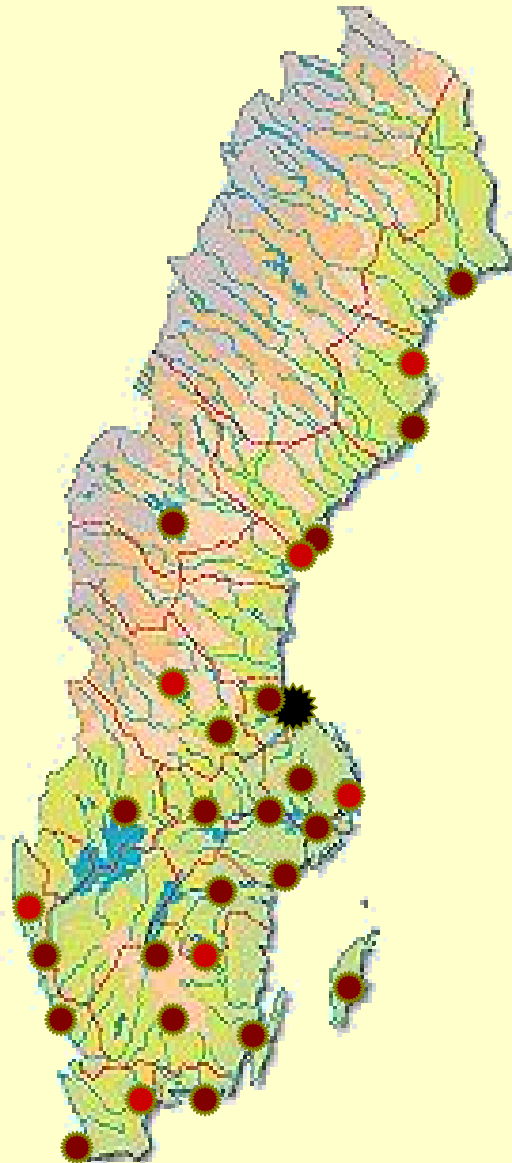
(from the 1st of January 2008 will be transferred to Lantmäteriet)

Real Property Formation, Registration of Real Property

The National Land and Geographic Information system, the LIS

- Ministry of Environment
- **Lantmäteriet, National Land Survey**
- Cadastral Authorities, 21
- Municipal Cadastral Authorities, 38






Local Organisations

Cadastral organisation

Headquarters 

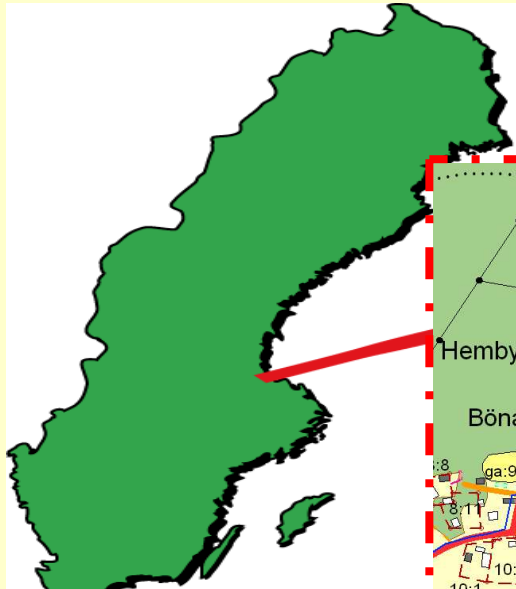
Cadastral Authorities
21 

Local offices 100
(Municipal offices 38)

Land Registration

Land registration
Offices 7 

Components in the Land Information System



•Digital Cadastral Index Map

Real Property Part

- ◆ Property Unit
- ◆ Joint Property Unit
- ◆ Co-ordinates
- ◆ Plans, Regulations and Rights
- ◆ Joint Facility
- ◆ Cadastral Index Map

Land Register Part

- ◆ Title
- ◆ Leasehold
- ◆ Mortgage
- ◆ Rights
- ◆ Notifications

Property Tax Assessment Part

- ◆ Total Assesst Value
- ◆ Assesst Value for Land
- ◆ Assesst Value for Buildings
- ◆ Basis for Valuation
- ◆ Owner

Building Part

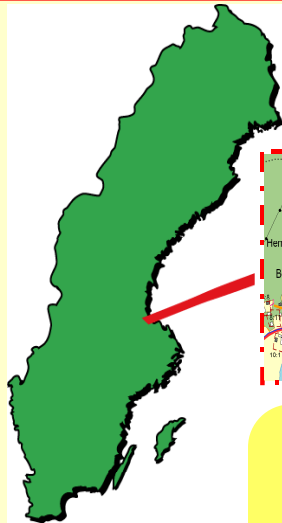
- ◆ Building Unit
- ◆ Address
- ◆ Co-ordinate

