



**INSPIRE**  
Infrastructure for Spatial Information in Europe

## **Member State Report: Sweden, 2009**

---

<b>Title</b>	<b>Member State Report: Sweden 2009</b>
<b>Creator</b>	Anders Rydén
<b>Date</b>	2010-05-12
<b>Subject</b>	INSPIRE Monitoring and reporting – Member State report
<b>Status</b>	v. 1.0
<b>Publisher</b>	Lantmäteriet
<b>Type</b>	Text
<b>Description</b>	Member State status report on the implementation of the INSPIRE Directive in Sweden according to article 21(2) of the Directive 2007/2/EC – INSPIRE.
<b>Contributor</b>	Inspire working group
<b>Format</b>	Word
<b>Source</b>	Lantmäteriet - Geodatasekretariatet
<b>Rights</b>	Public
<b>Identifier</b>	INSPIRE_Country_Report_Sweden_2009.pdf
<b>Language</b>	En
<b>Relation</b>	Not applicable
<b>Coverage</b>	Not applicable

---

These are Dublin Core metadata elements. See for more details and examples <http://www.dublincore.org/>

Version number	Date	Modified by	Comments
0.5	2010-04-19	Anders Rydén	First draft for comments
1.0	2010-05-12	Anders Rydén	Final document for submission to Comm.

## Table of Contents

<b>1</b>	<b>Executive summary</b> .....	<b>3</b>
<b>2</b>	<b>Abbreviations and Acronyms</b> .....	<b>3</b>
<b>3</b>	<b>Introduction</b> .....	<b>4</b>
<b>4</b>	<b>Co-ordination and quality assurance (Art. 12)</b> .....	<b>5</b>
4.1	Coordination (Art. 12.1.) .....	5
4.1.1	<i>Member State contact point</i> .....	5
4.1.2	<i>The coordination structure</i> .....	6
4.1.3	<i>Comments on the monitoring and reporting process</i> .....	8
4.2	Quality Assurance (Art. 12.2.) .....	9
4.2.1	<i>Quality assurance procedures</i> .....	9
4.2.2	<i>Analysis of quality assurance problems</i> .....	9
4.2.3	<i>Measures taken to improve the quality assurance</i> .....	9
4.2.4	<i>Quality certification mechanisms</i> .....	10
<b>5</b>	<b>Functioning and coordination of the infrastructure (Art.13)</b> .....	<b>11</b>
5.1	General overview description of the SDI .....	11
5.2	INSPIRE Stakeholders .....	11
5.3	Role of the various stakeholders .....	11
5.4	Measures taken to facilitate sharing.....	12
5.5	Stakeholder cooperation.....	12
5.6	Access to services through the INSPIRE Geoportal .....	12
<b>6</b>	<b>Usage of the infrastructure for spatial information (Art.14)</b> .....	<b>13</b>
6.1	Use of spatial data services in the SDI.....	13
6.2	Use of the spatial datasets .....	13
6.3	Use of the SDI by the general public.....	13
6.4	Cross-border usage.....	13
6.5	Use of transformation services .....	13
<b>7</b>	<b>Data sharing arrangements (Art.15)</b> .....	<b>14</b>
7.1	Data sharing arrangements between public authorities .....	14
7.2	Data sharing arrangements between public authorities and Community institutions and bodies .....	14
7.3	Barriers to the sharing and the actions taken to overcome them.....	14
<b>8</b>	<b>Cost / Benefit aspects (Art.16)</b> .....	<b>15</b>
8.1	Costs resulting from implementing INSPIRE Directive .....	15
8.2	Benefits observed.....	15
<b>9</b>	<b>Conclusions</b> .....	<b>17</b>
<b>10</b>	<b>Annexes</b> .....	<b>18</b>
10.1	List of organisations – names and contact details .....	18
10.2	List of references for the compilation of the report.....	19

## 1 Executive summary

The INSPIRE directive entered into force on the 15th May 2007 and lays the foundation for trans-boundary Spatial Data Infrastructures (SDI) for the purpose of developing environmental policies and activities. The directive requires each member state to monitor the implementation and use of their infrastructures and make the results accessible to the Commission no later than 15 May 2010. This is the first report in this series.

The implementation of INSPIRE in Sweden is coordinated by Lantmäteriet (the Swedish mapping, cadastre and land registration authority) and the national contact point (MSCP) is the NSDI-unit (Geodatasekretariatet) at Lantmäteriet. Lantmäteriet is also responsible for the national strategy for integrated provision of information in the geodata sector (the Geodata Strategy).

Lantmäteriet is supported in its coordination tasks by the Geodata Advisory Board, appointed by the government, and INSPIRE working group, consisting of representatives from about 20 public sector authorities. The working group is responsible for coordination of activities and issues related to the implementation of INSPIRE within the respective authorities.

Third parties stakeholders are Swedish Local Authorities and Regions, representing a major producer of data – the municipalities, the Swedish Standards Institute's (SIS) with whom a letter of intent concerning standardisation within the framework of a Swedish geodata strategy and the implementation of INSPIRE has been signed and, the private sector through the Swedish Development Council for Geographic Information (ULI).

