



Qualitative monitoring of Spatial Data Infrastructures: reporting INSPIRE implementation

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Abstract

The paper discusses the outputs contained in the qualitative reports submitted by the Member States to the European Commission in 2010 and 2013 under the terms of its INSPIRE Directive and the use that has been made of these submissions in its Mid-Term Evaluation that was carried out in 2014.

1. Introduction

The monitoring and reporting components of the EC's INSPIRE Directive are particularly interesting from the standpoint on research on this topic as they involve its implementation in 28 National Member States and even larger numbers of public authorities at the sub-national level. The following paper discusses the outputs of the qualitative country reports submitted by the Member States to the Commission in 2010 and 2013 and the use that has been made of these submissions in the INSPIRE Mid-Term Evaluation that was carried out in 2014.

2. Monitoring and Reporting in the INSPIRE Directive

The need to monitoring the progress of INSPIRE implementation is discussed in the last section of the INSPIRE Directive: 'Member States shall monitor the implementation and use of their infrastructures for spatial information. They shall make the results of this monitoring accessible to the Commission and to the public on a permanent basis' (Article 21(1)).

From the outset it was clear that two sets of implementing rules would be required for this purpose. The first would be based on a quantitative approach based on indicators derived from a list of spatial data sets and services being developed by the Member States. This approach is set out in as the definitive Commission Decision regarding INSPIRE monitoring and reporting of 5th June 2009 (Articles 3 to 10).

Alongside these quantitative indicators it was recognised that it would also be necessary for the Member States to provide qualitative information on their progress in the form of written reports. The provisions for reporting are set out in Article 21(2) of the Directive itself. 'No later than 15 May 2010 Member States shall send to the Commission a report including summary descriptions of:

- (a) 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;
- (b) the contribution made by public authorities or third parties to the functioning and coordination of the infrastructure for spatial information;
- (c) information on the use of the infrastructure for spatial information;



- (d) data-sharing agreements between public authorities;
- (e) the costs and benefits of implementing this Directive.’

Every three years thereafter Member States shall also send to the Commission a report providing updated information (Article 21(3)).

Article 23 of the INSPIRE Directive also outlines the requirements for periodic reviews of the overall progress that has been made towards the implementation of the Directive: ‘By 15 May 2014 and every six years thereafter the Commission shall present to the European Parliament and to the Council a report on the implementation of this Directive based, inter alia, on reports from Member States in accordance with Article 21(2) and (3)’ and adds that ‘Where necessary, the report shall be accompanied by proposals for Community action.’

3. The 2010 country reports

Prior to the submission of the 2010 country reports the Member States were given a template setting out the main headings in the reports that were to be prepared by them. This was closely based on the measures contained in the Commission Decision of June 2009. In some cases the text merely repeats that of the Decision itself. In other cases it provides additional information.

The deadline for the submission of the first round of reports to the Commission was 15 May 2010. With the exception of Cyprus the other 26 countries more or less met this deadline but submitted in the language of the Member State. A year elapsed before translations of these reports into English were available on the INSPIRE website (<http://inspire.ec.europa.eu>).

A crude quantitative but nonetheless quite effective measure of the outputs of these reports is their length and coverage of the required contents. It goes without saying that these statistics must be treated with some caution as indicators of length should not necessarily be confused with indicators of quality.

The contents of the 26 reports are summarised in table 1. This shows that the Member States submitted nearly 700 pages of text to the Commission in the first round of reporting. The length of the reports varies considerably in length from 88 pages of text and annexes in the Portuguese report to 12 pages in the case of Ireland and 13 for Poland and the United Kingdom. Most of the reports are between 20 and 40 pages in length and the average for the whole group is just over 26 pages. Two countries, France and the Netherlands, also included material in their reports describing the methods used to calculate the statistical indicators that are an input to the monitoring task and the Portuguese report also included a substantial appendix consisting of the replies that had been received from each of the various stakeholders (Masser 2011).

With respect to the five main topics itemised in the INSPIRE Directive, most reports contain a section of between four and ten pages dealing with matters of coordination and quality assurance and a similar length section describing the functioning of their SDI and identifying the main stakeholders. The most extensive discussions of matters relating to coordination are in the reports by Belgium, Finland and Romania while the reports for Belgium, Hungary, Portugal and Romania contain the longest discussions on matters relating to functioning and stakeholder involvement.



The response to the questions on usage and data sharing is much more limited in most cases and a number of countries claimed that they did not have the information available as yet or that it is too early in the INSPIRE implementation process for them to be in a position to provide useful information on these topics. However, there are a few notable exceptions to this rule. The reports for Belgium, Spain, Romania and Slovenia devote at least four pages to the usage of spatial information and those for Greece and Spain contain more than 3 pages of text relating to data sharing. Every country apart from France provides some information on the costs and benefits aspects of INSPIRE implementation even though very few of them had much direct experience of this process.

