

COMMISSION

COMMISSION DECISION

of 5 June 2009

implementing Directive 2007/2/EC of the European Parliament and of the Council as regards monitoring and reporting

(notified under document number C(2009) 4199)

(Text with EEA relevance)

(2009/442/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) ⁽¹⁾, and in particular Article 21(4) thereof,

Whereas:

- (1) Directive 2007/2/EC requires Member States to monitor the implementation and use of their infrastructures for spatial information and to report on the implementation of that Directive.
- (2) In order to ensure a coherent approach to such monitoring and reporting, Member States should establish a list of the spatial data sets and spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC, grouped by theme and Annex, and of the network services referred to in Article 11(1) of Directive 2007/2/EC, grouped by service type, and should communicate that list to the Commission.
- (3) Monitoring should be based on a set of indicators calculated on the basis of the data collected from the appropriate stakeholders at the various levels of public authority.
- (4) The data collected for calculating the monitoring indicators should be provided to the Commission.
- (5) The results of monitoring and reporting should be provided to the Commission and made publicly available.

- (6) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 22 of Directive 2007/2/EC,

HAS ADOPTED THIS DECISION:

CHAPTER I

GENERAL PROVISIONS

Article 1

Subject matter

This Decision lays down detailed rules on monitoring by Member States of the implementation and use of their infrastructures for spatial information and on reporting on the implementation of Directive 2007/2/EC.

Article 2

Common provisions for monitoring and reporting

1. Member States shall establish a list of the spatial data sets and spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC, grouped by theme and Annex, and of the network services referred to in Article 11(1) of that Directive, grouped by service type.

They shall communicate that list to the Commission and update it annually.

2. Member States shall rely on the coordination structure referred to in Article 19(2) of Directive 2007/2/EC to collect data for monitoring and reporting.

3. Contact points of Member States shall provide the results of monitoring referred to in Article 21(1) of Directive 2007/2/EC and the report referred to in Article 21(2) and (3) of that Directive to the Commission.

4. All results of monitoring and reporting shall be made available to the public via the Internet or any other appropriate means of telecommunication.

⁽¹⁾ OJ L 108, 25.4.2007, p. 1.

CHAPTER II

MONITORING OF THE IMPLEMENTATION OF METADATA REQUIREMENTS*Article 3***Monitoring of the existence of metadata**

1. The following indicators shall be used to measure the existence of metadata for the spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC:

- (a) a general indicator (MDi1) which measures the existence of metadata for the spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC;
- (b) the following specific indicators:
 - (i) MDi1,1 which measures the existence of metadata for the spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC;
 - (ii) MDi1,2 which measures the existence of metadata for the spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC;
 - (iii) MDi1,3 which measures the existence of metadata for the spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC;
 - (iv) MDi1,4 which measures the existence of metadata for the spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC.

2. Member States shall determine, for each spatial data set and service mentioned on the list referred to in Article 2(1), whether metadata exist and shall attribute to the spatial data set or service the following values:

- (a) value 1 where metadata exist;
- (b) value 0 where no metadata exist.

3. Member States shall calculate the general indicator MDi1 by dividing the number of spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which metadata exist, by the total number of spatial data sets and services corresponding to the themes listed in those Annexes.

4. Member States shall calculate the specific indicators as follows:

- (a) the number of spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC for which metadata exist, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (MDi1,1);
- (b) the number of spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC for which metadata exist, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (MDi1,2);
- (c) the number of spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC for which metadata exist, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (MDi1,3);
- (d) the number of spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which metadata exist, divided by the total number of spatial data services corresponding to the themes listed in those Annexes (MDi1,4).

*Article 4***Monitoring of the conformity of metadata**

1. The following indicators shall be used to measure the conformity of metadata for spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC with the implementing rules referred to in Article 5(4) of that Directive:

- (a) a general indicator (MDi2) which measures the conformity of metadata for the spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC with the implementing rules referred to in Article 5(4) of that Directive;
- (b) the following specific indicators:
 - (i) MDi2,1 which measures the conformity of metadata for the spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC with the implementing rules referred to in Article 5(4) of that Directive;
 - (ii) MDi2,2 which measures the conformity of metadata for the spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC with the implementing rules referred to in Article 5(4) of that Directive;

(iii) MDi2,3 which measures the conformity of metadata for the spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC with the implementing rules referred to in Article 5(4) of that Directive;

(iv) MDi2,4 which measures the conformity of metadata for the spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC with the implementing rules referred to in Article 5(4) of that Directive.