Data sharing is facilitated by the development of a common business model adapted to facilitate co-operation between the public and private sectors and describes organisation, division of responsibility and financing. It will also include agreements concerning carrying out the cooperation. The model provides a structured description of how exchange and provision of geodata should be organised.

Data will be searched and accessed through a Geodata portal where services are created and managed by the respective authorities. A first working version (version 1.0) of a National Geodata Portal has been completed. The portal will satisfy the requirements for search services laid down in the INSPIRE-directive and its implementation rules. A more fully developed portal technique, business model and administrative routines will be in operation in 2011.

As the timetable for implementation of the directive is rather tight, the challenge ahead is to take appropriate preparatory measures. In order to be able to follow the timetable the authorities will presumably need to begin the work before the implementation rules have been adopted and develop authority-related working plans that are regularly updated.

## 2 Abbreviations and Acronyms

INSPIRE Directive	Directive 2007/2/EC
MS	Member State
SDI	Spatial Data Infrastructure
INSPIRE	Infrastructure for Spatial Information in Europe
GIS	Geographical Information Systems
MSCP	Member State Contact Point

### 3 Introduction

INSPIRE, which is the directive for the establishment of an infrastructure for geodata in the European Union, came into force on May 15th 2007. The aim of INSPIRE is to provide a legal framework for the soft parts of the information infrastructure. The directive contributes to the solution of several problems that are, at present, associated with geodata, such as difficulty in obtaining access to information, varying quality, problems with sharing information between agencies, etc.

The directive contains rules that regulate, for example, how technical interoperability can be achieved, that authorities should disseminate geodata in an electronic format via net services, that they should share geodata with other public authorities and certain other organs and that a coordinating body should be created in every member state.

The INSPIRE directive require each member state to monitor the implementation and use of their infrastructures for spatial information, and make the results accessible to the Commission and to the public. No later than 15 May 2010 Member States shall submit to the Commission a report including summary descriptions of:

- how public sector providers and users of spatial data sets and services and intermediary bodies are coordinated, and of the relationship with the third parties and of the
- organisation of quality assurance;
- the contribution made by public authorities or third parties to the functioning and coordination of the infrastructure for spatial information;
- information on the use of the infrastructure for spatial information;
- data-sharing agreements between public authorities and;
- costs and benefits of implementing the Directive.

Every three years, Member States shall send to the Commission a report providing updated information in relation to the bullets listed above. This document represents this first report in that series.

## 4 Co-ordination and quality assurance (Art. 12)

### 4.1 Coordination (Art. 12.1.)

#### 4.1.1 Member State contact point

##### Name and contact information

Member State Contact Point	
Name of the public authority:	Lantmäteriet (the Swedish mapping, cadastre and land registration authority)
Contact information:	Geodatasekretariatet
Mailing address:	SE-801 82 Gävle, Sweden
Telephone number:	+46 771-63 63 63
Telefax number:	+46 26-61 32 77
Email address:	Geodatasekretariatet@lm.se
Organisation's website URL:	www.geodata.se
Contact person (if available):	Ewa Rannestig
Telephone number:	+46 26 63 35 49
Email address:	ewa.rannestig@lm.se
Contact person - substitute (if available):	Christina Wasström
Telephone number:	+46 26 63 34 12
Email address:	christina.wasstrom@lm.se

##### Role and responsibilities

Lantmäteriet (the Swedish mapping, cadastre and land registration authority) is the main provider of geographic and real property information in Sweden. Lantmäteriet is organised in four divisions each of which has its special area of responsibility;

- The Cadastral Services Division, which is responsible for the overarching management of activities related to real property formation and cadastral procedures.
- The Land Registration Division, which is responsible for checking registration transactions with regard to ownership, mortgages and other rights and charges and registering them in the Land Register section of the Real Property Register.
- The Land and Geographic Information Division, which is responsible for the generation, further development, management and distribution of geographic and land information. Standardisation work and R&D in geodesy, cartography and GIS is also carried out in the division.
- Metria, which is Lantmäteriet's Commercial Division and works on a competitive basis on the open market.

## 4.1.2 The coordination structure

### Name and contact information

<b>Coordinating structure supporting the MSCP</b>	
Name of the coordination structure:	Lantmäteriet (the Swedish mapping, cadastre and land registration authority)
Contact information:	Geodatasekretariatet
Mailing address:	SE-801 82 Gävle, Sweden
Telephone number:	+46 771-63 63 63
Telefax number:	+46 26-61 32 77
Email address:	Geodatasekretariatet@lm.se
Organisation's website URL:	www.geodata.se
Contact person (if available):	Ewa Rannestig
Telephone number:	+46 26-63 35 49
Email address:	ewa.rannestig@lm.se
Contact person - substitute (if available):	Christina Wasström
Telephone number:	+46 26 63 34 12
Email address:	christina.wasstrom@lm.se
Date and period of mandate:	June 2006 - until further notice

### Role and responsibilities

Lantmäteriet (The Swedish mapping, cadastre and land registration authority) holds the role as national coordinator of the geodata sector in Sweden (geographic and real property information). The responsibility includes issues of production, cooperation and development.

