

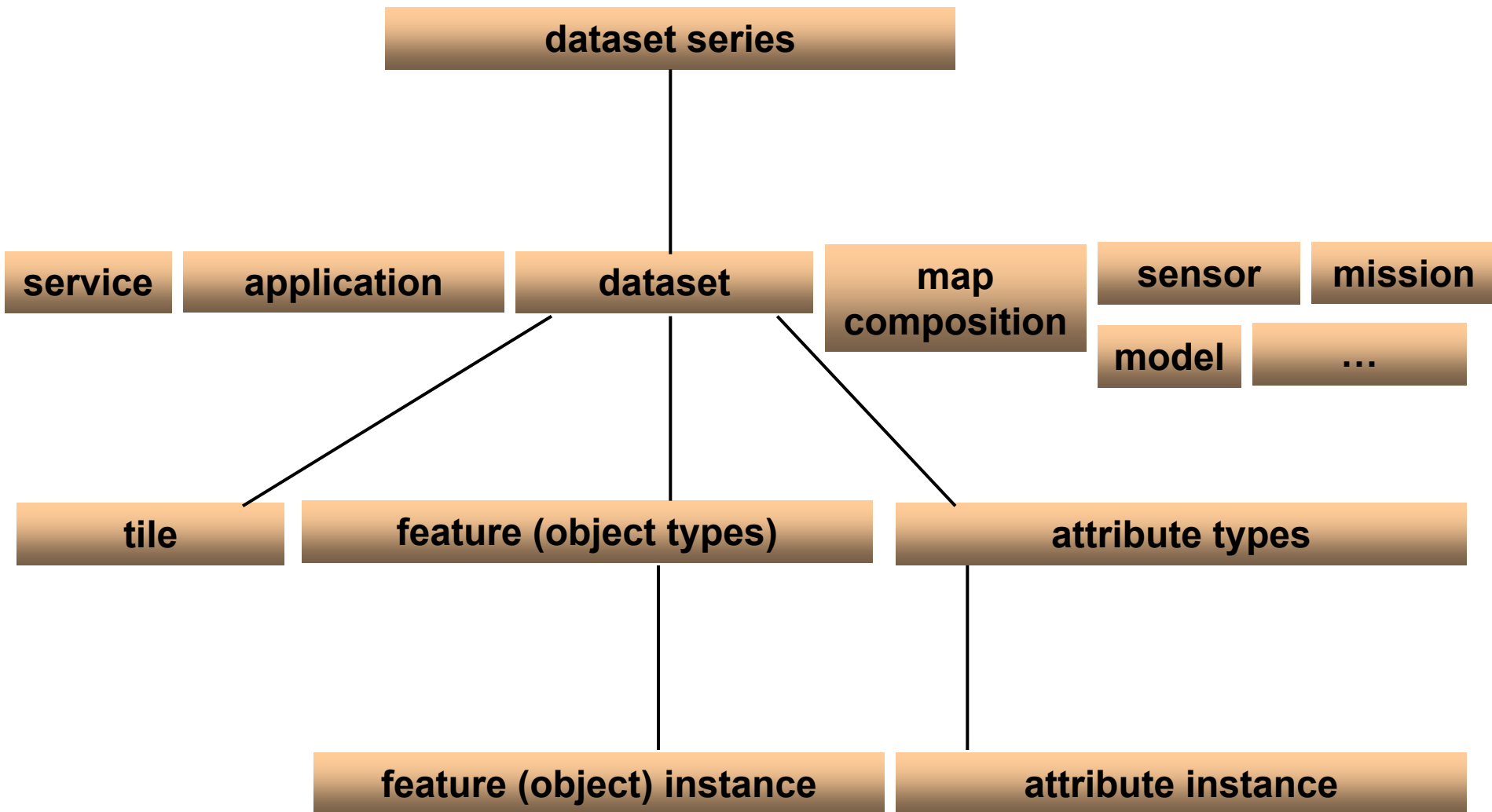
2. METADATA AS THE FOUNDING STONE FOR LINKING BETWEEN ESDI COMPONENTS

The concept of ESDI metadata

- The main principles presented during the previous lecture
- Metadata to:
 - *identify* a product
 - *promote* a product
 - *describe* a product
- “Product” is a commercial term while we use the term “resource” in geographic sciences