Nevertheless, it appears from the material that is contained in these reports that most countries provided enough information for the Commission to evaluate their progress, although two countries, Bulgaria and France, produced reports that contained a very limited amount of information on the five main topics identified in the template.

4. The 2013 country reports

Member states were required to submit their second round of qualitative country reports by May 15th 2013. As in the previous round a template was prepared by the Commission to help the Member States in preparing their reports. This was essentially the same as that used for the 2010 reports although the section on costs and benefits was substantially expanded for this round.

Apart from Croatia which did not join the European Union until 1 July 2013, all the other 27 European Union Member States submitted reports within a reasonable period after the deadline. As in 2010 many states submitted their reports in their official languages and these were subsequently translated into English (Masser and Crompvoets 2015).

The contents of these reports are summarised in Table 2 in a form that is compatible to Table 1. From this it can be seen that the second round of country reports were substantially longer in most countries than those submitted in the first round and the total number of pages they contained added up to more than one thousand pages. Most of the reports were at least 30 pages in length and the average for the whole group was more than 39 pages as against 26 pages in the 2010 round. As before, the French report included an extra section discussing their experiences with the quantitative monitoring indicators in addition to the materials specified in the template. The shortest reports were those from Luxembourg and Ireland with 15 and 20 pages respectively and the longest reports came from Portugal and Spain with 96 and 93 pages. As in the previous round of reporting the Portuguese report included a 50 page annex containing the replies received from all the main stakeholders.

In most cases at least three fifths of the text of these reports dealt with the experiences of the Member States with respect to the five topics listed in the INSPIRE Directive. As might be expected with an initiative which is still in the early stages of implementation the responses to the questions about coordination and functioning were of the order of twice as detailed as those relating to the other three topics regarding data usage, data sharing and the costs and benefits associated with INSPIRE implementation.



Most countries produced at least five pages of text on the arrangements that they have made for coordination and quality assurance. The reports from countries such as Belgium and Spain where responsibilities for spatial data management are devolved often had the longest sections outlining the arrangements that had been made for the functioning of their SDIs although this was not always the case. France had an average length section on this topic but made it clear that they had identified the regional level as the key level for the successful implementation of INSPIRE.

Belgium and Spain also feature prominently in the sections on data sharing with at least five pages of their reports being devoted to this topic. This is in sharp contrast to the reports by the Czech Republic, Hungary, Italy, Malta and Slovenia where this topic is dealt with in less than a page of their reports. This may be largely due to the barriers that restrict data sharing in these countries.

The final section on the costs and benefits in the 2013 reports is a significant improvement in the quality of reporting costs and benefits in the 2010 reports and the reports submitted by Belgium, Greece and Sweden contain a great deal of detailed statistical information on this topic. However estimating the benefits in quantitative terms at this stage in the implementation of the INSPIRE Directive presented problems for many countries.

The overall impression given by the country reports submitted to the European Commission in 2013 is that the implementation of the INSPIRE Directive is well under way and that the necessary steps are being taken by the member states to create an operational European wide environmental SDI.

5. The mid-term evaluation of the implementation of the INSPIRE Directive

The INSPIRE Directive requires the Commission to present a report on the implementation of this Directive by 15 May 2014 which evaluates the extent to which the Directive has achieved its original objectives. This report is also effectively a mid-term review given that the implementation process began in 2007 and will continue until at least 2020 (European Environment Agency 2014).

The 2013 country reports were an important input to this review alongside a variety of secondary sources, an independent assessment by KU Leuven and the statistical material produced by quantitative monitoring. The European Commission also launched a public consultation in December 2013 to obtain the views of the general public and all stakeholders on the extent to which the actions already under way to implement the INSPIRE Directive were still on course.

Chapter 4 of the mid-term report deals the state of implementation. It draws heavily on the materials provided to the Commission in the country reports with respect to the coordinating structures that have emerged within each country, their functioning in practice, the use of the emerging infrastructure, the extent of data sharing, and the estimated costs and benefits of its implementation. The authors note that ‘the quality of these (country) reports has improved between the first and second editions, particularly for the section on costs and benefits of implementing the directive (p.16).’ However, they also feel that ‘these reports focus on the implementation of the technical infrastructure and do not yet consider the contribution of



INSPIRE to improve the implementation of environmental policies or policies that affect the environment, which is the main role the infrastructure should have' (p.16).

The findings of the review suggest that the overall outlook for INSPIRE is very positive. Nearly 700 responses were received to the questionnaire during the joint consultation by the end of February 2014. The responses show that more than 90 per cent of the respondents felt that the original objectives of INSPIRE are still pertinent as to the continuing relevance of INSPIRE's objectives and two thirds of them also felt that the actions foreseen by INSPIRE are still appropriate.