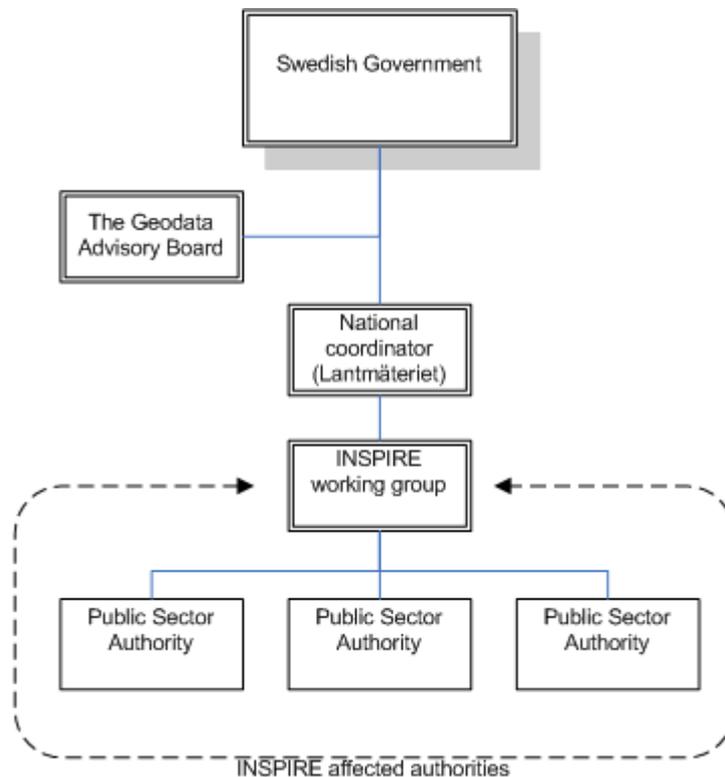
Lantmäteriet is also responsible the national strategy for the integrated provision of information in the geodata sector (the Geodata Strategy) and for coordination and support regarding the Swedish implementation of the EC-directive INSPIRE, and covers the Swedish interests within the area internationally.

The Swedish Government has appointed the Geodata Advisory Board to support Lantmäteriet's coordination responsibility. The advisory board participates in the work by initiating, planning, providing information about and seeking acceptance for and following up activities associated with the implementation of the INSPIRE and with the Geodata Strategy.

The Geodata Advisory Board has ten members besides the Director General of Lantmäteriet, who is the chairman. The other members are from the Swedish Environmental Protection Agency, the Geological Survey of Sweden (SGU), the Västra Götaland County Administrative Board, City of Stockholm, Swedish Association of Local Authorities and Regions, the Swedish National Road Administration, Swedish Development Council for Geographic Information (ULI), the Swedish Meteorological and Hydrological Institute (SMHI), the National Maritime Administration and the Swedish Armed Forces.

On the initiative of the Geodata Advisory Board, a working group for INSPIRE issues, made up of representatives from about 20 public sector authorities, has been formed. The representatives are from Swedish authorities having information obligations in accordance with the INSPIRE-directive. The working group is responsible for coordination of activities and issues related to the implementation of INSPIRE within the respective authorities.

## Organisation chart



## Relation with third parties

Swedish local authorities and regions are major producers and users of geodata. The data sharing arrangements and the technical infrastructure that will be created must be able to function together with local authority and regional solutions. The Swedish Association of Local Authorities and Regions' (SKL) is represented in the Geodata Advisory Board and the INSPIRE working group and actively participates in the preparation of different work packages devised to facilitate data sharing within the frame of the National Geodata Strategy.

The Geodata Advisory Board and the Swedish Standards Institute's (SIS) project area for geographic information, Stanli, has signed a letter of intent concerning standardisation within the framework of a Swedish geodata strategy and the implementation of INSPIRE. The principal aim of this agreement is to clarify respective roles concerning responsibility for standardisation, standards and associated means of assistance and services in connection with the creation of a national infrastructure in the geodata sector. A second aim is to minimise the risk for duplication of effort and competing solutions by establishing co-operation.

Private sector companies play an important role in the national provision of geodata and thereby contribute to its increased use in society. The aim of the National Geodata Strategy is to increase the growth and competitiveness of companies that provide geodata products and services. Thus, an important task is to increase understanding of how growth can be stimulated. The private sector is represented in the Geodata Advisory Board by the Swedish Development Council for Geographic Information (ULI), which is working for more efficient use of geographic information in Sweden.

## Overview of working practices and procedures

To realise the goals set up in the Geodata Strategy and the technical and activity-related implementation of the INSPIRE-directive, eight work packages have been identified within which work is focused in the development of a national infrastructure for geodata. Efforts must be made to, for example, create a common information structure, develop the technical infrastructure and make access to information via metadata possible. In addition, efforts must be made to improve the pre-conditions for coordination, necessary research and development and changes to the legal framework. Most of these work packages have been included in a common project – the Geodata Project.