Address Part

- ◆ Address Unit
- ◆ Property Unit

Components in a Land Administration System

The situation in Sweden



Real Property Part

- ◆ Property Unit
- ◆ Joint Property Unit
- ◆ Co-ordinates
- ◆ Plans, Regulations and Rights
- ◆ Precincts
- ◆ Joint Facility
- ◆ Cadastral Index Maps

**3.3 million
Living Real
Property Units**

15 000 Property formation
100 000 Title transfers
460 000 Mortgages

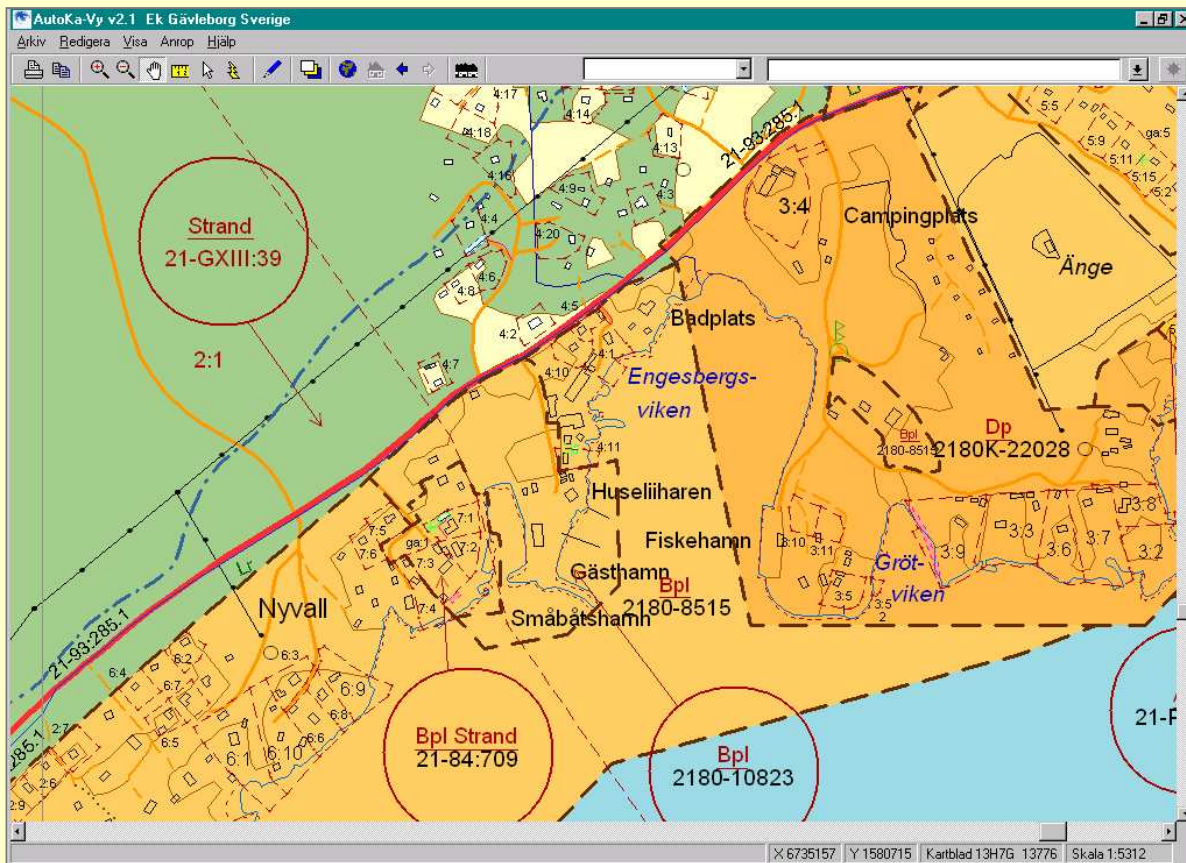
Land Register Part

- ◆ Title
- ◆ Leasehold
- ◆ Mortgage
- ◆ Rights
- ◆ Notifications

Building Part
Address Part
Taxation Part

- A good legislative framework
- Effective central national institutions that co-ordinate property formation and land registration
- Integrated information system for real property and land register supporting the institutions and the market
- Electronic mortgages certificate system
- A well functioning real property market, low transaction costs, title and mortgage over a day