2. Member States shall determine, for each spatial data set and service mentioned on the list referred to in Article 2(1) of this Decision, whether the corresponding metadata are in conformity with the implementing rules referred to in Article 5(4) of Directive 2007/2/EC and shall attribute to the data set or service the following values:

(a) value 1 where the corresponding metadata are in conformity with the implementing rules referred to in Article 5(4) of Directive 2007/2/EC;

(b) value 0 where the corresponding metadata are not in conformity with the implementing rules referred to in Article 5(4) of Directive 2007/2/EC.

3. Member States shall calculate the general indicator MDi2 by dividing the number of spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which metadata are in conformity with the implementing rules referred to in Article 5(4) of that Directive, by the total number of spatial data sets and services corresponding to the themes listed in those Annexes.

4. Member States shall calculate the specific indicators as follows:

(a) the number of spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC for which metadata are in conformity with the implementing rules referred to in Article 5(4) of that Directive, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (MDi2,1);

(b) the number of spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC for which metadata are in conformity with the implementing rules referred to in Article 5(4) of Directive 2007/2/EC, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (MDi2,2);

(c) the number of spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC for which metadata are in conformity with the implementing rules referred to in Article 5(4) of Directive 2007/2/EC, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (MDi2,3);

(d) the number of spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which metadata are in conformity with the implementing rules referred to in Article 5(4) of Directive 2007/2/EC, divided by the total number of spatial data services (MDi2,4).

CHAPTER III

MONITORING OF THE IMPLEMENTATION OF THE REQUIREMENTS FOR INTEROPERABILITY OF SPATIAL DATA SETS

Article 5

Monitoring of the geographical coverage of spatial data sets

1. The following indicators shall be used to measure the geographical coverage of the spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC:

(a) a general indicator (DSi1) which measures the extent of the Member States territory covered by the spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC;

(b) the following specific indicators:

(i) DSi1,1 which measures the extent of the Member States territory covered by the spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC;

(ii) DSi1,2 which measures the extent of the Member States territory covered by the spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC;

(iii) DSi1,3 which measures the extent of the Member States territory covered by the spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC.

2. Member States shall determine, for the spatial data sets mentioned on the list referred to in Article 2(1):

- (a) the area which is to be covered by a given spatial data set (hereinafter relevant area), expressed in km²;
- (b) the area which is covered by a given spatial data set (hereinafter actual area), expressed in km².

3. Member States shall calculate the general indicator DSi1 by dividing the sum of the actual areas covered by all spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC, by the sum of the relevant areas for all spatial data sets corresponding to the themes listed in those Annexes.

4. Member States shall calculate the specific indicators as follows:

- (a) the sum of the actual areas covered by the spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC, divided by the sum of the relevant areas for the spatial data sets corresponding to the themes listed in that Annex (DSi1,1);
- (b) the sum of the actual areas covered by the spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC, divided by the sum of the relevant areas for the spatial data sets corresponding to the themes listed in that Annex (DSi1,2);
- (c) the sum of the actual areas covered by the spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC, divided by the sum of the relevant areas for the spatial data sets corresponding to the themes listed in that Annex (DSi1,3).

Article 6

Monitoring of the conformity of spatial data sets

1. The following indicators shall be used to measure the conformity of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC with the implementing rules referred to in Article 7(1) of that Directive and the conformity of their corresponding metadata with the implementing rules referred to in Article 5(4) of that Directive.

- (a) a general indicator (DSi2) which measures the conformity of the spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC with the implementing rules referred to in Article 7(1) of that Directive and the conformity of their corresponding metadata with the implementing rules referred to in Article 5(4) of that Directive;

(b) the following specific indicators:

- (i) DSi2,1 which measures the conformity of the spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC with the implementing rules referred to in Article 7(1) of that Directive and the conformity of their corresponding metadata with the implementing rules referred to in Article 5(4) of that Directive;
- (ii) DSi2,2 which measures the conformity of the spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC with the implementing rules referred to in Article 7(1) of that Directive and the conformity of their corresponding metadata with the implementing rules referred to in Article 5(4) of that Directive;
- (iii) DSi2,3 which measures the conformity of the spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC with the implementing rules referred to in Article 7(1) of that Directive and the conformity of their corresponding metadata with the implementing rules referred to in Article 5(4) of that Directive.