A comprehensive communication programme has been carried out in accordance with the programme, aiming to gain acceptance for the Geodata Strategy and the Geodata Project, provide information about Lantmäteriet's role as coordinator and to stimulate interest for the work carried out within the eight work packages. Following should be mentioned:

- Personal contacts through members of the Geodata Advisory Board, members of the cooperating organisations and the Geodata Secretariat at Lantmäteriet. A communications plan has been followed for this purpose.
- Regular meetings with the INSPIRE working group to in order to coordinate activities and issues related to INSPIRE.
- Lectures and exhibitions at conferences and seminars, with the aim of providing information about INSPIRE and the Swedish Geodata Strategy, and the activities in connection with its implementation.
- Press releases and articles in technical and trade journals.
- Regularly updated information on the Internet via, amongst other channels, the Geodata Portal ([www.geodata.se](http://www.geodata.se)) and via newsletters and e-mails.
- Information about the Swedish Geodata Strategy in brochures in Swedish and English.
- Information folders about INSPIRE and the Geodata Project.

### 4.1.3 Comments on the monitoring and reporting process

In June 2006 the government gave Lantmäteriet, together with the Geodata Advisory Board, and in consultation with other affected public sector authorities and the Swedish Association of Local Authorities and Regions, the task of formulating the national strategy for the integrated provision of information in the geodata sector. The strategy was to be updated annually.

The first version of the strategy, with the title the Swedish Geodata Strategy, was submitted to the government on March 30th 2007 and revised versions followed on March 28th 2008 and on March 30th 2009 respectively. According to the Annual Appropriations Directions, Lantmäteriet had to present a report on how the work with INSPIRE and the Swedish Geodata Strategy had progressed by March 30th 2010. The content of this report is an extract from those documents.

The list of dataset and services that is part of the monitoring obligations has been compiled with the help of the authorities affected by INSPIRE. The basis is work carried out within the Inspire working group for the development of the new environmental information Act and ordinance, aiming at defining the roles and responsibilities for each affected authority within each Inspire theme. It is important to note that this list is preliminary awaiting the Act to come into force.

Another problem in this connection is that the involved authorities' work in this regard is dependent on the directive's implementation rules for annexes II and III. In order to be able to populate the list for annexes II and III, the authorities have been asked to identify plausible

datasets and services for future refinement, awaiting the adoption of relevant implementation rules.

A particular problem exists for the theme 3.7, Environmental Monitoring Facilities, whereby one of the plausible dataset reported consists of a large number of measuring points at which information about air, land and water is collected. Depending on the specification and implementation rule to be developed for this particular theme, this large dataset may be grouped and subdivided into a number of individual networks, based on specified grouping criteria's. Similar cases may be found also for other datasets reported.

Parallel to the population of the list of dataset and services to be brought in conformance with the INSPIRE specifications; a product catalogue is under development. The product catalogue list all datasets and products that will be provided through the data sharing mechanisms. The product catalogue is an important complement to the list of INSPIRE datasets and services as it contains data that, for different reasons, will not be brought in conformance with the INSPIRE specifications.

## **4.2 Quality Assurance (Art. 12.2.)**

### **4.2.1 Quality assurance procedures**

The work within the Geodata Advisory Board and by the INSPIRE working group ensures that the implementation of INSPIRE and the Geodata Strategy run as planned. Action plans have been established for the Geodata Strategy (encompassing also the implementation of INSPIRE) and the major producers of data has made up individual action plans for their respective obligations. The future maintenance of the National Geodataportal and the technical infrastructure (business model, license model, etc.) will be taken care of by a new administrative organisation within the Lantmäteriet. This new administrative organisation is expected to be in operation by January 2011.

### **4.2.2 Analysis of quality assurance problems**

As of the time for this report, and given the fact that most public authorities affected by the INSPIRE are still in the beginning of the process of identifying datasets, produce metadata and develop network services, no problems that need special attention have arisen.

### **4.2.3 Measures taken to improve the quality assurance**

In connection with the development of the Geodata Portal, a Swedish profile for the metadata standard, SS-ISO 19115, has been implemented. The profile describes the metadata elements that should be included (mandatory as well as a number of voluntary) in the Swedish Geodata Portal, and how these metadata should be described. The profile is based on the requirements that are given in the INSPIRE-directive and the implementation rules for Metadata. In addition, a number of metadata elements, which are considered to be important for Swedish purposes, have been added. In order to aid the affected authorities in the creation of metadata according to the profile, a metadata editor has been developed. Functionality for validation of up-loaded metadata information is included in the portal.

Another measure taken is the development of an environment for testing data specifications, datasets and services. The activities so far have been focused on evaluating proposed data specifications in accordance with Appendix I in the INSPIRE-directive. The test environment was established as a cooperative project involving the GIS cluster Future Position X (FPX), Gävle University and Lantmäteriet and with participation of a number of other parties. Testing activities will be extended to include testing of national standards, the service-based exchange of geodata and network services.

#### **4.2.4 Quality certification mechanisms**

Pending.

## 5 Functioning and coordination of the infrastructure (Art.13)

### 5.1 General overview description of the SDI

The Swedish Geodata Strategy is one stage in the Swedish implementation of the INSPIRE-directive and the development of a national spatial data infrastructure in Sweden. The strategy takes into account the requirements of the directive and is the common platform for Sweden's participation in European cooperation in the geodata sector.