Cadastral Index Map

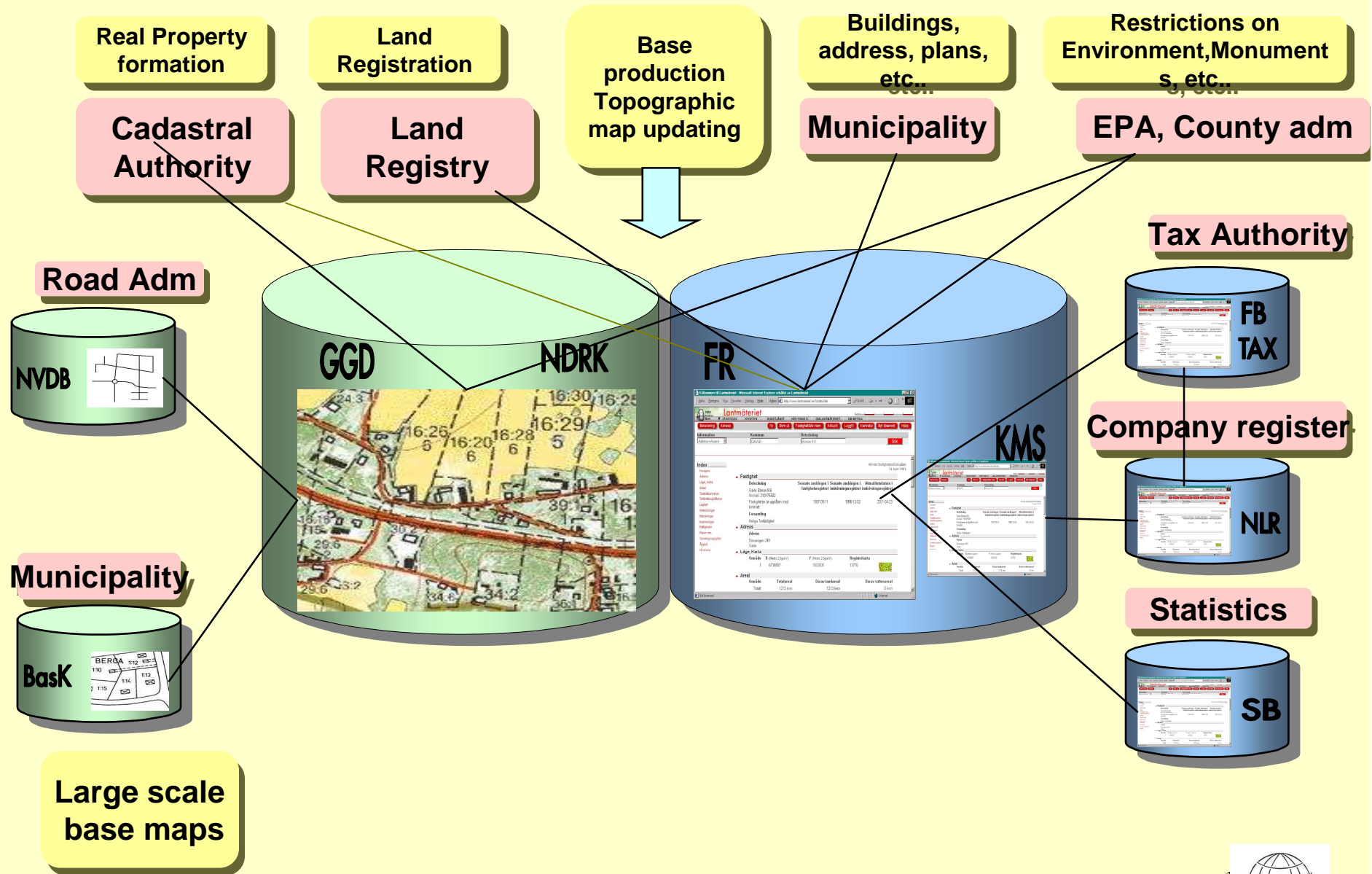


Contents

- Real properties
- Plans and regulations
- Easements

Based on land use map in scales 1:5000-1:20 000

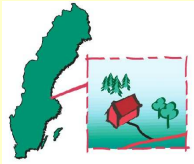
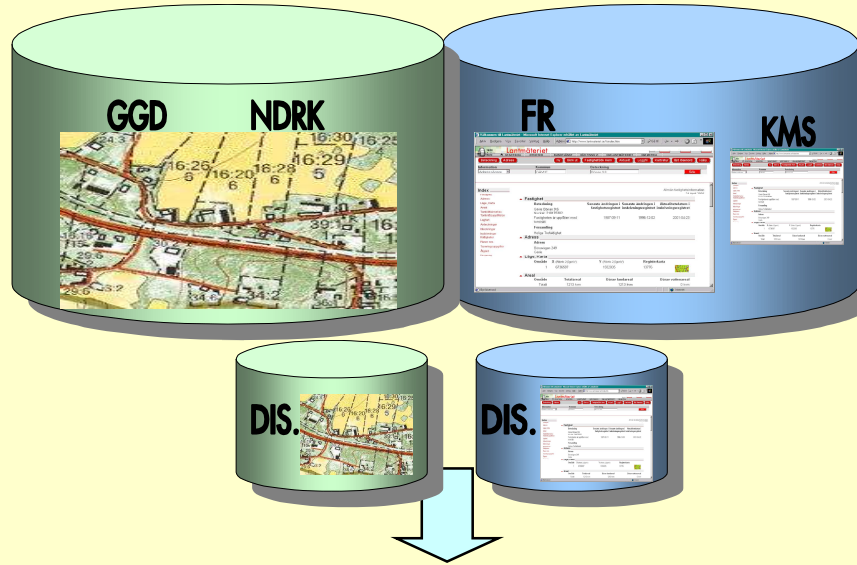
Information infrastructure, Spatial Data Infrastructure



Services and products in the Land Administration sector

Geographic information

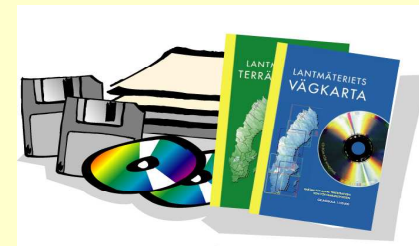
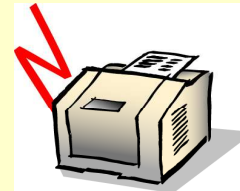
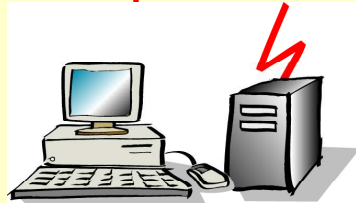
Real Property information



