



# Status of implementation of the INSPIRE Directive – 2016 Country Fiches

## COUNTRY FICHE Sweden

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### Introduction

The INSPIRE Directive sets the minimum conditions for interoperable sharing and exchange of spatial data across Europe as part of a larger European Interoperability Framework and the e-Government Action Plan that contributes to the Digital Single Market Agenda. Article 21 of [INSPIRE Directive](#) defines the basic principles for monitoring and reporting. More detailed implementing rules regarding INSPIRE monitoring and reporting have been adopted as [COMMISSION DECISION regarding INSPIRE monitoring and reporting](#) on the 5th of June 2009.

This country fiche highlights the progress of Sweden in the various areas of INSPIRE implementation and presents an outlook of planned actions for further improvement of the INSPIRE implementation. The country fiche includes information **until May 2016** as a summary of the information acquired through:

- the 2016 [tri-annual INSPIRE implementation report](#),
- [monitoring report](#) in May 2016,

- a [bilateral meeting](#) on the implementation of the INSPIRE Directive between the Commission and Sweden representatives.

## 1. State of Play

A high-level view on the governance, use and impact of the INSPIRE Directive in Sweden. More detailed information is available on the [INSPIRE knowledge base](#).

The content of the chapter is tagged according to 5 criteria of better regulation:

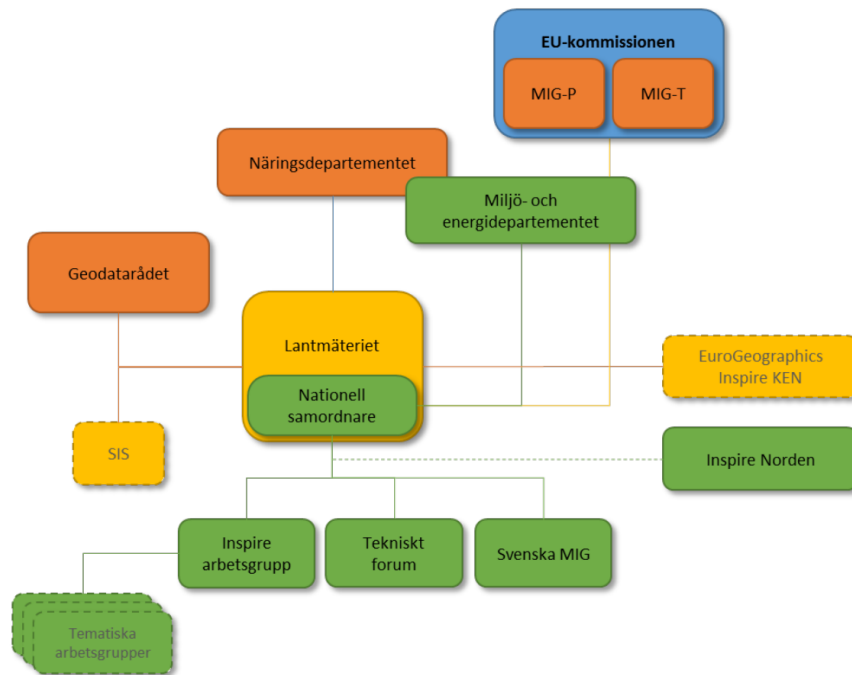
- **[Effectiveness]** How successful has the INSPIRE implementation been in achieving, progressing towards its objectives; progress made, gaps, what factors have influenced or why it has not yet been achieved regarding availability of services, data interoperability, sharing, data policy obstacles
- **[Efficiency]** Costs (numbers or difficulties to evaluate them); benefits (qualitative or quantitative) already visible.
- **[Relevance]** Is it still relevant to make data interoperable, remove obstacles of data sharing, drive collaboration between public services, necessary for National SDI, use cross-sector, requested by eGovernment, modernisation of public admin, etc.; support given by National Institutions for implementation
- **[Coherence]** Internal coherence of INSPIRE provisions proved by implementation; cross-border applications; coherence with other National and EU policies
- **[EU-added value]** Improvement of EU cross-border data management and use; use for environmental monitoring and reporting, use for and with Copernicus data; use cross-sector.

### 1.1 Coordination

- National Contact point

Name of public authority	Lantmäteriet
Contact point	Geodatasekretariatet
Mailing address	SE-801 82 Gävle, Sweden
Telephone number	+46 771 63 63 63
Fax number	+46 26 61 32 77
E-mail	geodatasekretariatet@lm.se
Website address	<a href="http://www.lantmateriet.se">http://www.lantmateriet.se</a> , <a href="https://www.geodata.se">https://www.geodata.se</a>
Contact person	Christina Wasström
Telephone number	+46 26 63 34 12
E-mail	<a href="mailto:christina.wasstrom@lm.se">christina.wasstrom@lm.se</a>
Contact person substitute	Anders Rydén
Telephone number	+46 26 63 33 40
E-mail	<a href="mailto:anders.o.ryden@lm.se">anders.o.ryden@lm.se</a>

- Coordination Structure



- The national implementation of the INSPIRE Directive is coordinated centrally by Lantmäteriet which belongs to The Ministry of Enterprise and Innovation (Näringsdepartementet) and supported by the Geodata Council (Geodatarådet). Lantmäteriet is also represented in the MIG-P as well as in the INSPIRE committee. **[Effectiveness]**
- The Ministry for Environment and Energy (Miljö- och energidepartementet) is responsible for the implementation of the INSPIRE Directive in Sweden and is represented in the MIG-P as well as in the INSPIRE committee. **[Relevance] [Coherence]**

## 1.2 Functioning and coordination of the infrastructure

- The Swedish Geodata infrastructure has a wider scope than only the environmental sector and also caters for needs from the transport, spatial planning and emergency response sectors. **[Relevance]**
- The Swedish Geodata infrastructure is regulated by Swedish law (2010:1767) and regulation (2010:1770) regarding spatial environmental information **[Effectiveness]**
- Geodata strategy– a first version developed in 2007 and a second version in 2012 – supports implementation of the INSPIRE Directive in Sweden. A third version of the strategy is expected by June 2016. **[Coherence]**
- Further information available through the Swedish geoportal, <https://www.geodata.se>.