2. Member States shall determine whether each spatial data set mentioned on the list referred to in Article 2(1) of this Decision is in conformity with the implementing rules referred to in Article 7(1) of Directive 2007/2/EC and whether its corresponding metadata are in conformity with the implementing rules referred to in Article 5(4) of that Directive and shall attribute to the data set the following values:

- (a) value 1 in the case of conformity of the spatial data set with the implementing rules referred to in Article 7(1) of Directive 2007/2/EC and of its corresponding metadata with the implementing rules referred to in Article 5(4) of that Directive;
- (b) value 0 in the case of non conformity of the spatial data set with the implementing rules referred to in Article 7(1) of Directive 2007/2/EC or of its corresponding metadata with the implementing rules referred to in Article 5(4) of that Directive.

3. Member States shall calculate the general indicator DSi2 by dividing the number of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC which are in conformity with the implementing rules referred to in Article 7(1) of that Directive and whose corresponding metadata are in conformity with the implementing rules referred to in Article 5(4) of that Directive, by the total number of spatial data sets corresponding to the themes listed in those Annexes.

4. Member States shall calculate the specific indicators as follows:

- (a) the number of spatial data sets corresponding to the themes listed in Annex I to Directive 2007/2/EC which are in conformity with the implementing rules referred to in Article 7(1) of that Directive and whose corresponding metadata are in conformity with the implementing rules referred to in Article 5(4) of that Directive, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (DSi2,1);
- (b) the number of spatial data sets corresponding to the themes listed in Annex II to Directive 2007/2/EC which are in conformity with the implementing rules referred to in Article 7(1) of that Directive and whose corresponding metadata are in conformity with the implementing rules referred to in Article 5(4) of that Directive, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (DSi2,2);
- (c) the number of spatial data sets corresponding to the themes listed in Annex III to Directive 2007/2/EC which are in conformity with the implementing rules referred to in Article 7(1) of that Directive and whose corresponding metadata are in conformity with the implementing rules referred to in Article 5(4) of that Directive, divided by the total number of spatial data sets corresponding to the themes listed in that Annex (DSi2,3).

CHAPTER IV

MONITORING OF THE IMPLEMENTATION OF NETWORK SERVICES REQUIREMENTS

Article 7

Monitoring of the accessibility of metadata through discovery services

1. The following indicators shall be used to measure the accessibility of metadata for the spatial data sets and services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC through the discovery services referred to in Article 11(1)(a) of that Directive:

- (a) a general indicator (NSi1), which measures the extent to which it is possible to search for spatial data sets and spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC on the basis of their corresponding metadata through discovery services;
- (b) the following specific indicators:
 - (i) NSi1,1, which measures the extent to which it is possible to search for spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC on the basis of their corresponding metadata through discovery services;

- (ii) NSi1,2, which measures the extent to which it is possible to search for spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC on the basis of their corresponding metadata through discovery services.

2. Member States shall determine, for each spatial data set and spatial data service mentioned on the list referred to in Article 2(1), whether a discovery service exists and shall attribute to the data set or service the following values:

- (a) value 1 where a discovery service exists;
- (b) value 0 where no discovery service exists.

3. Member States shall calculate the general indicator NSi1 by dividing the number of spatial data sets and spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which a discovery service exists, by the total number of spatial data sets and spatial data services corresponding to themes listed in those Annexes.

4. Member States shall calculate the specific indicators as follows:

- (a) the number of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which a discovery service exists, divided by the total number of spatial data sets corresponding to themes listed in those Annexes (NSi1,1);
- (b) the number of spatial data services corresponding to themes listed in Annexes I, II and III to Directive 2007/2/EC for which a discovery service exists, divided by the total number of spatial data services corresponding to themes listed in those Annexes (NSi1,2).

Article 8

Monitoring of the accessibility of spatial data sets through view and download services

1. The following indicators shall be used to measure the accessibility of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC through the view and download services referred to in points (b) and (c) of Article 11(1) of that Directive:

- (a) a general indicator (NSi2), which measures the extent to which it is possible to view and download spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC through view and download services;
- (b) the following specific indicators:
 - (i) NSi2,1, which measures the accessibility of spatial data sets, corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC through view services;

(ii) NSi2,2, which measures the accessibility of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC through download services.