Products and services

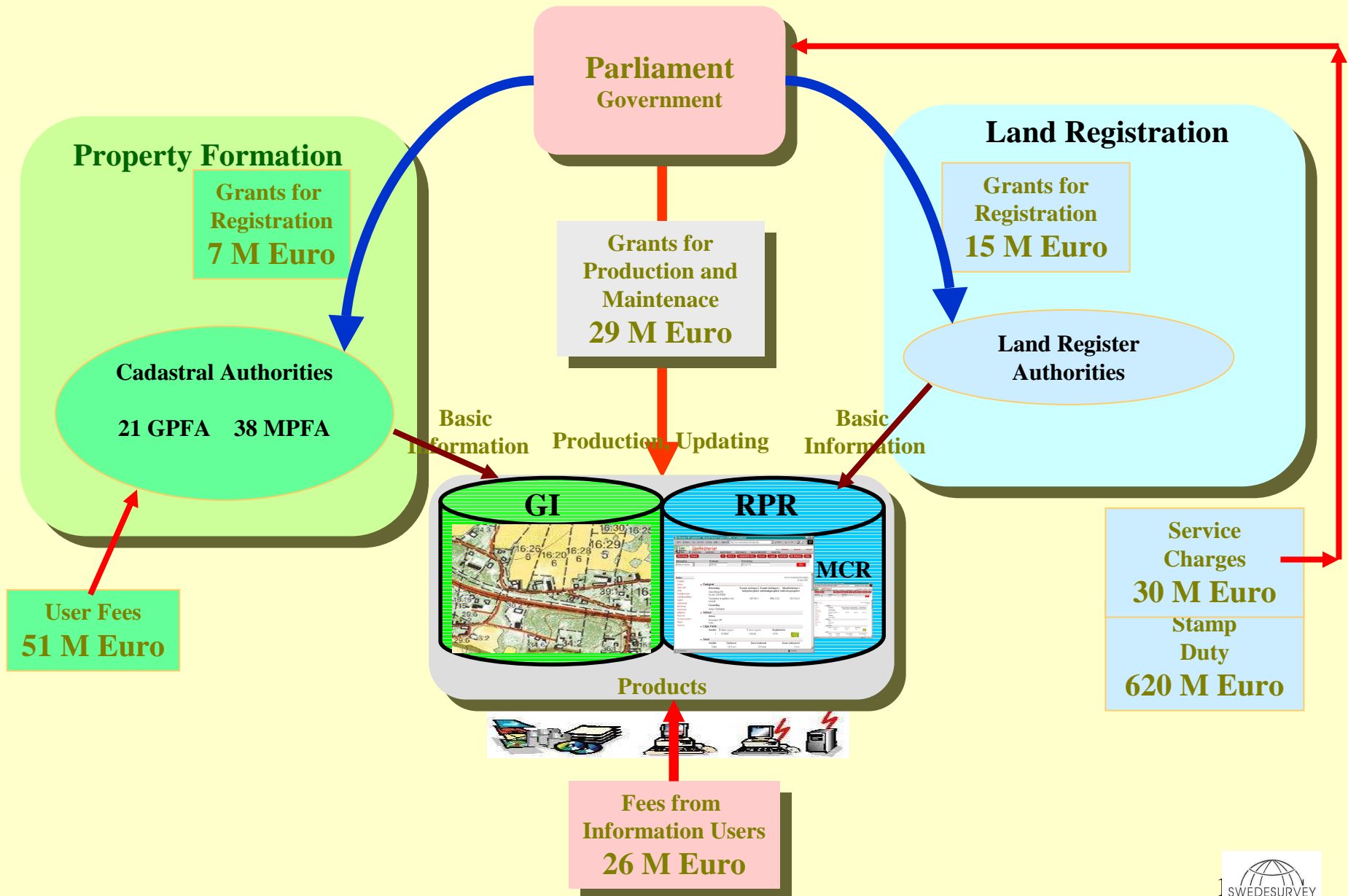
Distributors

Value Added Services



USERS

Principles for financing of Land and Geographic Information in Sweden



•Real Property Search Open for all with limited information

- Information restricted according to the Data Integrity Act
- Delivered in .pdf format
- 3 USD
- No industrial, agricultural or military properties
- Graphical and attribute data <24 hours old

Full information with subscription

FastighetSök
14 Augusti 2001

Fastighet

Adress: Huvudgsvägen 13

Areal		Totalareal	Därav landareal	Därav vattenareal
Område	Totalt	840 kvm	840 kvm	0 kvm

Lagfart	
Köp	Köpeskilling
1964-05-03	210.000 SEK, avser hela fastigheten.

Inskrivningar	
Nr inskrivningar	Inskrivningsdag
1 Nyttjanderätt brunn mm	1927-09-06

Rättigheter	
Servitutsutredning ej verkställd	

Planer, bestämmelser och fornlämningar	
Planer	Datum
Stadsplan Bengtsfors köping	1956-12-21

Taxeringsuppgifter		
Taxeringsenhet	Uppgiftsår	Taxeringsår
Småhusenhet, helårsbostad för 1-2 familjer (220)	2000	1999
Omfattar hel registerfastighet	därav byggnavärde	därav markvärde
Taxeringsvärde	285.000 SEK	211.000 SEK
Värderingsenhet småhusmark 001	Basvärde	Riktvärdeområde
Taxeringsvärde	74.000 SEK	1560001
Tomtareal	840 kvm	Vatten o avlopp
		Kommunalt vatten
		Kommunalt avlopp