## 1.3 Usage of the infrastructure for spatial information

- Strong increase in the overall service requests; in particular the requests on the geo portal and the download service requests have increased significantly **[Efficiency] [Relevance]**
- Nordic countries cooperate and coordinate in an informal network (INSPIRE Norden) which focus on cross-border activities and exchange of knowledge regarding the implementation of INSPIRE in respective country. .

## 1.4 Data Sharing Arrangements

- Geodata cooperation (Geodatasamverkan) is a data sharing mechanism among Swedish public authorities. Within the cooperation public authorities can sign a data sharing agreement (yearly membership fee) giving them access to a wide range of spatial data from other public authorities. Lantmäteriet acts as coordinator of the cooperation model. At end of 2015, in total 248 organisations had joined the Geodata cooperation.

- Legal acts (e.g. on the protection of spatial data, integrity and secrecy) to some extent constraints the sharing of data among public authorities and the public.

### 1.5 Costs and Benefits

- No progress in accessing costs for INSPIRE implementation since 2012 (reflected in 2013 country report) **[Efficiency]**
- Study about quantification of benefits by Swedish spatial data infrastructure developed in 2014; Study lists direct benefits by result and sector including a quantification of the benefit. **[Efficiency]**
- Added-value is expected from further integration of INSPIRE in the environmental reporting **[EU-added value]**

## 2 Key Facts and Figures

In addition to the above mentioned issues, the implementation of INSPIRE Directive requires Member States to take four main steps in relation to management of spatial datasets which fall under the Directive:

- Step 1: Identify spatial datasets
- Step 2: Document these datasets (metadata)
- Step 3: Provide services for identified spatial datasets (discovery, view, download)
- Step 4: Make spatial datasets interoperable by aligning them with the common data models.

The key facts and figures presented in this country fiche are based on the information provided by Sweden on the [INSPIRE dashboard](#). **The provided statistics is not reflecting the data available on [INSPIRE geoportal](#).** The INSPIRE geoportal is updated on a regular and ongoing basis, whilst the INSPIRE dashboard is typically updated after every reporting round, on a yearly basis.

The conformity of the implementation is assessed against the full set of legal specifications set out by the Directive and the Implementing Rules and the commonly agreed good practices set out by the technical guidelines.

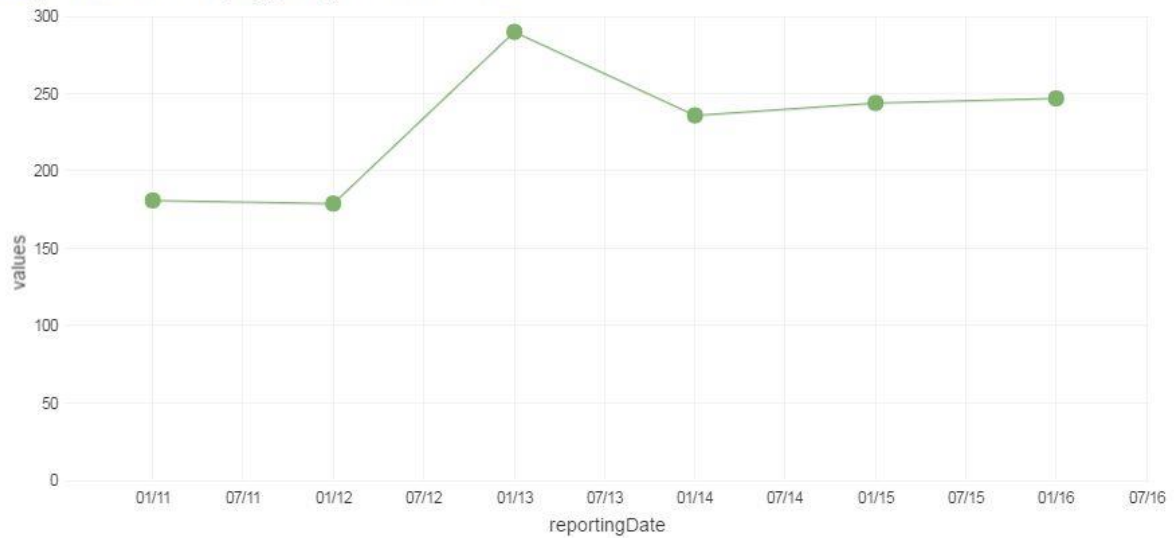
## 2.1. Identification of spatial data with relevance to the environment (step 1)