The aim of the strategy is to encourage increased cooperation within the geodata sector by providing increased and clearer information as well as guidance to producers and users. Key principles for the Geodata Strategy are that it should contribute to the development of Swedish e-governance, support the development of the private sector and facilitate adaptation to new pre-conditions. It should be steered by consumer demands and be based on well-developed coordination between the different involved parties.

The vision for the Swedish Geodata Strategy is that organisations that manage and use geodata in their activities should:

- generate increased benefits for society based on inter-agency cooperation and at the lowest possible cost through the national geodata infrastructure;
- link together information resources in a network and make them available via uniformly designed services with descriptions of the information content;
- provide services to public sector administration, private sector companies and Swedish citizens and satisfy demands at local, regional, national, European and global levels.

### 5.2 INSPIRE Stakeholders

Main stakeholders are public sector authorities that will be affected by the INSPIRE-directive as being responsible for collection, management or dissemination of spatial data and services. The coming ordinance, which will regulate the implementation of INSPIRE, will identify the public sector authorities responsible for data and services within each INSPIRE theme.

Local authorities are major producers of high resolution data and the implementation of an infrastructure for spatial data will provide access to national datasets and services, as well as enhance cooperation in-between local authorities. The local authorities are invited to participate in the SDI on a voluntarily basis.

The Geodata strategy pinpoints the private sector as an important stakeholder from a user and service provider perspective. The private sector, for business purposes, has an interest in accessing harmonised data and services from a well known source, the Geodata portal.

### 5.3 Role of the various stakeholders

The public sector authorities that have a responsibility for providing data and services will be the core of the infrastructure. They are responsible for the collection, management and dissemination of spatial data and services of national interest.

Local authorities produce high resolution data that is compiled into national datasets by the public sector authorities. Local authorities are encouraged to participate in the data sharing.

The private sector is encouraged to add value to data and services by developing new products and services.

## **5.4 Measures taken to facilitate sharing**

The development of the environmental information Act and ordinance will create a legal framework for cooperation between public sector authorities and for handling information of common interest.

The development of the Geodata Portal as an entry point for spatial datasets and services will facilitate publishing of data and services by the public sector, local authority or any other stakeholder.

The development of the Swedish metadata profile has established the pre-conditions for the respective authorities to create metadata in a uniform way from both a national and European perspective.

## **5.5 Stakeholder cooperation**

Within the framework of the Geodata Project, Lantmäteriet has signed agreements concerning ways of cooperating with the Swedish Geological Survey, the Swedish Meteorological and Hydrological Institute, the National Maritime Administration, and the Swedish Armed Forces. In addition, letters of intention have been signed with the Swedish Association of Local Authorities and Regions, the forestry company, SCA Skog and a ULI's suppliers section, concerning future co-operation in the implementation of the Geodata Strategy.

A first working version (version 1.0) of the Geodata Portal has been completed. The Geodata Portal will be successively developed to offer increased functionality. The portal will also satisfy the requirements for data services laid down in the INSPIRE-directive and its implementation rules. In the first version of the portal, which is now available, priority has been given to search and retrieval functionality for metadata, but it is also possible to search, view and download geodata via different types of services. The demands that are placed on services as described in the INSPIRE implementation rules will steer future development work. In coming versions, the Portal's functionality will also be further developed so that instead of searching for individual sets of geodata it will be possible to search for data based on specific areas of use. A more fully developed portal technique, business model and administrative routines will be in operation in 2011.

The Geodata Portal is the heart of the cooperation, through which all data can be searched and accessed. The aim is to establish cooperation between the participating organisations via distributed solutions, where services are created and managed by the respective authorities. The services (and the geodata) can be accessed through an in-house application or via the common Portal. The most important function of the portal is to provide a good overview of data and services that are available and where they can be found. Part of the contents and functionality will lie in the common portal, whilst other parts will, wholly or partly, lie with the cooperating organisations.

## **5.6 Access to services through the INSPIRE Geoportal**

Pending. Emphasis has been put on the development of a national geoportal.

## **6 Usage of the infrastructure for spatial information (Art.14)**

### **6.1 Use of spatial data services in the SDI**

There is no information available for this reporting regarding the use of spatial data services in the SDI. Yet very few services are published in the Geodata Portal and information regarding the use of these services is scant.

### **6.2 Use of the spatial datasets**

There is no information available for this reporting regarding the use of the SDI by public authorities.

### **6.3 Use of the SDI by the general public**

There is no information available for this reporting regarding the use of the SDI by the general public.

### **6.4 Cross-border usage**

There is no information available for this reporting regarding cross-border usage and efforts made to improve cross-border consistency of spatial datasets.

### **6.5 Use of transformation services**

There is no information available for this reporting regarding the use of transformation services.

## **7 Data sharing arrangements (Art.15)**

### **7.1 Data sharing arrangements between public authorities**

A common business model for the geodata sector is under development within the Geodata Project. The model will be adapted to facilitate co-operation between the public and private sectors. Work with the model will include the development of a cooperation model which will describe organisation, division of responsibility and financing. It will also include agreements concerning carrying out the cooperation.