Fastighetsrättsliga förhållanden		
Självständig		
Värderingsenhet småhusbyggnad 001	Basvärde	Total standardpoäng
Taxeringsvärde	211.000 SEK	33
Bebyggelsestyp	Blotrymmesyta	Värdeyta
Friliggande	60 kvm	102 kvm
Bostadsyta	90 kvm	Tillbyggnadsår
Nybyggnadsår	1945	1998
Under Byggnad	Tillbyggnadsyta	1981
Nej	30 kvm	Fastighetsrättsliga förhållanden
		Självständig

Åtgärd	
Fastighetsrättsliga åtgärder	Datum
Avstyckning	1942-09-17

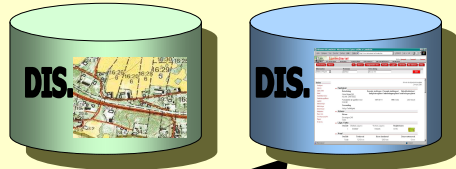


Electronic mortgaging

Real property information from the Swedish National Land Survey



Loan applicant will receive a credit decision over the Internet



The Banks system

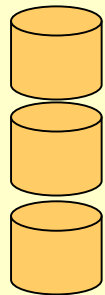


The Bank clerk will give a loan applicant a credit decision over the telephone etc.

Property valuations

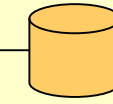
Calculating a household budget and key ratios

Swedish Credit Information Agency (UC)



System for processing credits over the Internet

Credit assessment and underwriting system for processing of loan



Credit regulations based on underwriting guidelines and credit recommendations



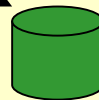
Deeds and other pledges

Loan ledger, banking or accounting system

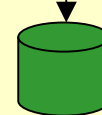
Security systems for credits, mortgage certificate and portfolio analysis