### a. Evolution of the data offering

DSv\_Num: number of spatial data sets for all Annexes

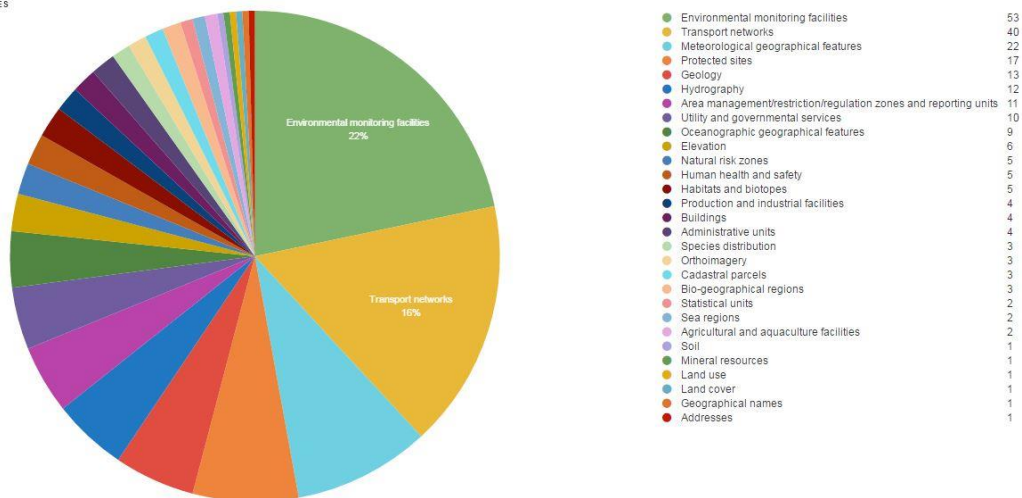
NUMBER OF SPATIAL DATA SETS FOR ALL ANNEXES (DSV\_NUM)

(6) indicatorValue values per 1y | (6 Hits) | Time correction: browser



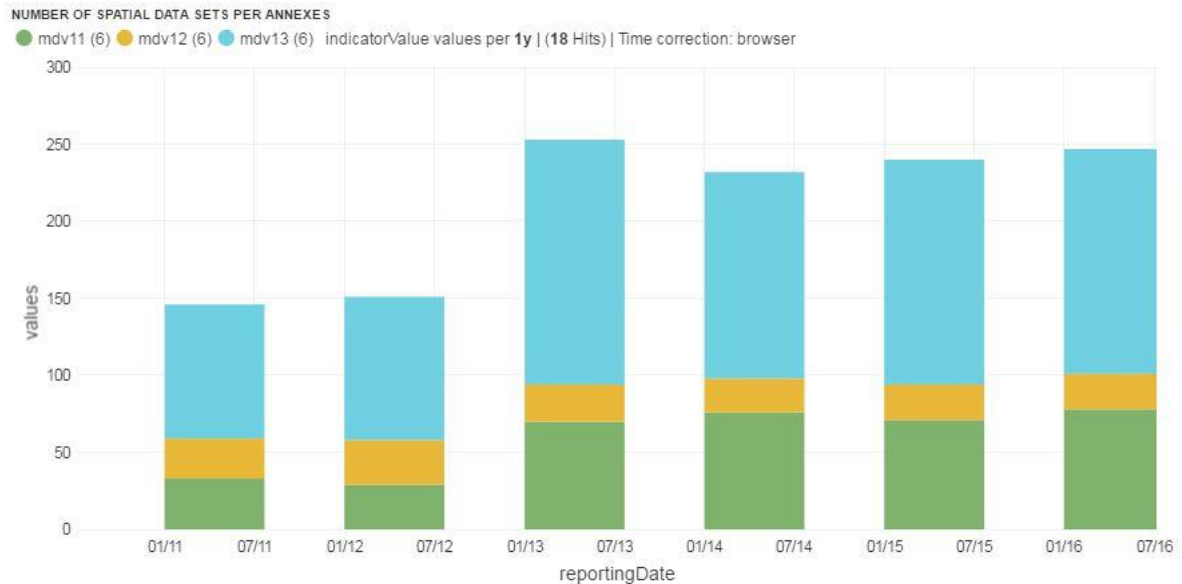
### b. Data sets made available per INSPIRE theme in 2015

NUMBER OF RECORD PER THEMES



*c. Data sets per annex (Annex 1 & 2: spatial reference data; Annex 3: environmental spatial data)*

MDv1.1 (green): number of spatial data sets for Annex I that have metadata  
 MDv1.2 (yellow): number of spatial data sets for Annex II that have metadata  
 MDv1.3 (blue): number of spatial data sets for Annex III that have metadata



**Evaluation of progress for step 1:**

**Sweden has identified a total of 247 spatial data sets with relation to the themes listed in the INSPIRE annexes.**

Further improvement is expected by identifying and documenting spatial data sets required under the existing reporting and monitoring regulations of EU environmental law.

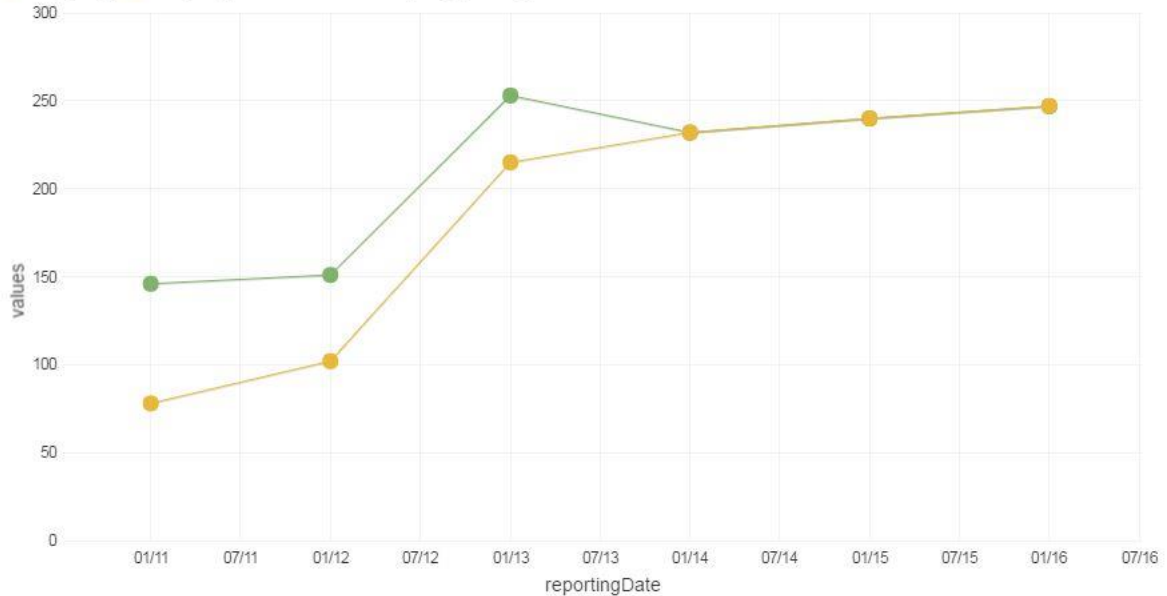
## 2.2 Documentation of the data (metadata) (step 2)