The business model will provide a structured description of how exchange and provision of geodata should be organised. This will include detailed information concerning: (i) what will be supplied i.e. which metadata, geodata and services will be made available via the Geodata Portal and by other means, and (ii) how this data and these services will be supplied i.e. the *functions* that the portal will have and a description of the *processes* – from connecting metadata, geodata and services as a data supplier, to searching for information, making agreements and obtaining delivery of data as a client.

### **7.2 Data sharing arrangements between public authorities and Community institutions and bodies**

Pending.

### **7.3 Barriers to the sharing and the actions taken to overcome them**

The requirement that public sector authorities should cooperate by giving access to each other's geodata is in conflict with current legal models for public sector activities, particularly in the case concerning activities related to the provision of information.

Some laws need to be changed: The Public Access to Information and Secrecy Act (2009:400), and the Real Property Register Act (2000:224). It may be necessary to change other national laws as well, once all implementing rules for datasets are adopted.

In this regard, the Swedish legislation for implementation of the INSPIRE-directive will result in a sound legal foundation for handling the most important cooperation issues.

## 8 Cost / Benefit aspects (Art.16)

### 8.1 Costs resulting from implementing INSPIRE Directive

A questionnaire was sent to those public sector authorities considered to be responsible for provision of information in accordance with INSPIRE. In the questionnaire the public sector authorities were asked to estimate roughly their need for financing for the period 2007-2020. The result of the estimations is presented in the table below. More exact figures should be available when the actual work has begun.

The Swedish government will also assign extra funds for the implementation of INSPIRE with approximately 5 million € a year over a three year period. These extra funds will be used for coordination tasks (appr. 3 million €) and for extra costs related to the development of meta-data and services for the themes in Annexes I and II (appr. 2 million €).

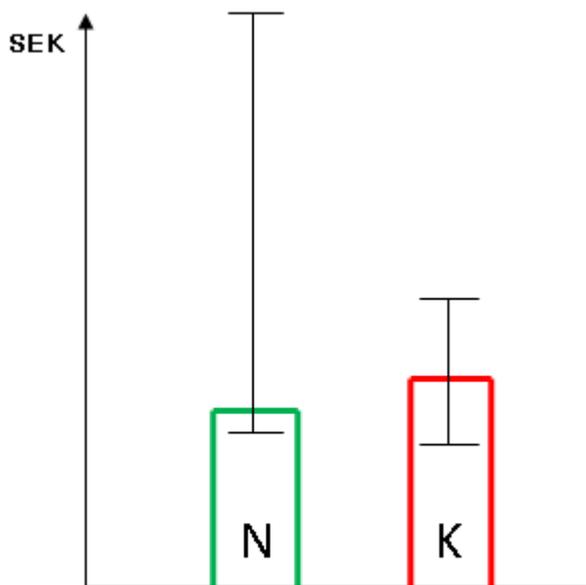
Topic	Total cost in million SEK during the period 2007-2020 (undiscounted)	Total cost in million SEK during the period 2007-2020 (present value 2008, discounted - interest = 4 %)	The number of public sector authorities responding
1. Produce and revise metadata for data and services	189	155	14
2. Harmonising/standardising data	323	258	14
3. Develop and maintain services for discovery-, view-, download-, transformation- and invoke-services.	289	233	13
4. The National Geodata Portal	54	44	11
5. Cooperation with other public sector authorities	62	51	12
6. Cooperation with public sector authorities in other countries	30	23	7
7. Human Resources Development	31	25	11
8. Monitoring and Reporting	29	22	11
9. Miscellaneous	29	23	7
<b>Total</b>	<b>1 036</b>	<b>834</b>	

### 8.2 Benefits observed

During 2008 the government gave Lantmäteriet, in consultation with the Swedish Environmental Protection Agency, the task of analysing and evaluating the consequences of the implementation of the INSPIRE-directive. A report was submitted to the government in November, containing a presentation of the national economic consequences of the benefits (= positive national economic consequences) and costs (=negative national economic

consequences) that would be the result of the implementation of INSPIRE. In the consequence analysis, benefits are compared with costs in a cost-benefit analysis.

Based on the results from the study, it is likely that the accumulated benefits of the implementation in Sweden of the INSPIRE-directive will exceed the total cost. This conclusion cannot, however, be scientifically proved at present, but it does seem plausible that more data would confirm the results. The figure below illustrates in principle the conclusions concerning the estimate of costs for and the benefits of the implementation of INSPIRE in Sweden. As can be seen from the figure, there is a considerable risk of underestimation concerning benefits whereas with regard to costs the risk for incorrect estimates (uncertainty) is both on the plus and minus side.



*The figure illustrates the conclusions from the cost/benefit analysis carried out (N = benefits, K = costs).*

## 9 Conclusions

The establishment of an infrastructure for geodata based on the INSPIRE and Geodata strategy will present many challenges and there will be a need for development both in the public sector administration and in the private sector. The development of these activities, development of competence and technical development should be done hand-in-hand with the support of an offensive R&D policy. An important key to success is that development takes place in stages and that the cooperating parties and the Geodata Advisory Board all work towards the same goal and continuously monitor the results of the work that has been carried out.