Hierarchy levels of metadata in ESDI



INSPIRE metadata

- Only three legally-binding hierarchy levels
 - dataset
 - series
 - service
- Subset of ISO 19115 (Geographic information – Metadata) and ISO 19119 (Geography information – Services) standards
 - Note, INSPIRE follows only version from 2003, [the latest version \(2014\)](#) is not supported

INSPIRE metadata



***Commission Regulation
(EC) No. 1089/2010***

Metadata for interoperability

***Commission Regulation
(EC) No. 1205/2008***

Identification

Classification

Keywords

Geographic location

Temporal reference

Quality and validity

Conformity

Constraints related to access and use

Responsible party

Metadata on metadata

Metadata for interoperability (for each spatial data theme)

8.2 Metadata elements for interoperability

IR Requirement

Article 13

Metadata required for Interoperability

The metadata describing a spatial data set shall include the following metadata elements required for interoperability:

1. Coordinate Reference System: Description of the coordinate reference system(s) used in the data set.
2. Temporal Reference System: Description of the temporal reference system(s) used in the data set.

This element is mandatory only if the spatial data set contains temporal information that does not refer to the default temporal reference system.

3. Encoding: Description of the computer language construct(s) specifying the representation of data objects in a record, file, message, storage device or transmission channel.
4. Topological Consistency: Correctness of the explicitly encoded topological characteristics of the data set as described by the scope.

This element is mandatory only if the data set includes types from the Generic Network Model and does not assure centreline topology (connectivity of centrelines) for the network.

5. Character Encoding: The character encoding used in the data set.

This element is mandatory only if an encoding is used that is not based on UTF-8.