### a. Evolution of documented data and conformity of the documentation

MDv1\_DS (green): number of spatial data sets for all Annexes that have metadata

MDv2\_DS (yellow): number of spatial data sets for all Annexes that have conformant metadata

NUMBER OF SPATIAL DATA SET THAT HAVE METADATA (MDV1\_DS) AND HAVE CONFORMANT METADATA (MDV2\_DS)  
● mdv1\_ds (6) ● mdv2\_ds (6) indicatorValue values per 1y | (12 Hits) | Time correction: browser



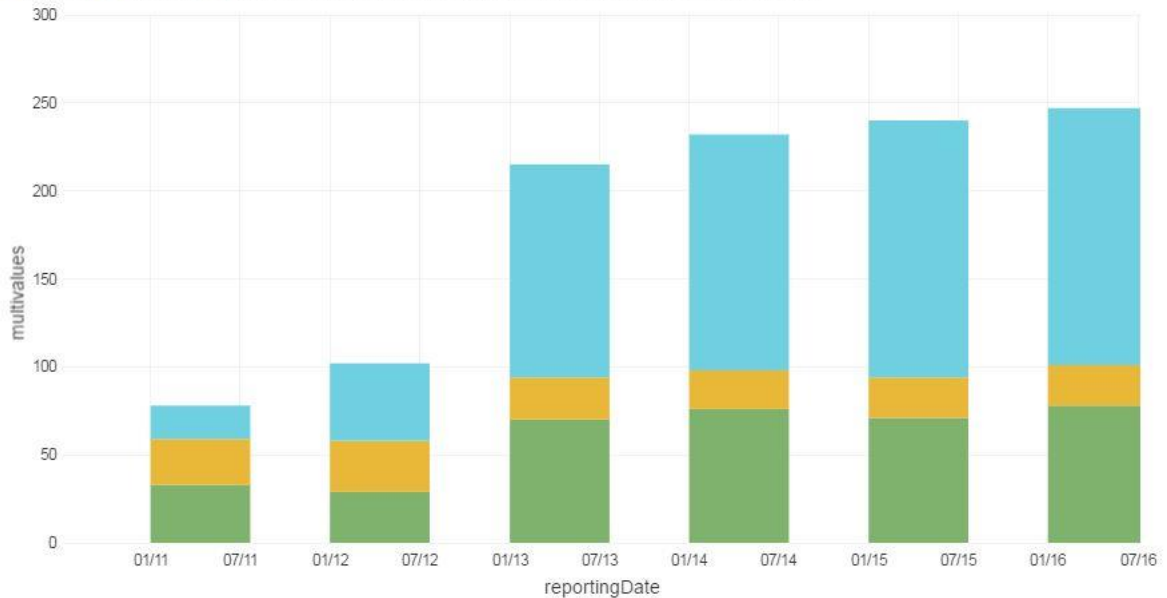
### b. Documented data per annex in 2015

MDv2.1 (green): number of spatial data sets for Annex I that have conformant metadata

MDv2.2 (yellow): number of spatial data sets for Annex II that have conformant metadata

MDv2.3 (blue): number of spatial data sets for Annex III that have conformant metadata

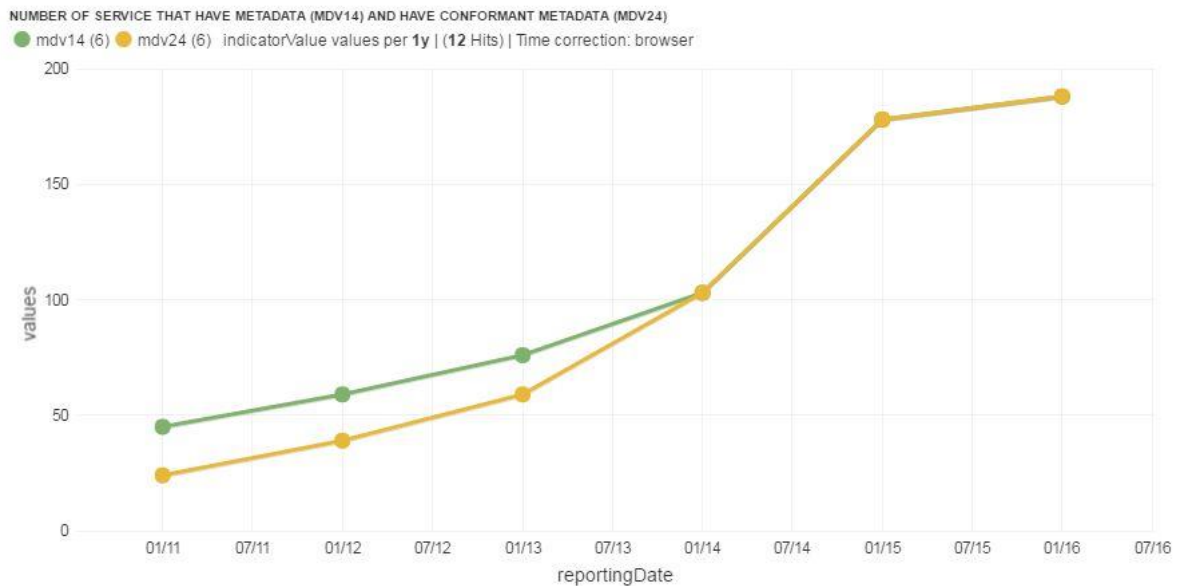
NUMBER OF SPATIAL DATA SETS THAT HAVE CONFORMANT METADATA PER ANNEXES  
● mdv21 (6) ● mdv22 (6) ● mdv23 (6) indicatorValue multivalues per 1y | (18 Hits) | Time correction: browser



