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Services available 24 hours a day, 7 days a week, 52 weeks a year – what does it mean for us?

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Summary

Lantmäteriet – the National Land Survey of Sweden – started to introduce Web-based electronic public services some years ago. New and improved services have gradually been implemented and today the users have access to current maps as well as historical maps, aerial photos, satellite imagery, cadastral information, information on house-prices, and other kinds of land-related information directly on the Internet through this “marketplace”. It is free of charge to browse and have a look at the information available, and the users who want to order can easily download and pay for customised products by using www.lantmateriet.se.

The paper describes the development of these services, the usage, costs and benefits as well as experiences and future plans.

Introduction

Lantmäteriet – the National Land Survey – is a governmental agency. Its overall goal is to support the creation of an efficient and sustainable use of land and water. The organisation has four main activities – geographic information, land information, cadastral services and geographic information techniques. Lantmäteriet has approximately 2,200 employees working in about 100 offices throughout Sweden and the headquarters in Gävle. Swedesurvey AB, a limited company, is the international agency of the organisation.

Lantmäteriet has an important role in providing Swedish society with basic land and geographic information. Lantmäteriet is the leading producer of geographic databases and maps in Sweden. One of the most important tasks is to customise the information to the needs of the users and make the information easily accessible. From January 2001 Lantmäteriet acquired the Swedish company Satellus from the Swedish Space Agency. This means that Lantmäteriet now has a strategic complement within the satellite data and environmental analysis sectors.

Geographic and property information is important basic inputs in many fields of activity. For example, the forestry industry needs information for valuation of forest properties and for transport planning, telecom companies must know which landowners are affected when trenches for wide-band cables are to be dug or when base stations are to be built. Similarly, the municipalities want to be able to process applications for building permits as quickly and as smoothly as possible. Companies that plan to carry out market research need to know what the population distribution looks like. A private person who is planning to buy or sell a property is interested in knowing as much as possible about real property prices in different areas. Lantmäteriet's information is of fundamental importance for all of these groups and a huge amount of work is being put into making it even easier to access.

In Sweden – as well as in other countries – the public sector has to focus on satisfying demands from the users and to rationalise operations. In the new era of eGovernment, citizens are at the core of the process. They will not need to know about the structure of government in order to be able to deal effectively with it. The community will also benefit from improved convenience, as many agencies in fact are available to the public 24-hours-a-day,

seven-days-a-week. Another benefit is the possibilities to enhance transparency of government decision-making processes and operations. Web services mean that we have an efficient tool to create a more integrated, co-ordinated and efficient approach to information and services across all service channels.

An increasing number of people in Sweden use information and services on the Internet. Around 85 percent of the working population have access to the Internet either at home or at work.

To satisfy increasing demands Lantmäteriet has increased the number of around-the-clock Web services. We can be reached from anywhere, everyday, at any time, the whole year round.

When describing Web-based electronic public services the following levels of online “sophistication” are often used:

Stage 1 – **Information**: online information about public services;

Stage 2 – **Interaction**: downloading of forms, maps and other kinds of documents;

Stage 3 – **Two-way interaction**: processing of forms, including authentication;

Stage 4 – **Transaction**: case handling, decision and delivery (payment).

When measuring Lantmäteriet’s services so far we still are in stage 1 and stage 2, while some of the functions, e.g. to receive permission to use data for reprinting or to pay for direct delivery of data by using credit card, belong to stage 3 and stage 4. Our ambition is to increase the number of interactive services. An example of this type of service that was launched during 2002 is “Ask the Land Surveyor”. With this service property owners or persons who are planning to purchase a property can put questions to a chartered surveyor. These questions can be about sub-dividing a new plot, transmitting land between properties or clarifying an unclear property boundary situation.

The introduction of these services has also led to new possibilities for delivering updated information and for customising products and services. For example, maps that earlier was printed and the series distributed to resellers, are now offered as print-on-demand. This means that updated information is used and that the customer to some extent can design his own map. Also more advanced services in which the public interact with the agency has been introduced.