6. Discussion

The findings of the analysis indicate that the approach that has been developed by the European Commission for the qualitative monitoring of INSPIRE implementation differs fundamentally from the other approaches that have been suggested for the assessment of SDIs (see for example, Cromptvoets et al 2008) in it is based on self evaluation. The great strength of the self evaluation approach is that it places the onus for reporting on those organisations that are directly engaged in the implementation process. These groups are in a position to draw upon the combined body of knowledge and experience of the national communities in preparing their reports. As well as fulfilling the requirements laid down by the European Commission these reports have also a role to play in helping the national stakeholder communities to build up their capacities to implement the provisions of the Directive.

The quality of these reports also reflects the participatory approach that has been developed by the Commission towards the whole process of developing the INSPIRE Directive (Craglia et al 2005). However, it must also be recognised that this approach also has its limitations in that the reports may present the most optimistic view of national circumstances to the Commission and they may also tell it what it wants to hear rather than what is actually happening in reality.

References

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Table 1 Overview of the 2010 country reports

Country	Coordinatn	Functg	Usage	Sharing	Cost Benefit	Pages
Austria	5.5	1.5	2	0.7	1.3	18
Belgium	10	8	5.3	2.5	3.2	42
Bulgaria	2.5	1	*	*	1	15
Cyprus	*	*	*	*	*	*
Czech	7	7	3	1.5	2.3	32
Germany	3.3	3	*	2.5	1.8	24
Denmark	3	2	3	1.3	0.5	17
Estonia	4.6	5.3	3	1.6	0.8	25
Greece	5.1	2.5	1.4	3.6	2.3	32
Spain	6	4.3	5	3.5	1.5	36
Finland	9.3	5.5	3.5	2.3	2.5	31
France	2	*	1.5	0.8	*	14
Hungary	4	8.4	1.3	1.2	1.1	26
Ireland	2.5	1.5	*	0.5	0.4	12
Italy	5	3.2	*	*	0.3	20
Lithuania	6	7.5	3	0.5	2	26
Luxembourg	4.7	5.3	1.7	0.5	0.5	23
Latvia	4.5	5.5	3	1	1.4	25
Malta	2.5	1.5	0.7	0.6	0.2	14
Netherlands	4.1	3.7	1.7	1.1	3	36
Poland	4	2	2.5	0.3	1	13
Portugal	9	13	1.3	1.4	1.1	88
Romania	11	8.5	4.5	2.1	2	49
Sweden	5	2	*	0.5	1.5	19
Slovenia	4.5	5.5	4	1	1.4	26
Slovakia	3.6	2.5	1.3	*	0.5	16
United Kdm	4	3.3	*	0.5	0.3	13
Total pages	132.7	113.5	52.7	31.5	33.9	692
Av/doc	5.10	4.37	2.03	1.21	1.30	26.62
No info	1	2	7	4	2	



Table 2 Overview of the 2013 country reports

Country	Coordinatn	Functg	Usage	Sharing	Cost Benefits	Pages
Austria	5	3	3.5	1.8	1.5	25
Belgium	12.2	14	8.4	5.1	12	69
Bulgaria	5.4	4.8	4.4	1.8	4	28
Cyprus	10.2	7.9	1.5	1.5	3.4	35
Czech Republic	7	8.5	2.5	0.8	0.7	33
Germany	7.5	3.5	2	3.8	3	34
Denmark	5.2	4.5	2.7	1.2	2.7	33
Estonia	5.3	6.2	4.1	1.8	2.1	32
Greece	18	8.7	1.5	5.5	11.8	68
Spain	19.5	11.5	6.2	6.1	3	93
Finland	8	11	7	2	2	39
France	7	3.1	11.5	2.1	1.8	38
Hungary	2.7	1.8	1.2	0.7	0.3	34
Ireland	3.6	5.7	1.5	1	1.5	20
Italy	4.5	4.2	1.1	0.7	1.8	25
Lithuania	10.4	6.7	5.8	2.5	3.7	38
Luxembourg	5.5	8.4	2.5	1.7	4.5	35
Latvia	10.9	7.2	5.3	1.8	0.8	33
Malta	3.5	2	0.7	0.6	1	15
Netherlands	3.4	3.7	1.3	1.9	4.8	33
Poland	6.3	5.4	4.7	3.6	4.5	35
Portugal	11	9.6	2.3	1.5	1.6	96
Romania	7.9	8.4	2.3	1.5	1.2	30
Sweden	8.2	10	1.5	2.7	7.6	43
Slovenia	4.2	4.7	4.5	0.7	2.3	31
Slovakia	5.6	3.6	3.4	2.6	4.5	32
United Kingdom	4.8	9.8	4.4	3.6	3.5	32
Total pages	202.8	177.9	97.8	60.6	91.6	1059
Av/doc	7.51	6.59	3.62	2.24	3.39	39.22
No info	0	0	0	0	0	