### c. Evolution of documented services and conformity of the documentation

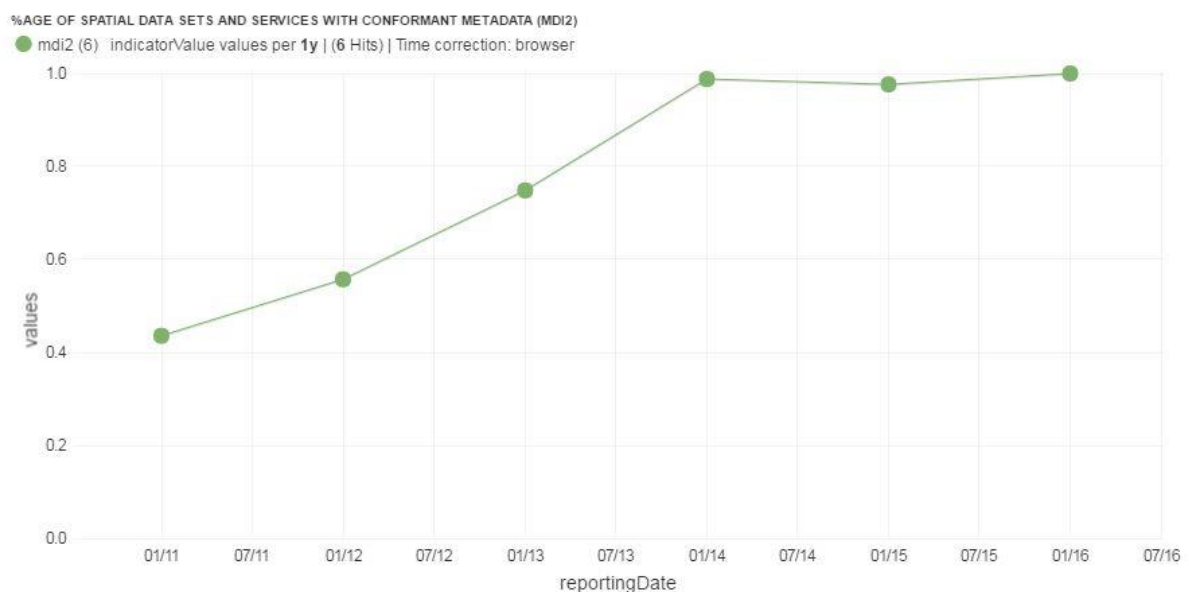
MDv1.4 (green): number of spatial data services that have metadata

MDv2.4 (yellow): number of spatial data services that have conformant metadata



### d. Evolution of the overall conformity of the documented metadata

$MDi2 = (\text{number of spatial data sets for all Annexes that have conformant metadata} + \text{number of spatial data services that have conformant metadata}) / (\text{number of spatial data sets for all Annexes} + \text{number of spatial data services})$



#### Evaluation of progress for step 2:

Sweden has documented and published metadata through a digital discovery service for 100% of the identified spatial data sets and 100% (188) of the digital services. Overall, 100% of the Sweden metadata conforms to the INSPIRE metadata specifications.

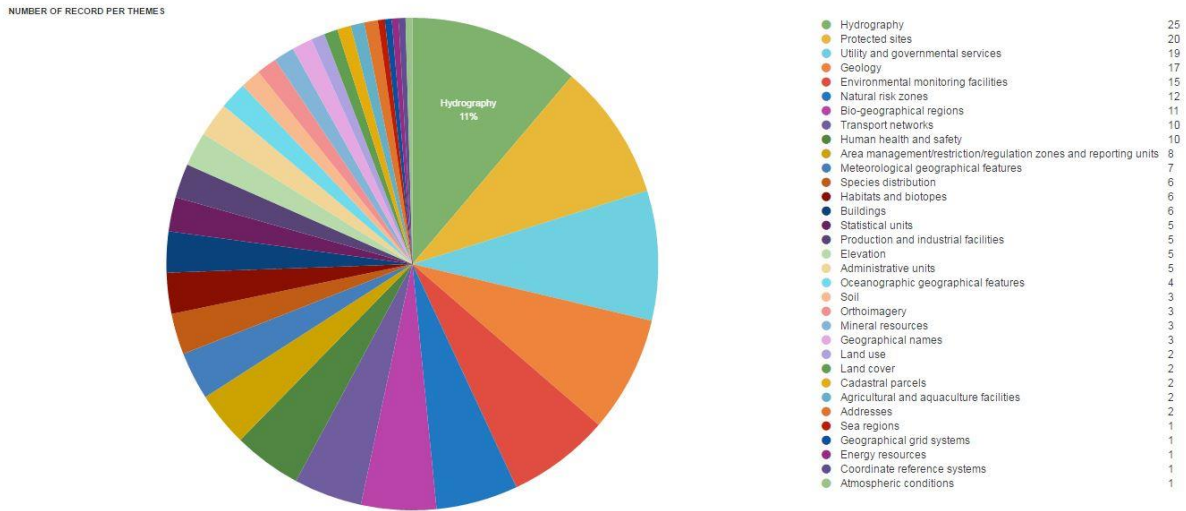
It shows a very high level of maturity.