An Internet marketplace grows up

For 375 years Lantmateriet has been engaged in mapping Sweden. An historic step forward was taken during 2000 when Lantmateriet became the first Swedish government authority to open an Internet marketplace. The first foundation stone was laid in December 1999, when our **MapStore** (Kartbutiken Online) was opened. Visitors to the store could purchase maps and pay with credit cards via the Web. In March 2000, **PropertySearch** (FastighetsSök) was opened and in May a new homepage with a completely new structure and layout was launched together with two new services: **Swedelmages** (SverigeBildern) and **MapSearch** (KartSök). The launch attracted considerable attention from the media and the number of visitors to the site increased exponentially.

During 2001 new services have been added to the marketplace. **YourMap** (DinKarta) makes it possible – at least to some extent – to design your own map and have it delivered in digital form or as a print on demand service. **Historical Maps** (Historiska kartor) contains treasures

from early 1600s until now. **PropertySearch - for all** (FastighetsSök - för alla) makes it possible to purchase information about dwelling and leisure homes. The information is always being updated from the real property register together with up-to-date maps. Finally, the **Real Property Barometer** (Fastighets-barometern) includes price information on all real properties being sold during the last year.

Through the Internet marketplace Lantmateriet is able to present products and information about the landscape and real properties – easily accessible and directed both to professionals and the general public. As a result new, positive contacts with large and important customer groups have been established.

An important part in the development of the Internet marketplace has been to carry out market analysis in which a number of clients have been asked to give their opinion about their interaction with Lantmateriet and about e-commerce via the Internet. Eighty percent of those who were asked replied and their attitude was, for the greater part, positive. As many as 87 percent of those who replied were positive to placing orders via the home page. Among the advantages of e-commerce cited by these potential clients were that all products were on display at one place, that it was easy to find information and that it was possible to make purchases at any time of the day or night.

The development of a marketplace on Internet has made it possible for Lantmateriet to meet the user demands in a better way. The site has been designed to display a full range of services and products to as broad a spectrum of customers as possible. Private persons, companies, public sector authorities and municipal organisations. Using IT, information can be much more easily accessed and it can be selectively retrieved as and when it is needed.

With around 230,000 viewers each month, Lantmateriet has been able to present itself in an unprecedented way. This has given us a platform for new services such as Swedelimages and MapSearch. In addition, we can now provide our older, well-established services via the Internet.

Swedelimages

Swedelimages contains orthophotos – rectified aerial photographs – for the whole of Sweden. These images have a resolution – presentation of detail – of as high as one metre. Images for which orders have been placed can be downloaded from the Internet or delivered on CD-ROM. Printed copies can also be supplied. Up to now seven major cities, among them Stockholm, Gothenburg and Malmö, are covered by colour photography whereas the coverage for the remainder of the country is black and white.

ImageNet

ImageNet is a service where high-resolution imagery from the EROS A1 satellite can be ordered. There is also a number of “pictures”, which are available free of charge. During the last months specific interest has been shown for imagery from Afghanistan.

PropertySearch

Today, there are two slightly different services. One is developed for professional users. They must sign a licence agreement with Lantmateriet and are required to pay an initial fee of SEK 1,500 (approximately 160 euro) per year. PropertySearch contains information about Sweden's 3,2 million real properties from the property register. Searches are made using either the property designation or the address and it is possible to browse and retrieve information about, for example, owner, locality, area and assessed value.

“PropertySearch – for all” is available on the Internet for everyone. The service contains more or less the same information as PropertySearch – including the actual part from the Cadastral Index Map – but due to the legislation concerning protection of privacy some information is excluded.

MapSearch and Geographical Names

In MapSearch and Geographical Names it is possible to look for and zoom in on the general maps, the Road Map and the Topographic Map series to obtain information about localities and building development, boundaries, elevations, administrative divisions, communications, footpaths, different types of land cover, ancient monuments and more. The database includes more than 700,000 geo-referenced place names and several search functions. There is no charge of this service, which we consider to be part of our role as a national provider of information to the general public.

Your Map

Your Map is also based on the official maps of Sweden (in digital format). The users can look at areas of interest free of charge and they can order the areas of interest and have the products delivered in digital form or as a print-on-demand service. They can put their focal point of interest in the middle of the map and they can – to some extent – choose the scale and format of the map and they can add their own headings, etc.

Historical Maps

The service “Historical Maps” contains already a great amount of historical maps from all over Sweden. Through the development of scanning and storage technology in recent years, it has become possible to create digital map copies that meet the standards of researchers and other demanding users. More and more historical maps will be available during the next years as there is an extensive digitalisation programme going on.