2. Member States shall determine, for each spatial data set mentioned on the list referred to in Article 2(1), whether a view service or a download service, or both, exist and shall attribute to the data set the following values:

- (a) value 1 where a view service exists and value 0 where such a service does not exist;
- (b) value 1 where a download service exists and value 0 where such a service does not exist;
- (c) value 1 where both a view service and a download service exist and value 0 where at least one of them does not exist.

3. Member States shall calculate the general indicator NSi2 by dividing the number of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which both view and download services exist, by the total number of spatial data sets corresponding to themes listed in those Annexes (NSi2).

4. Member States shall calculate the specific indicators as follows:

- (a) the number of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which a view service exists, divided by the total number of spatial data sets corresponding to themes listed in those Annexes (NSi2,1);
- (b) the number of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC for which a download service exists, divided by the total number of spatial data sets corresponding to themes listed in those Annexes (NSi2,2).

Article 9

Monitoring of the use of network services

1. The following indicators shall be used to monitor the use of the network services referred to in Article 11(1) of Directive 2007/2/EC:

- (a) a general indicator (NSi3), which measures the use of all network services;
- (b) the following specific indicators:

(i) NSi3,1, which measures the use of discovery services;

(ii) NSi3,2, which measures the use of view services;

(iii) NSi3,3, which measures the use of download services;

(iv) NSi3,4, which measures the use of transformation services;

(v) NSi3,5, which measures the use of invoke services.

2. Member States shall determine the annual number of service requests for each network service mentioned on the list referred to in Article 2(1).

3. Member States shall calculate the general indicator NSi3 by dividing the sum of the annual number of service requests for all network services, by the number of network services.

4. Member States shall calculate the specific indicators as follows:

- (a) the annual number of service requests for all discovery services, divided by the number of discovery services (NSi3,1);
- (b) the annual number of service requests for all view services, divided by the number of view services (NSi3,2);
- (c) the annual number of service requests for all download services, divided by the number of download services (NSi3,3);
- (d) the annual number of service requests for all transformation services, divided by the number of transformation services (NSi3,4);
- (e) the annual number of service requests for all invoke services, divided by the number of invoke services (NSi3,5).

Article 10

Monitoring of the conformity of network services

1. The following indicators shall be used to measure the conformity of the network services referred to in Article 11(1) of Directive 2007/2/EC with the implementing rules referred to in Article 16 of that Directive:

- (a) a general indicator (NSi4), which measures the conformity of all network services with the implementing rules referred to in Article 16 of Directive 2007/2/EC;

(b) the following specific indicators:

- (i) NSi4,1, which measures the conformity of discovery services with the implementing rules referred to in Article 16 of Directive 2007/2/EC;
- (ii) NSi4,2, which measures the conformity of view services with the implementing rules referred to in Article 16 of Directive 2007/2/EC;
- (iii) NSi4,3, which measures the conformity of download services with the implementing rules referred to in Article 16 of Directive 2007/2/EC;
- (iv) NSi4,4, which measures the conformity of transformation services with the implementing rules referred to in Article 16 of Directive 2007/2/EC;
- (v) NSi4,5, which measures the conformity of invoke services with the implementing rules referred to in Article 16 of Directive 2007/2/EC.

2. Member States shall determine, for each network service mentioned on the list referred to in Article 2(1) of this Decision, whether it is in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC and shall attribute to the network service the following values:

- (a) value 1 where the network service is in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC;
- (b) value 0 where the network service is not in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC.

3. Member States shall calculate the general indicator NSi4 by dividing the number of network services which are in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC, by the total number of network services.

4. Member States shall calculate the specific indicators as follows:

- (a) the number of discovery services which are in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC, divided by the total number of discovery services (NSi4,1);
- (b) the number of view services which are in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC, divided by the total number of view services (NSi4,2);

(c) the number of download services which are in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC, divided by the total number of download services (NSi4,3);

(d) the number of transformation services which are in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC, divided by the total number of transformation services (NSi4,4);

(e) the number of invoke services which are in conformity with the implementing rules referred to in Article 16 of Directive 2007/2/EC, divided by the total number of invoke services (NSi4,5).