## 2.3. Accessibility of the data through digital services (step 3)

### a. Digitally accessible spatial data per INSPIRE theme in 2015

Note: This figure reflects the amount of spatial data sets made available through a digital service, not the amount of available digital services. A digital service can make several spatial data sets available.



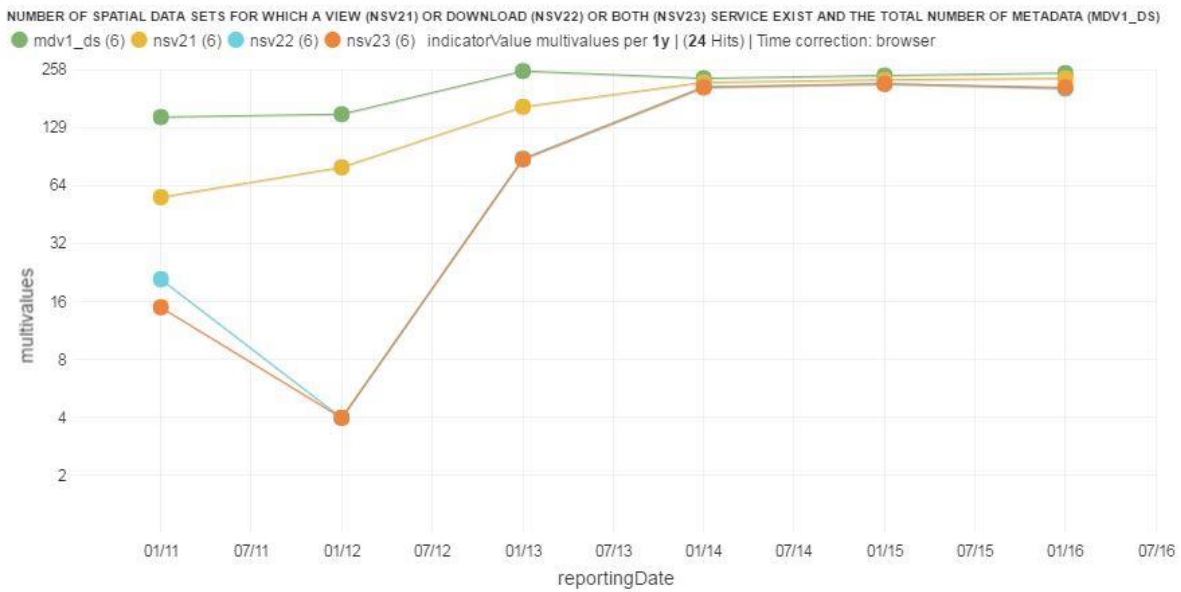
### b. Evolution of spatial data made accessible through digital services

MDv1\_DS (green): number of spatial data sets for all Annexes that have metadata

NSv2.1 yellow): number of spatial data sets for which a view service exists

NSv2.2 (blue): number of spatial data sets for which a download service exists

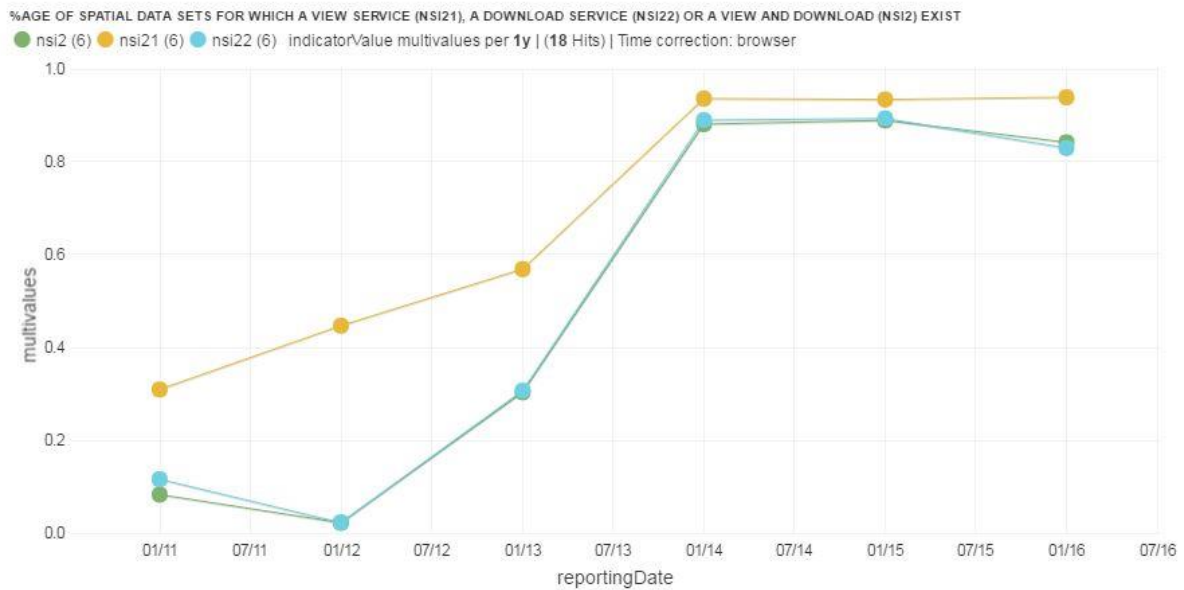
NSv2.3 (orange): number of spatial data sets for which both a view and a download service exists



NSi2 (green) = number of spatial data sets for which both a view and a download service exists / number of spatial data sets for all Annexes

NSi2.1 (yellow) = number of spatial data sets for which a view service exists / number of spatial data sets for all Annexes