Costs and benefits

It is often difficult to measure the costs and benefits for services being built upon existing infrastructure and data that are more or less already available. However, if we look at the direct costs for development and maintenance of the different services (Swedelimages, PropertySearch, MapSearch and Geographical Names, etc) the costs during year 2002 amounted to approximately SEK 9 million (1 million Euro). During the same year income from sales via Internet amounted to just over SEK 12,7 million, which represents an increase of SEK 4 million over 2002.

Through the internet marketplace Lantmäteriet is able to present products and information about the landscape and real properties – easily accessible and directed both to professionals and the general public. As a result of this new, positive contacts with new large and important customer groups have been established.

The new services also mean that Lantmäteriet can meet the user demands in a better way. The site has been designed to display a full range of services and products to as broad a spectrum of customers as possible: private persons, companies, public sector authorities and municipal organisations. The information is much more easily accessed and can be selectively retrieved as and when it is needed.

Another benefit is that the customers do more of the work themselves – they search for the area of interest, they decide upon scale and size of the “map”, they write the order and they pay directly by using credit card. This means that our customer support can focus on giving more advanced service to those with special needs and not spend a lot of time on simple deliveries.

Some experiences

Lantmäteriet has an important role in providing Swedish society with basic land information and geographic information. The aim is to reach as many users as possible as an efficient use of the information allows significant savings to be made in the costs of analyses and decision-making involved in such activities as physical planning, agriculture, forestry, mining, transportation, conservation, and defence. The information is also of great importance for private persons – when travelling, in outdoor life or when looking for a new home. A way of obtaining this goal is to customise the information to the needs of the users and make it easily accessible. The marketplace – and the processes behind – has proved to be an important tool to achieve this goal. More accurate and updated information now reaches new user groups easier and faster than before.

External market analysis that has been carried out clearly show that the clients appreciate that all products are on display at one place, that it is easy to find information and that it is possible to make purchases at any time of the day or night.

Surveys on customer satisfaction also clearly show that the private and professional users of geographic information in Sweden rate Lantmäteriet much higher today than earlier, also when it comes to other kinds of operations than those being included in the marketplace.

We have used a step-wise approach when developing different services. To start with rather simple applications means that experiences can be gained for the future steps.

To large extent commercial software have been used for development of the services. Lantmäteriet was, however, not able to find a map browser that met the demands, why a specific browser called Geolmager has been developed. Geolmager makes it possible to go between different areas and to zoom in and out very rapidly.

An important part of the work has been to carry out external market analysis as well as tests of new services within different target groups before the final design and technical functionality is decided. These tests also include investigations about what price the customers are willing to pay for different levels of functionality within the services.

New services do not sell themselves. Lantmäteriet has introduced the new services by working out specific marketing campaigns, including advertisements in newspapers, magazines and in official places, such as the Underground stations in Stockholm.

The use of the different services is continuously being followed up. We measure the number of visitors, the costs, sales and income for each of the services as a basis for improvements (or for a decision to shut down a service that is not being asked for).

Ready Steady Gov!

The future development of Web-based services will include more of advanced services, in which the clients interact with the agency, for example in the property formation process. An important prerequisite for a rapid development of this kind of services is the introduction of a secure system for electronic authentication and signing. In Sweden a jointly defined system has been specified and it is supposed to be the de facto standard during the near future.

Another clear trend is the use of “web services” by which a set of collaboration techniques is used for process integration and data sharing across platforms and applications; for the public sector, primarily within and in-between agencies, but also with external users. We already have this kind of services providing products based on data from several different database owners, for example between Lantmäteriet and the forestry industry and between Lantmäteriet and the National Environmental Protection Agency.

These new techniques also create possibilities to supply “wireless maps” that can be downloaded via mobile Internet to hand-held computers or 3 G telephones. In May 2003 Lantmäteriet launched a map service called MapMate for hand-held computers, which makes it easy to directly download detailed maps and nautical charts for in-car or boat navigation or other applications. MapMate also supports satellite-based realtime navigation with GPS.

The governmental organisations will continue to identify and implement online services, which demonstrate real benefits. Increasingly, business will also be able both to win government business opportunities and to receive payments online. In these ways, many of the efficiency gains from eGovernment will flow directly to the business bottom line.

In short, eGovernment is about better services and better governance for all citizens.

For further information, please contact:

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