Loan ledger and accounting documents



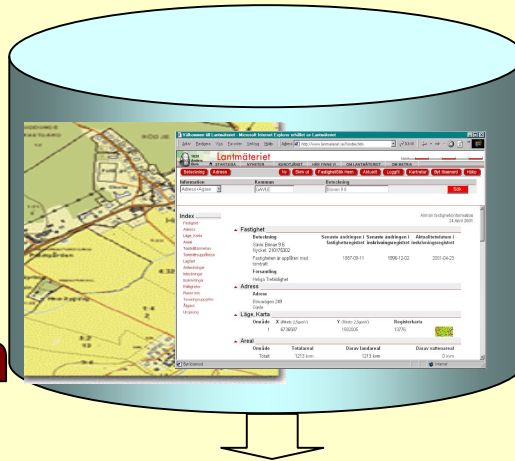
Register for loan ledger



Register for security

DISSEMINATION SYSTEM

**Application:
Find your way
Find your position**



BASIC DATA PRODUCTS

BUSINESS PARTNER

Eniro.se, Hitta.se

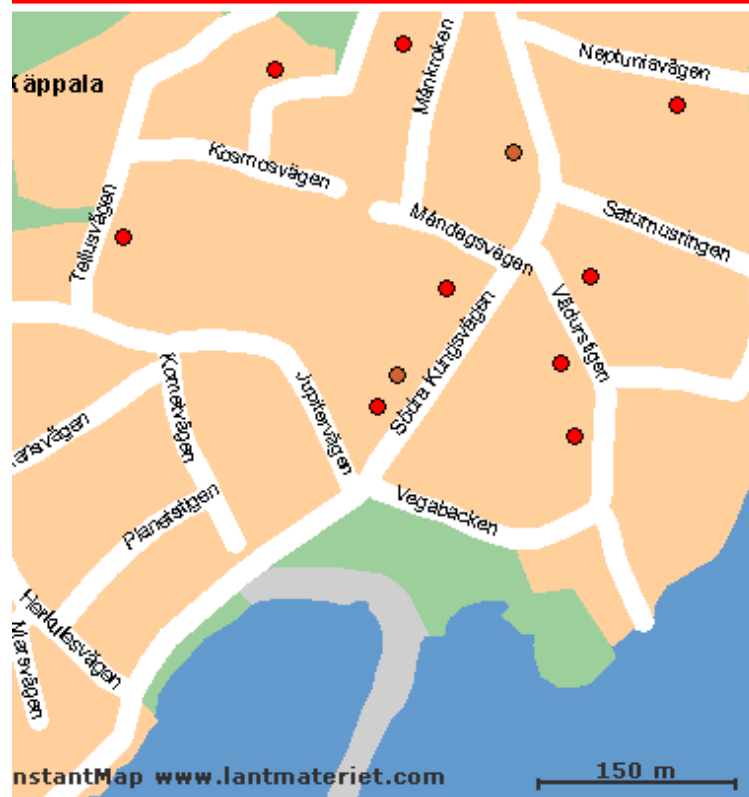


www.eniro.se



HUSPRISET

AFTONBLADET
LANTMÄTERIET



Prisfördelning villor/kedjehus/radhus och tomträtter.

- 3 000 000 kr -
- 2 000 000 - 3 000 000 kr
- 1 500 000 - 2 000 000 kr
- 1 000 000 - 1 500 000 kr
- 500 000 - 1 000 000 kr
- 0 - 500 000 kr
- Sannolikt friköp av tomträttsmark

▼ 1 - Välj hustyp

▼ 2 - Välj län

▼ 3 - Välj kommun

▼ 4 - Sök gata i vald kommun

▼ 5 - Zooma in till gata

verktyg: [Visa köpinformation](#)
 klicka i kartan för att se köpinformation.



Huspriset - köpinformation - Lantmät...

Adress/Trakt:	Vädurstigen 6
Köpsumma:	5 550 000 kr.
Köpdatum:	2000-07-28
Bostadsyta:	200 m ²
Nybyggnadsår:	1996
Tomtareal:	1 230 m ²
Basvärde:	1 871 000 kr.
K/B-tal:	2.97
Bebyggelse:	Friliggande hus

K/B-tal mellan 0.15-0.45 avser sannolikt friköp av tomträttsmark.