An important conclusion is that the timetable for implementation of the directive is rather tight. Relevant network services must have been established and metadata created during 2010 at the latest. The information produced by public sector authorities that is covered by the directive's Appendix I must have been adapted or be accessible by the use of transformation services during 2011 at the latest. A problem in this regard is that the involved authorities' work in this sector is dependent on the directive's implementation rules. In order to be able to follow the timetable the authorities will presumably need to begin the work before the implementation rules have been adopted.

In order to be able to take preparatory measures with regard to the respective authorities' obligations, which will follow the implementation of INSPIRE and which are described in the action plan, there is a need for authority-related working plans. These plans should contain a description of the different activities that will be implemented, the latest date for their implementation and where responsibility for the implementation lies in the authority. As some of the dates in the time table for the implementation of INSPIRE are preliminary it is important that the working plans are regularly updated.

## 10 Annexes

### 10.1 List of organisations – names and contact details

- Energimyndigheten – Swedish Energy Agency, P.O. Box 310, SE-631 04 ESKILSTUNA, Sweden, Phone: +46 16 544 2000, E-mail: [registrator@energimyndigheten.se](mailto:registrator@energimyndigheten.se), URL: [www.energimyndigheten.se](http://www.energimyndigheten.se)
- Fiskeriverket – Swedish Board of Fisheries, P.O. Box 423, SE-401 26 GÖTEBORG, Sweden, Phone: +46 31 743 03 00, E-mail: [fiskeriverket@fiskeriverket.se](mailto:fiskeriverket@fiskeriverket.se), URL: [www.fiskeriverket.se](http://www.fiskeriverket.se)
- Future Position X – Future Position X, P.O. Box 975, SE- 801 33 GÄVLE, Sweden, Phone: +46 26 61 44 00, E-mail: [info@fpx.se](mailto:info@fpx.se), URL: [www.fpx.se](http://www.fpx.se)
- Försäkringskassan – National Social Insurance Administration, SE- 103 51 STOCKHOLM, Phone: +46 8 786 90 000, E-mail: [huvudkontoret@forsakringskassan.se](mailto:huvudkontoret@forsakringskassan.se), URL: [www.forsakringskassan.se](http://www.forsakringskassan.se)
- Försvarmakten – Swedish Armed Forces, SE-107 85 STOCKHOLM, Phone: +46 8 788 75 00, E-mail: [exp-hkv@mil.se](mailto:exp-hkv@mil.se), URL: [www.forsvarsmakten.se](http://www.forsvarsmakten.se)
- Jordbruksverket – Swedish Board of Agriculture, SE-551 82 JÖNKÖPING, Sweden, Phone: +46 771 223 223, E-mail: [jordbruksverket@jordbruksverket.se](mailto:jordbruksverket@jordbruksverket.se), URL: [www.jordbruksverket.se](http://www.jordbruksverket.se)
- Länsstyrelserna – the County Administrative Boards, URL: [www.lst.se](http://www.lst.se)
- Lantmäteriet – the Swedish mapping, cadastre and land registration authority, SE-801 82 GÄVLE, Sweden, Phone: +46 771-63 63 63, E-mail: [kundcenter@lm.se](mailto:kundcenter@lm.se), URL: [www.lantmateriet.se](http://www.lantmateriet.se)
- Luftfartsverket – Civil Aviation Authority, SE-60179 NORRKÖPING, Phone: SE-60179 NORRKÖPING, E-mail: [lfv@lfv.se](mailto:lfv@lfv.se), URL: [www.lfv.se](http://www.lfv.se)
- Myndigheten för samhällsskydd och beredskap – Swedish Civil Contingencies Agency, SE-651 81 KARLSTAD, Phone: +46 771-240 240, E-mail: [registrator@msb.se](mailto:registrator@msb.se), URL: [www.msb.se](http://www.msb.se)
- Naturvårdsverket – Swedish Environmental Protection Agency, SE-106 48 STOCKHOLM, Sweden, Phone: +46 8 698 10 00, E-mail: [registrator@naturvardsverket.se](mailto:registrator@naturvardsverket.se), URL: [www.naturvardsverket.se](http://www.naturvardsverket.se)
- Riksantikvarieämbetet – Swedish National Heritage Board, P.O. Box 5405, SE-114 84 STOCKHOLM, Phone: +46 (0)8-5191 8000, E-mail: [riksant@raa.se](mailto:riksant@raa.se), URL: [www.raa.se](http://www.raa.se)
- SCA Skog AB – SCA, SE-851 88 SUNDSVALL, Sweden, Phone: +46 60 19 30 00, E-mail: [info.skog@sca.com](mailto:info.skog@sca.com), URL: [www.sca.com](http://www.sca.com)
- Swedish Standards Institute – Swedish Standards Institute, SE-118 80 STOCKHOLM, Sweden, E-mail: [info@sis.se](mailto:info@sis.se), URL: [www.sis.se](http://www.sis.se)
- Statistiska centralbyrån – Statistics Sweden, P.O. Box 24300, SE-104 51 STOCKHOLM, Phone: +46 8 506 940 00, E-mail: [scb@scb.se](mailto:scb@scb.se), URL: [www.scb.se](http://www.scb.se)
- Statens geotekniska institut – Swedish Geotechnical Institute, SE-581 93 LINKÖPING, Phone: +46 13 20 18 00, E-mail: [sgi@swedgeo.se](mailto:sgi@swedgeo.se), URL: [www.swedgeo.se](http://www.swedgeo.se)
- Sveriges geologiska undersökning – Geological Survey of Sweden, P.O. Box 670, SE-751 28 UPPSALA, Phone: +46 18 17 90 00, E-mail: [squ@squ.se](mailto:squ@squ.se), URL: [www.squ.se](http://www.squ.se)

