



Calculation of INSPIRE Monitoring and Reporting indicators

M&R Indicators

Monitoring of the availability of spatial data and services (1/2)

- Indicators on data set, series and services metadata

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|---------------|--|--|
| DSi1.1 | The number of spatial data sets for which metadata exist | Number of all data set and series metadata records published by the Member States in their registered discovery services. |
| DSi1.2 | The number of spatial data services for which metadata exist | Number of all spatial data services metadata records published by the Member States in their registered discovery services. |

- The INSPIRE Geoportal evaluates metadata records, obtained from all the registered services available by **December 15th** of every year.
- For these indicators, the INSPIRE Geoportal ignores any omissions or errors in the **theme keyword** element.
- INSPIRE Geoportal, by design, is not able to store metadata **duplicates**.

M&R Indicators

Monitoring of the availability of spatial data and services (2/2)

- Priority Data Set keyword

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| DSi1.3 | The number of spatial data sets for which the metadata contains one or more keywords from a register provided by the Commission indicating that the spatial data set is used for reporting under the environmental legislation | Number of metadata records tagged with one or more Priority data set keywords in the metadata "Keyword" element. |
|---------------|--|---|

- Spatial Scope keyword

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| DSi1.4 | The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers regional territory | Number of metadata records tagged with the " Regional " value as SpatialScope keyword in the metadata "Keyword" element. |
| DSi1.5 | The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers national territory | Number of metadata records tagged with the " National " value as SpatialScope keyword in the metadata "Keyword" element. |

- For the above indicators, INSPIRE Geoportal considers every metadata record with at least one keyword ID (extracted from gmx:anchor/@xlink:href) **matched against the IDs of the proper metadata code lists** (Spatial Scope, Priority Data sets) values.

M&R Indicators

Monitoring of the conformity of metadata

- Conformity of metadata, **validated by the INSPIRE Reference Validator**

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|---------------|---|--|
| MDi1.1 | Percentage of metadata for spatial data sets conformant with Commission Regulation (EC) No 1205/2008 as regards metadata | <p>This percentage value is obtained as $P_{MDi1.1} = N \times 100 \div DSi1.1$</p> <p>Where N is the number of conformant metadata records the INSPIRE Geoportal verifies, that successfully pass the following tests:</p> <ul style="list-style-type: none">• “Conformance Class 2: INSPIRE data sets and data set series interoperability metadata” and “Conformance Class 2b: INSPIRE data sets and data set series metadata for Monitoring” for Spatial data sets and series |
| MDi1.2 | Percentage of metadata for spatial data services conformant with Commission Regulation (EC) No 1205/2008 as regards metadata | <p>This percentage value is obtained as $P_{MDi1.2} = N \times 100 \div DSi1.2$</p> <p>Where N is the number of conformant metadata records the INSPIRE Geoportal verifies, that successfully pass the following tests:</p> <ul style="list-style-type: none">• “Conformance Class 4: INSPIRE Network Services metadata”, for Network Services• “Conformance Class 5: INSPIRE Invocable Spatial Data Services metadata”, for Invocable Spatial Data Services |

- Starting from the 2020 Monitoring and Reporting exercise, only MD TG v2.0 will be accepted.

M&R Indicators

Monitoring of the conformity of spatial data sets

- Declared conformity of metadata and Annex I/II/III

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|---------------|---|---|
| DSi2 | Percentage of spatial data sets that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets | The percentage value is obtained as $P_{DSi2.x} = N \times 100 \div DSi1.1$ For DSi2 indicator , N is the number of metadata dataset records with the declared conformity with Regulation 1089/2010. For instance, in the metadata the conformity could be expressed with: |
| DSi2.1 | Percentage of spatial data sets, corresponding to the themes listed in Annex I , that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets | <pre><gmd:title> <gmx:Anchor link:href="http://data.europa.eu/eli/reg/2010/1089"> COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services </gmx:Anchor> </gmd:title></pre> <p>See note [1] below for the complete requirement.</p> |
| DSi2.2 | Percentage of spatial data sets, corresponding to the themes listed in Annex II , that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets | For DSi2.x indicators , it also taken into account the presence of at least one theme listed in the relative Annex. For instance, in the metadata the theme keyword could be expressed with: |
| DSi2.3 | Percentage of spatial data sets, corresponding to the themes listed in Annex III , that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets | <pre><gmd:keyword> <gmx:Anchor xlink:href="http://inspire.ec.europa.eu/theme/ac">Atmospheric conditions</gmx:Anchor> </gmd:keyword></pre> <p>See note [2] for the complete requirement.</p> |

- 1) For the "Conformity" element, refer to [chapter 2.4.1 of MD TG v2.0](#)
- 2) For the Keywords for Spatial Data Theme, refer to [chapter 3.1.2.2 of MD TG v2.0](#)

M&R Indicators

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

- Downloadable and Viewable

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| NSi2 | The percentage of spatial data sets that are accessible through view and the download services | The percentage value is obtained as $P_{NSi2.x} = N \times 100 \div DSi1.1$ Where N is the number the INSPIRE Geoportal considers: <ul style="list-style-type: none">• as viewable, every data set for which at least one view network service could be correctly established/linked, and (for countries where the M&R Tools were used) that answered within 5 seconds• as downloadable, every data set for which at least one download network service could be established/linked and (for countries where the M&R Tools were used) that answered within 10 seconds |
| NSi2.1 | The percentage of spatial data sets that are accessible through view services | |
| NSi2.2 | The percentage of spatial data sets that are accessible through download services | |

M&R Indicators

Monitoring of the conformity of network services

- Declared conformity of Network Services (1/2)

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| NSi4 | Percentage of the network services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | <p>The type of network service identification is based on:</p> <ul style="list-style-type: none">• Metadata element "Spatial Data Service Type", expressed for example as: <pre><srv:serviceType> <gco:LocalName codeSpace="http://inspire.ec.europa.eu/metadata-codelist/SpatialDataServiceType">view</gco:LocalName> </srv:serviceType></pre> <p>The formulas are expressed in the next slide.</p> |
| NSi4.1 | Percentage of the discovery services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | |
| NSi4.2 | Percentage of the view services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | |
| NSi4.3 | Percentage of the download services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | |
| NSi4.4 | Percentage of the transformation services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | |

M&R Indicators

Monitoring of the conformity of network services

- Declared conformity of Network Services (2/2)

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|---------------|---|--|--|
| NSi4 | Percentage of the network services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | $P_{NS} = \sum_{ns \in \{DS, VW, DW, TS\}} N_{ns} \times 100 \div \sum_{ns \in \{DS, VW, DW, TS\}} T_{ns}$ | <p>N_x represent the number of that specific type of network services, in conformity with the Regulation No 976/2009</p> <p>T_x represent the total number of that specific type of network services</p> |
| NSi4.1 | Percentage of the discovery services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | $P_{DS} = N_{DS} \times 100 \div T_{DS}$ | |
| NSi4.2 | Percentage of the view services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | $P_{VW} = N_{VW} \times 100 \div T_{VW}$ | |
| NSi4.3 | Percentage of the download services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | $P_{DW} = N_{DW} \times 100 \div T_{DW}$ | |
| NSi4.4 | Percentage of the transformation services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services | $P_{TS} = N_{TS} \times 100 \div T_{TS}$ | |