6. Spatial Representation Type: The method used to spatially represent geographic information.

INSPIRE metadata for spatial data themes

Atmospheric conditions

Mineral resources

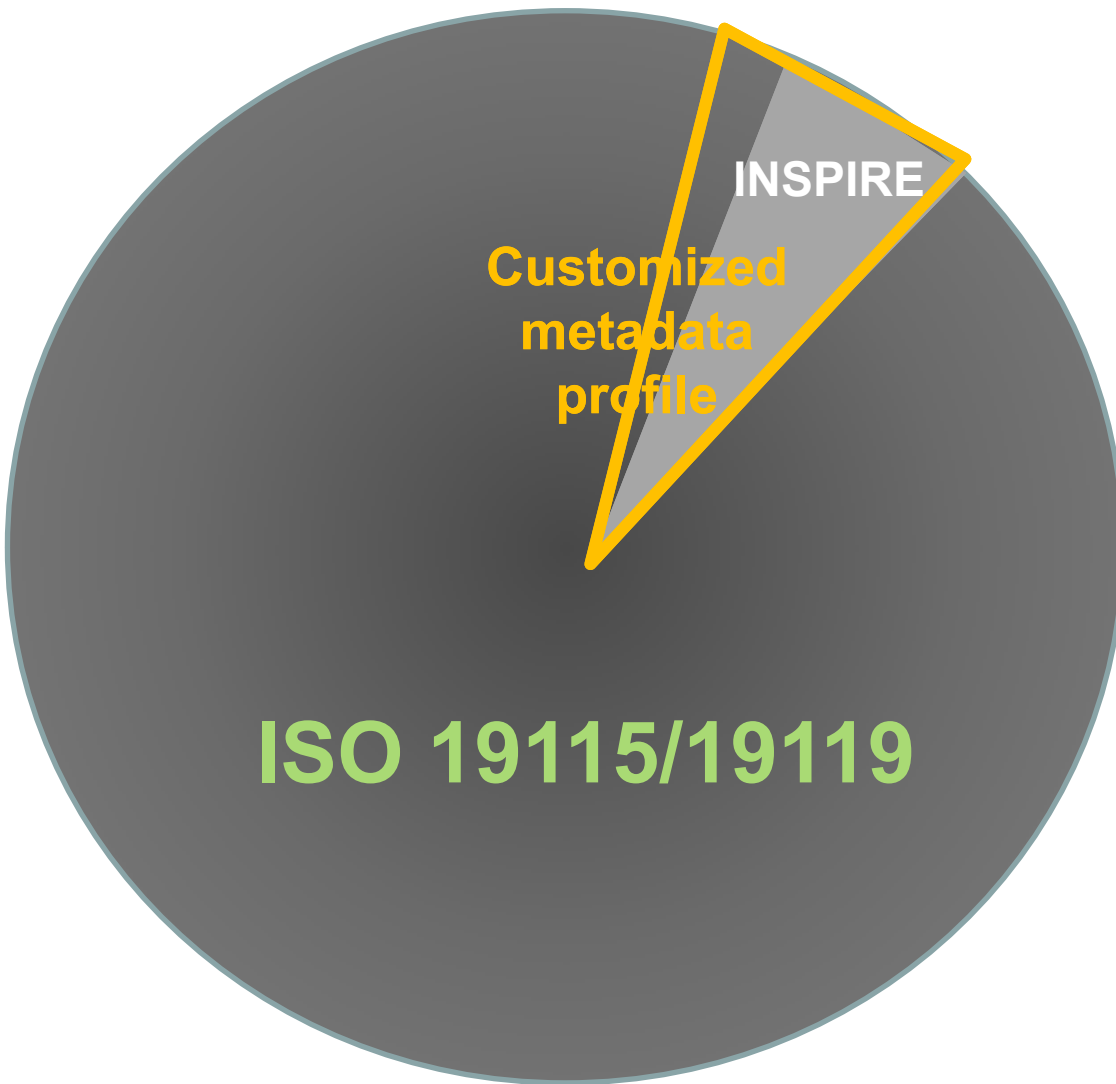
Buildings

INSPIRE metadata

ISO 19115

ISO 19139

Customized INSPIRE- -compliant metadata



Added metadata elements

Spatial representation type

Maintenance information

Commission Regulation (EC) No. 1089/2010

Metadata for interoperability

Commission Regulation (EC) No. 1205/2008

Identification

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Responsible party

Metadata on metadata

Automatic creation of metadata

- ETL = Extract Transform Load

Title	Map sheet XX
Year of revision	XX
Organisation	Czech Office for Surveying, Mapping and Cadaster

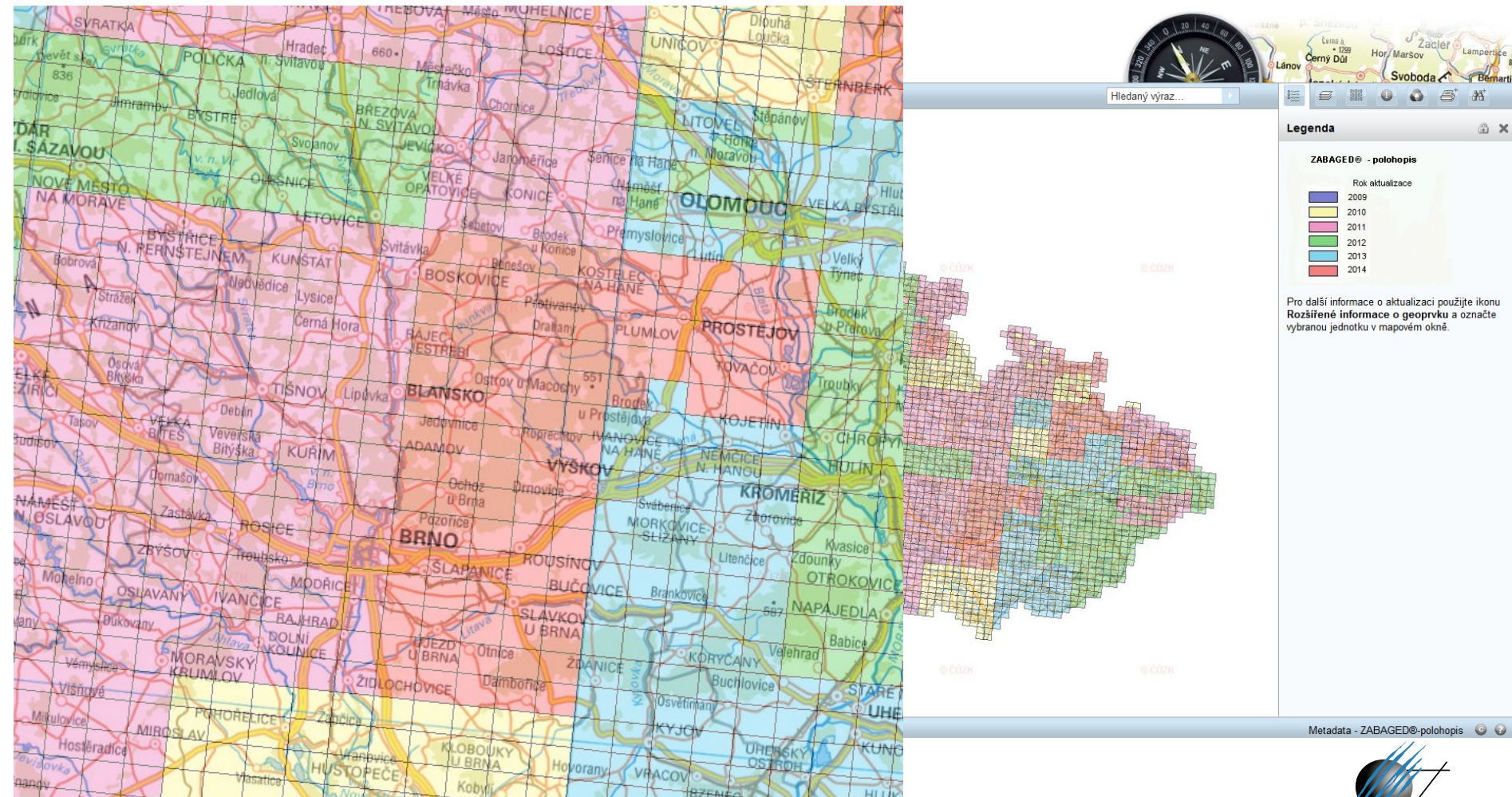
Name	Year of revision	Price
Letovice	2012	4.50
Křetín	2013	2.50
Laziny	2014	1.90