- Sjöfartsverket – Swedish Maritime Administration, SE-601 78 NORRKÖPING, Phone: +46 11 10 19 49, E-mail: [hk@sjofartsverket.se](mailto:hk@sjofartsverket.se), URL: [www.sjofartsverket.se](http://www.sjofartsverket.se)
- Sveriges Kommuner och Landsting – Swedish Association of Local Authorities and Regions, SE-118 82 STOCKHOLM, Phone: +46 8 452 70 00, E-mail: [info@skl.se](mailto:info@skl.se), URL: [www.skl.se](http://www.skl.se)
- Skogsstyrelsen – Swedish Forest Agency, SE-551 83 JÖNKÖPING, Phone: +46 36 35 93 00, E-mail: [skogsstyrelsen@skogsstyrelsen.se](mailto:skogsstyrelsen@skogsstyrelsen.se), URL: [www.skogsstyrelsen.se](http://www.skogsstyrelsen.se)
- Skolverket – National Agency for Education, SE-106 20 STOCKHOLM, Phone: +46 8 527 332 00, E-mail: [skolverket@skolverket.se](mailto:skolverket@skolverket.se), URL: [www.skolverket.se](http://www.skolverket.se)
- Sveriges lantbruksuniversitet – Swedish University of Agricultural Sciences, P.O. Box 7070, SE-750 07 UPPSALA, Phone: +46 18 67 10 00, E-mail: [registrator@slu.se](mailto:registrator@slu.se), URL: [www.slu.se](http://www.slu.se)
- Sveriges Meteorologiska och Hydrologiska Institut – Swedish Meteorological and Hydrological Institute, SE-601 76 NORRKÖPING, Phone: +46 11 495 80 00, E-mail: [smhi@smhi.se](mailto:smhi@smhi.se), URL: [www.smhi.se](http://www.smhi.se)
- Stockholms stad – City of Stockholm, SE-105 35 STOCKHOLM, Phone: +46 8 508 29 000, E-mail: [kommunstyrelsen@stockholm.se](mailto:kommunstyrelsen@stockholm.se), URL: [www.stockholm.se](http://www.stockholm.se)
- Socialstyrelsen – National Board of Health and Welfare, SE-106 30 STOCKHOLM, Phone: +46 75 247 30 00, E-mail: [socialstyrelsen@socialstyrelsen.se](mailto:socialstyrelsen@socialstyrelsen.se), URL: [www.socialstyrelsen.se](http://www.socialstyrelsen.se)
- Trafikverket – Swedish Transport Administration, SE-781 89 BORLÄNGE, Phone: +46 771 921 921, E-mail: [trafikverket@trafikverket.se](mailto:trafikverket@trafikverket.se), URL: [www.trafikverket.se](http://www.trafikverket.se)
- Transportstyrelsen – Swedish Transport Agency, SE-601 73 NORRKÖPING, Phone: +46 771 503 503, E-mail: web form, URL: [www.transportstyrelsen.se](http://www.transportstyrelsen.se)
- Utvecklingsrådet för Landskapsinformation – Swedish Development Council for Geographic Information, P.O. Box 415, 101 28 STOCKHOLM, Phone: +46 8 613 08 16, E-mail: [uli@uli.se](mailto:uli@uli.se), URL: [www.geoforum.se](http://www.geoforum.se)
- Valmyndigheten – Swedish Election Authority, P.O. Box 4210, 171 04 SOLNA, Phone: +46 8 635 69 00, E-mail: [valet@val.se](mailto:valet@val.se), URL: [www.val.se](http://www.val.se)

## 10.2 List of references for the compilation of the report

Geodatasekretariatet, 2007; Nationell Geodatastrategi, Dnr. 505-2007/36, 52 pp.

Geodatasekretariatet, 2008; A National Geodata Strategy 2008, LMV-report 2008:1, ISSN 280-5731, 48 pp.

Geodatasekretariatet, 2009; Kostnads- nyttoanalys för Inspire-direktivet, Dnr. 505-2008/513, 61 pp.

Geodatasekretariatet, 2009; The Swedish Geodata Strategy 2009, LMV-report 2009:3, ISSN 280-5731, 50 pp.

Geodatasekretariatet, 2010; Förslag verksamhetsmodell för geodatasamverkan, Dnr. 505-2008/173, 26 pp.

Geodatasekretariatet, 2010; Nationell Geodatastrategi – Statusrapport 2010, Dnr. 505-2010/841, 32 pp.