NSi2.2 (blue) = number of spatial data sets for which a download service exists / number of spatial data sets for all Annexes



### c. Evolution of the conformity of the digital services

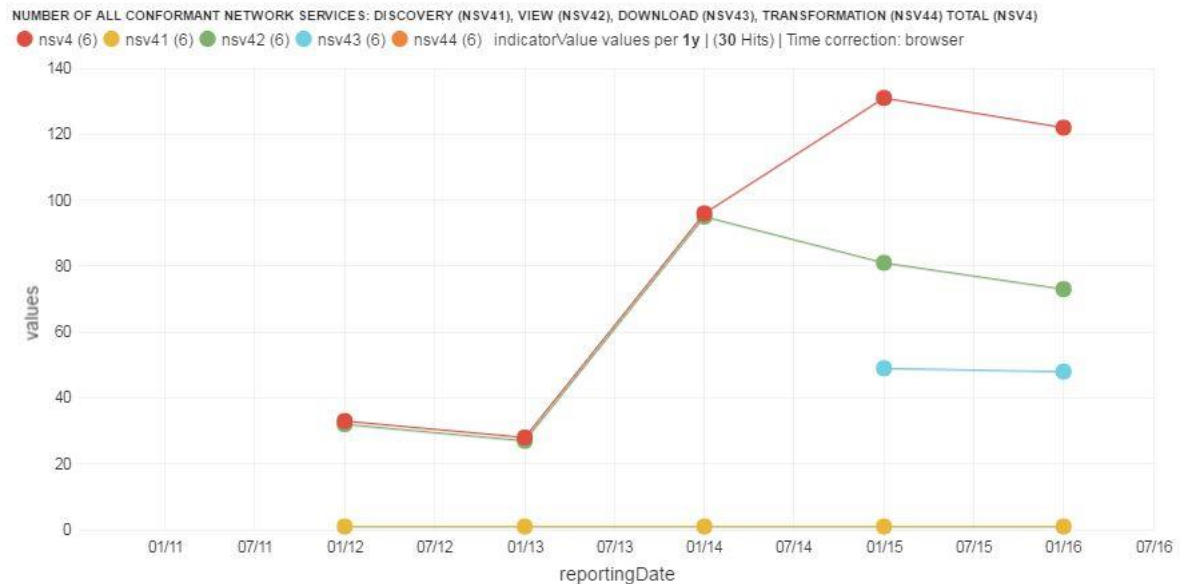
NSv4 (red): number of all conformant network services

NSv4.1 (yellow): number of conformant discovery network services

NSv4.2 (green): number of conformant view network services

NSv4.3 (blue): number of conformant download network services

NSv4.4 (orange): number of conformant transformation network services



### Evaluation of progress for step 3:

Sweden has:

- 93,92% of its data sets accessible for viewing through a view service;
- 82,99% of its data sets accessible for download through a download service.

**High number of the available digital services are conform to the INSPIRE network service specifications (64,89%).**

Sweden shows that it has built the necessary capacity and competences to make data accessible through digital INSPIRE network services. The technical conformity of the available services with the INSPIRE network service specifications is high but could be further improved.

#### 2.4. Interoperability of spatial data sets (step 4)

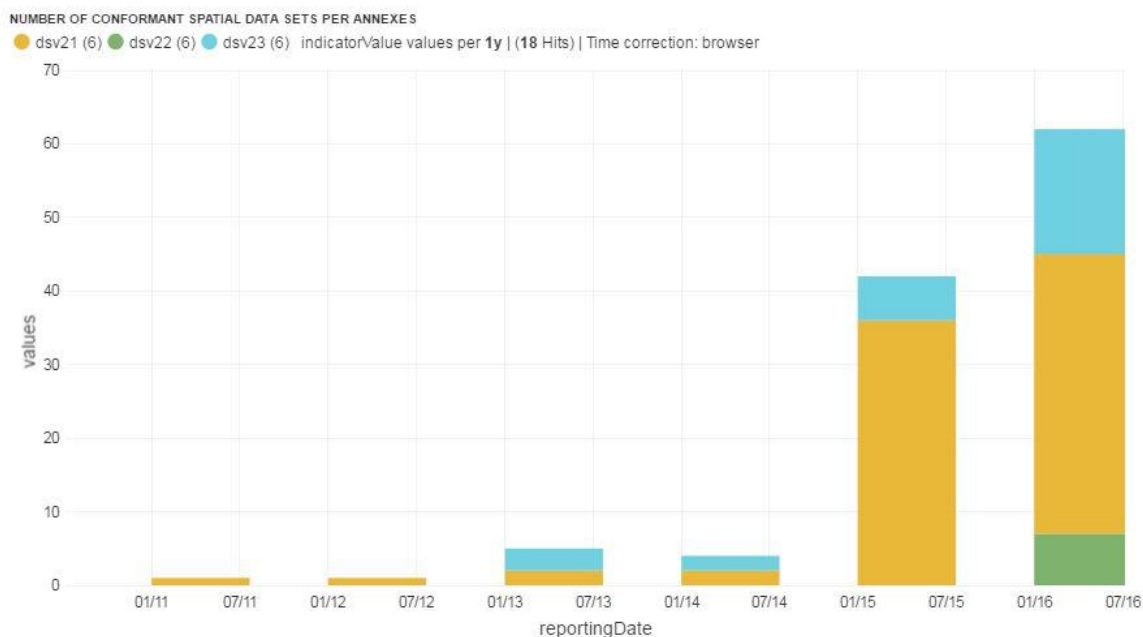
The interoperability of spatial data sets is an outlook on the readiness of Member States to make their spatial data interoperable according to the interoperability specifications laid down in the INSPIRE interoperability implementing regulation ([Commission Regulation \(EU\) No 1089/2010](#)). The deadlines for implementation of the spatial data interoperability are in the future: 23/11/2017 for Annex I data and 21/10/2020 for Annex II and III data.