Källa: Lantmäteriet

DISSEMINATION SYSTEM

**Application:
Real Estate Agent**



BASIC DATA PRODUCTS

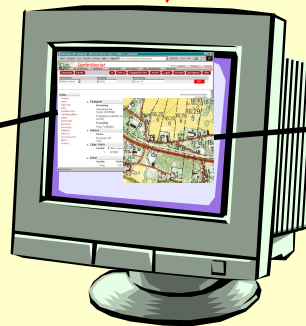
BUSINESS PARTNERS

Capitex

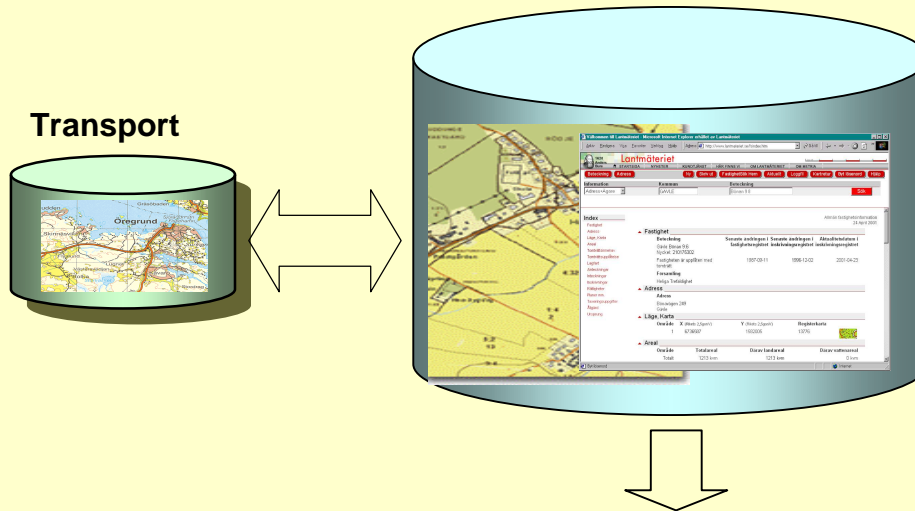
Svensk Fastighetsdata

PRODUCTS/SERVICES

Title holder
Mortgage
Taxation
Buildings
Servitut
etc.



DISSEMINATION SYSTEM



Application:
In vehicle navigation
Fleet management

BUSINESS PARTNERS

NAVTECH

TELEATLAS

PRODUCTS/SERVICES



MapShop Online

On the MapShop Online you can easily order printed maps or maps on CD:s.



The screenshot shows the website for LANTMÄTERIET. The header includes navigation links: Startside, Kundtjänst, and Våra kontor. Below this is the title 'Kartbutiken Online' and a secondary navigation bar with 'Start/Välj artikelgrupp', 'Välj artikel', 'Kundkorg/Kassa', and 'Orderbekräftelse'. There are also buttons for 'LEVERANSVILLKOR' and 'HJÄLP' with a small flag icon. The main content area is divided into two columns. The left column, titled 'Välj artikelgrupp', lists various map categories: Lantmäteriets kartor, Bil & turistatlas, Bil & turistkartor, CD-produkter, Jordglober, Kompasser, GPS m.m., Sjökart, Stadskartor, and Sveriges nationalatlas. The right column, titled 'Så här använder du Kartbutiken Online:', contains a four-step instruction list. To the right of the text is a small map snippet showing a coastal area with labels like 'korsund', 'Lipå', 'Ålsjö', 'Ingelby', 'Amme', 'Amr', 'Edo', 'Starnsund', and 'Västern'. The map shows roads, water bodies, and place names.

LANTMÄTERIET

Startside | Kundtjänst | Våra kontor

Kartbutiken Online

Start/Välj artikelgrupp | Välj artikel | Kundkorg/Kassa | Orderbekräftelse

LEVERANSVILLKOR | HJÄLP

Välj artikelgrupp

- Lantmäteriets kartor
- Bil & turistatlas
- Bil & turistkartor
- CD-produkter
- Jordglober
- Kompasser, GPS m.m.
- Sjökart
- Stadskartor
- Sveriges nationalatlas

Så här använder du Kartbutiken Online:

1. Välj artikelgrupp
2. Välj artikel, klicka på Lägg i kundkorg
3. Klicka på Kundkorg/Kassa, Följ instruktionerna för köp
4. Artikeln är köpt och du får en Orderbekräftelse





CHOOSE MAP
Stockholm (färg)
SEARCH
CLEAR SEARCH

Zoom
32 m/pixel
+ -



SverigeBilden™

GENERAL INFO DIGITAL IMAGE PRINTED IMAGE

[Help](#)

Zoom Tools: Click and drag within the image window or click on the zoom bar.

Panning Tools: Click and drag for desired pan or click on arrows on each side of image window.

For a digital download, click on Digital Image.
For a print version, click on Printed Image.