Title	Map sheet Letovice
Year of revision	2012
Organisation	Czech Office for Surveying, Mapping and Cadaster
Scale	1 : 10 000
Price	4.50
...	...

Title	Map sheet Křetín
Year of revision	2013
Organisation	Czech Office for Surveying, Mapping and Cadaster
Scale	1 : 10 000
Price	2.50
...	...

Use of automatically created metadata

- For instance, see <http://geoportal.cuzk.cz>



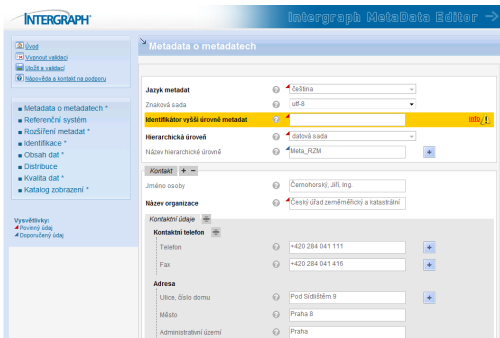
Relevant INSPIRE metadata documents

- <http://inspire.ec.europa.eu/index.cfm/pageid/101> and <http://inspire.ec.europa.eu/index.cfm/pageid/2>
- **INSPIRE Metadata Regulations**
 - COMMISSION REGULATION (EC) No 1205/2008 of 3 December 2008 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards metadata
 - 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
- **INSPIRE Metadata Implementing Rules**
 - Technical Guidelines based on EN ISO 19115 and EN ISO 19119
 - INSPIRE data specifications for each spatial data theme