##### *a. Evolution of the conformity with INSPIRE interoperability specifications for spatial data*

DSv2.1 (yellow): number of conformant spatial data sets with conformant metadata for Annex I

DSv2.2 (green): number of conformant spatial data sets with conformant metadata for Annex II

DSv2.3 (blue): number of conformant spatial data sets with conformant metadata for Annex III



#### **Evaluation of progress for step 4:**

**Sweden has reported 62 data sets to be conform to the INSPIRE interoperability specifications in 2015.**

We can conclude that Sweden started its preparations for the 2017/2020 data interoperability deadlines. Very big progress could be seen in period 2015 to 2016.

### 3. Outlook

Sweden has reviewed their INSPIRE implementation and provided an [action plan](#) in 2016 to remediate existing implementation issues and further improve the overall conformity of the implementation.

#### *a. Coordination (1.1; 1.2)*

- The NSDI coordinator in Sweden will work towards strengthening cooperation with relevant reporting authorities in order to initiate identification of, and making available, prioritised datasets “as-is”.
- Identification of relevant contact persons for each reporting directive listed by the Commission in the “prioritised datasets” list and, engaging them in the work of making these data available.
- Together with relevant contact persons, identify spatial datasets required as reporting obligations by the listed directives, including identification of relevant INSPIRE theme and the potential application schema the data should be transformed to.

#### *b. Data sharing and exchange (1.4)*

- **No actions are deemed necessary.**

#### *c. Metadata (2.2)*

- Sweden has an on-going metadata maintenance programme involving monthly cross-checks with the results of the validation tool administered by the Commission. All technical as well as quality issues with regards to the correspondence of the results between the Swedish validation and the validation administered by the Commission is continuously addressed, both nationally and in dialogue with the team working on the EU geoportal. **No further actions are deemed necessary.**
- Production and publishing of metadata for respective identified dataset (see a. Coordination)

#### *d. Network services (2.3)*

- **Identification and assessment of existing implementing gaps** in Sweden, based on the 2016 INSPIRE report and a self-assessment carried out by each authority
- **Communication/discussion with each authority** on “their” implementing gaps and an assessment on how these gaps can be rectified
- **Development of individual, authority based**, action plans for rectification of identified implementing gaps
- Development of view and download services for respective identified dataset (see a. Coordination)

#### *e. Data Interoperability (2.4)*

- Swedish authorities have their own action plans with regards to harmonisation of the datasets within the scope of INSPIRE. There are no indications that the responsible authorities will not be able to meet these dead-lines. **No further actions are considered at this point of time.**
- Harmonisation of respective identified dataset (see a. Coordination)

#### 4. Summary - How is Country doing?

INSPIRE key obligation	Overall implementation status and trend	Outlook	<p align="center"><b>Dashboard Legend</b></p> <p><b>Implementation Status:</b></p> <p>😊: implementation of this provision is well advanced or (nearly) completed. Outstanding issues are minor and can be addressed easily.</p> <p>😐: implementation of this provision has started and made some progress but is still far from being complete. Outstanding issues are significant and need to be addressed to ensure that the objectives of the legislation can still be reached by 2020.</p> <p>😞: implementation of this provision is falling significantly behind or has not even started. Serious efforts are necessary to close implementation gap.</p> <p><b>Trend:</b></p> <p>↗️: the trend of the implementation is positive.</p> <p>➡️: the trend of the implementation is neutral.</p> <p>↘️: the trend of the implementation is negative.</p> <p><b>Outlook:</b></p> <p>🟢: clear and targeted actions have been identified which allow reaching the objectives of the legislation in an effective way.</p> <p>🟡: No real progress has been made in the recent past or actions which have been identified are not clear and targeted enough to predict a more positive outlook.</p> <p>🔴: no actions have been identified to overcome identified implementation gaps.</p>
Ensure effective coordination	😊 ↗️	🟢	
Data sharing without obstacles	😊 ↗️	🟢	
Step 1: Identify spatial datasets	😊 ↗️		
Step 2: Document datasets (metadata)	😊 ↗️	🟢	
Step 3: Provide services for identified spatial datasets (discovery, view, download)	😐 ↗️	🟢	
Step 4: Make spatial datasets interoperable by aligning them with the common data models.	😐 ↗️	🟡	

### Specific recommendations:

For each Member State, the accessibility of environmental data (based on what the INSPIRE Directive envisages) as well as data-sharing policies have been systematically reviewed.

Sweden has indicated in the 3-yearly INSPIRE implementation report that the necessary data-sharing policies allowing access and use of spatial data by national administrations, other Member States' administrations and EU institutions without procedural obstacles are available and implemented. Sweden has currently no common digital licence administration regarding access to data and services infrastructure, but the data-sharing policies in place provide the essential conditions necessary for sharing spatial data sets and services. It is still common that the access to spatial data requires registration and that fees are asked for downloading data. The general trend towards open and free data in Sweden will in the long term remove the need to register and the payment of fees.

Assessments of monitoring reports issued by Sweden and the spatial information that Sweden has published on the INSPIRE geoportal indicate that not all spatial information needed for the evaluation and implementation of EU environmental law has been made available or is accessible. Some of this missing spatial information consists of the environmental data required to be made available under the existing reporting and monitoring regulations of EU environmental law.

#### *Suggested action*

- Identify and document all spatial data sets required for the implementation of environmental law, and make the data and documentation at least accessible 'as is' to other public authorities and the public through the digital services foreseen in the INSPIRE Directive.