[Example images](#)

© 2000 Lantmäteriverket Powered By Geolmager™

LBS - Location Based Services



Wireless Maps - MapMate



- Maps just when you need them
- Map-access via Mobile Internet
- Always updated information
- GPS-connection
- Mobile platform

Rescue Corps

Command
Vehicles
GPS



The screenshot displays a GIS application window titled "Kartstöd för Räddningstjänsten, Demo". The interface includes a menu bar with options like "Arkiv", "Redigera", "Grafik", and "Spela". A toolbar contains various navigation and tool icons. The main area shows a map of a region with labels for "Kristianstad", "Åhus", "Sverige", "Hammarlund", "N Åsum", "Skönabäck", "Hovoy", "Kavvö", "Transval", "Ugerup", "Mosslanda", "Gärds Köpinge", "Helgedal", "Åsumtorp", "Viby", "L10L", "Isjö", "SANDVAKTAREGATAN 22", "Zon: 20", "Köpinge", "Hammarlund", "Åhus", "Balsby", "Fjällinge B.", "Ezz", "Viby", "Kristianstad". A detailed information panel on the right shows:
- Skapad tid: 2001-08-23 11:37:40
- Mottaget: 2001-08-23 12:05:49
- Koordinater: X: 6201333, Y: 1405145
- Ärendenummer: 20010823-113304 (with a "Döj" button)
- Händelsetyp: Industribrand (with an "Anmälare:" field containing "Torsten Alm")
- Adress: SANDVAKTAREGATAN 22
- Zon: 20
- Kommentar: Gästuber i källaren. En person finns kvar i byggnaden.
The bottom status bar shows "Skala 1:100000", "X:6212706", and "Y:1404990".



e-government

Fråga Lantmätaren

om Lantmäteri-
förrättningar
m.m.



Ask the Cadastral
Surveyor

Digital Archives



Cadastral archives have been scanned and are used in daily case handling through Internet

Archive also available for general public- Used e.g for genealogical research

Välkommen till Lantmäteriet - Microsoft Internet Explorer provided by ABBYY Software House

File Edit View Favorites Tools Help Address http://www.lantmateriet.se/hkindex.htm Go

LANTMÄTERIET

Startsida | Kundtjänst | Här finns vi

HISTORISKA KARTOR

1. Sök karta 2. Ditt val 3. Betala 4. Leverans

Gör ditt val nedan: [Läs mer](#)

Digital karta via internet
 Digital karta via CD
 Tryck - litet format [Läs mer](#)
 Tryck - stort format [Läs mer](#)

Välj format: jpeg


LÄGG I KUNDKORGEN

TILLBAKA NÄSTA

Stad	Innehåll	Årtal
Stockholms stad	Karta över Stockholm	a
Stockholms stad	Karta över Stockholm	b
Stockholms stad	Karta över staden me	a
Stockholms stad	Karta över staden me	b
Stockholms stad	Karta över staden me	c
Stockholms stad	Karta över staden me	d
Stockholms stad	Karta över staden me	e

HJÄLP?

ZOOM



VERKTYG

Kartområde: 4954 x 6014 bildpunkter
 Filstorlek: 9 Mb (uppskattad)
 Pris: 223 kr inkl. moms

Copyright 2001 Lantmäteriet

Kundkorgen är tom GÅ TILL KASSAN Om Historiska Kartor

Done 36 Internet

•Historical maps from 1600-



TECHNICAL CADASTRAL SURVEY using GPS

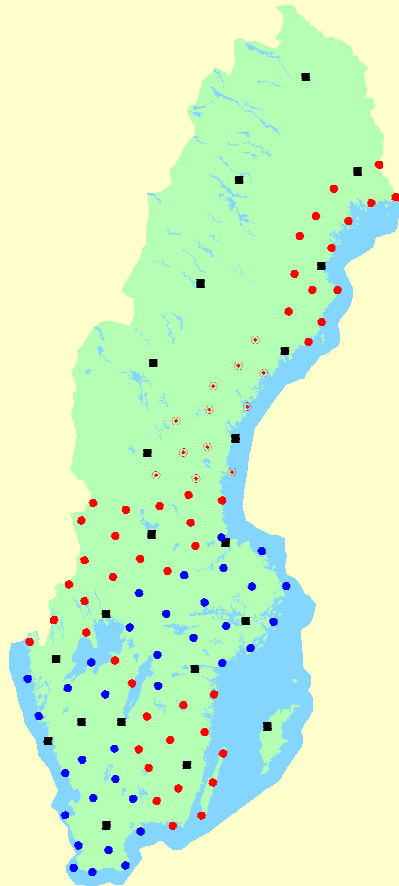
Connecting cadastral surveys in rural areas to the national reference system.

Technical cadastral surveys, larger real properties or where many real properties are involved.

Staking out (long) real property boundaries in rural areas (forest, national parks ..)

Usually real time

GPS in Sweden



- 1998 SWEPOS operational for real-time positioning on the metre level, DGPS
- 1999 Distribution of RTK corrections from some of the SWEPOS stations
- 2000 Initial tests with Network RTK
- 2001 Automated post processing service established
Network RTK in production