Article 11

Information to be provided

1. Member States shall provide the Commission with the following information:

- (a) the values of all general and specific indicators, expressed in percentage;
- (b) the numerators and denominators of all general and specific indicators;
- (c) the data collected under Articles 3(2), 4(2), 5(2), 6(2), 7(2), 8(2), 9(2) and 10(2).

2. The results of monitoring referred to in Article 21(1) of Directive 2007/2/EC shall relate to monitoring conducted during a calendar year, and shall be published by 15 May of the following year. Thereafter the results shall be updated at least every year.

The results relating to monitoring conducted in 2009 shall cover the period starting from the date referred to in Article 18 until the end of that year.

CHAPTER V

REPORTING

Article 12

Coordination and quality assurance

1. With respect to coordination, the summary description referred to in Article 21(2)(a) of Directive 2007/2/EC shall contain the following:

- (a) the name, contact information, role and responsibilities of the Member State contact point;
- (b) the name, contact information, role and responsibilities, organisation chart of the coordinating structure supporting the contact point of the Member State;
- (c) a description of the relationship with third parties;
- (d) an overview of the working practices and procedures of the coordinating body;
- (e) comments on the monitoring and reporting process.

2. With respect to the organisation of quality assurance, the summary description referred to in Article 21(2)(a) of Directive 2007/2/EC shall contain the following:

- (a) a description of quality assurance procedures, including the maintenance of the infrastructure for spatial information;
- (b) an analysis of quality assurance problems related to the development of the infrastructure for spatial information, taking into account the general and specific indicators;
- (c) a description of the measures taken to improve the quality assurance of the infrastructure;
- (d) where a certification mechanism has been established, a description of that mechanism.

Article 13

Contribution to the functioning and coordination of the infrastructure

The summary description referred to in Article 21(2)(b) of Directive 2007/2/EC shall contain the following:

- (a) an overview of the various stakeholders contributing to the implementation of the infrastructure for spatial information according to the following typology: users, data producers, service providers, coordinating bodies;
- (b) a description of the role of the various stakeholders in the development and maintenance of the infrastructure for spatial information, including their role in the coordination of tasks, in the provision of data and metadata, and in the management, development and hosting of services;
- (c) a general description of the main measures taken to facilitate the sharing of spatial data sets and services between public authorities and a description of how sharing has improved as a result;

- (d) a description of how stakeholders cooperate;
- (e) a description of the access to the services through the Inspire geo-portal, as referred to in Article 15(2) of Directive 2007/2/EC.

Article 14

Use of the infrastructure for spatial information

The information on the use of the infrastructure for spatial information referred to in Article 21(2)(c) of Directive 2007/2/EC shall cover the following:

- (a) the use of the spatial data services of the infrastructure for spatial information, taking into account the general and specific indicators;
- (b) the use of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC by public authorities, with particular attention to good examples in the field of environmental policy;
- (c) if available, evidence showing the use of the infrastructure for spatial information by the general public;
- (d) examples of cross-border use and efforts made to improve cross-border consistency of spatial data sets corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC;
- (e) how transformation services are used to achieve data interoperability.

Article 15

Data sharing arrangements

The summary description referred to in Article 21(2)(d) of Directive 2007/2/EC shall contain the following:

- (a) an overview of data sharing arrangements that have been, or are being, created between public authorities;
- (b) an overview of data sharing arrangements that have been, or are being, created between public authorities and Community institutions and bodies, including examples of data sharing arrangements for a particular spatial data set;
- (c) a list of barriers to the sharing of spatial data sets and services between public authorities and between public authorities and the Community institutions and bodies, as well as a description of the actions which are taken to overcome those barriers.

*Article 16***Cost and benefit aspects**

The summary description referred to in Article 21(2)(e) of Directive 2007/2/EC shall contain the following:

- (a) an estimate of the costs resulting from the implementation of Directive 2007/2/EC;
- (b) examples of the benefits observed, including examples of the positive effects on policy preparation, implementation, evaluation, examples of improved services to the citizen as well as examples of cross-border cooperation.

*Article 17***Updating reports**

The report referred to in Article 21(3) of Directive 2007/2/EC shall cover the three calendar years preceding the year of the report.

CHAPTER VI

FINAL PROVISIONS*Article 18***Application**

This Decision shall apply from 5 June 2009.

*Article 19***Addressees**

This Decision is addressed to Member States.

Done at Brussels, 5 June 2009.

For the Commission

Stavros DIMAS

Member of the Commission