Metadata editor

```
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<gmd:MD_Metadata xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:gmd="http://www.isotc211.org/2005/gmd"
xmlns:gco="http://www.isotc211.org/2005/gco"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:gml="http://www.opengis.net/gml">
  <gmd:fileIdentifier>
    <gco:CharacterString>111c314b-fc31-49e0-bf82-79b20bf07359</gco:CharacterString>
  </gmd:fileIdentifier>
  <gmd:language>
    <gmd:LanguageCode
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  </gmd:language>
  <gmd:characterSet>
    <gmd:MD_CharacterSetCode
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  </gmd:hierarchyLevel>
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        <gco:CharacterString>Tomáš Řezník</gco:CharacterString>
      </gmd:individualName>
      <gmd:organisationName>
        <gco:CharacterString>Masarykova univerzita, Laboratoř geoinformatiky a
        kartografie</gco:CharacterString>
      </gmd:PT_FreeText>
      <gmd:textGroup>
        <gmd:LocalisedCharacterString locale="#locale-en">Masaryk University, Laboratory on
        Geoinformatics and Cartography</gmd:LocalisedCharacterString>
      </gmd:textGroup>
      </gmd:PT_FreeText>
      </gmd:organisationName>
      <gmd:positionName>
        <gco:CharacterString>analytik</gco:CharacterString>
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      <gmd:contactInfo>
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<?xml version="1.0" encoding="UTF-8" ?>
- <gmd:MD_Metadata xsi:schemaLocation="http://www.isotc211.org/2005/gmd
http://www.isotc211.org/2005/gmd/metadataEntity.xsd" xmlns:gmd="http://www.isotc211.org/2005/gmd"
xmlns:gco="http://www.isotc211.org/2005/gco" xmlns:gmx="http://www.isotc211.org/2005/gmx"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:gml="http://www.opengis.net/gml">
- <gmd:fileIdentifier>
  <gco:CharacterString>111c314b-fc31-49e0-bf82-79b20bf07359</gco:CharacterString>
</gmd:fileIdentifier>
- <gmd:language>
  <gmd:LanguageCode
    codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/M
    codeListValue="cze">cze</gmd:LanguageCode>
  </gmd:language>
- <gmd:characterSet>
  <gmd:MD_CharacterSetCode
    codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/M
    codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
  </gmd:characterSet>
- <gmd:hierarchyLevel>
  <gmd:MD_ScopeCode
    codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/M
    codeListValue="dataset">dataset</gmd:MD_ScopeCode>
  </gmd:hierarchyLevel>
- <gmd:contact>
  <gmd:CI_ResponsibleParty>
    <gmd:individualName>
      <gco:CharacterString>Tomáš Řezník</gco:CharacterString>
    </gmd:individualName>
    <gmd:organisationName>
      <gco:CharacterString>Masarykova univerzita, Laboratoř geoinformatiky a
      kartografie</gco:CharacterString>
    </gmd:PT_FreeText>
    <gmd:textGroup>
      <gmd:LocalisedCharacterString locale="#locale-en">Masaryk University, Laboratory on
      Geoinformatics and Cartography</gmd:LocalisedCharacterString>
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    </gmd:PT_FreeText>
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    <gmd:contactInfo>
      <gmd:CI_Contact>
        <gmd:phone>
          <gmd:CI_Telephone>
```



Metadata Editor & Validator at INSPIRE Geoportal

- <http://inspire-geoportal.ec.europa.eu>

The screenshot displays the INSPIRE Geoportal website. At the top, there is a navigation bar with the European Commission logo and the text "INSPIRE GEOPORTAL Enhancing access to European spatial data". Below this is a secondary navigation bar with links for Home, Priority Data Sets Viewer, Thematic Viewer, Harvesting status, and Find out more about. The main content area is titled "Welcome to the INSPIRE Geoportal" and provides an overview of the portal's purpose and functionality. It includes a list of key features and a link to the harvesting status page. Below the text are three featured sections, each with a map-based icon and a description of the service. The first section is "Priority Data Sets Viewer", the second is "INSPIRE Thematic Viewer", and the third is "INSPIRE Reference Validator". Each section has a corresponding "Browse" button. The footer of the page contains the text "INSPIRE Geoportal" and "Version: 1.4.0", along with a navigation menu for INSPIRE, NEWS & EVENTS, INSPIRE Tools, and Geoportal.

INSPIRE GEOPORTAL
Enhancing access to European spatial data

European Commission > INSPIRE > Geoportal

Home | Priority Data Sets Viewer | Thematic Viewer | Harvesting status | Find out more about

Welcome to the INSPIRE Geoportal

The INSPIRE Geoportal is the central European access point to the data provided by EU Member States and several EFTA countries under the INSPIRE Directive. The Geoportal allows:

- monitoring the availability of INSPIRE data sets;
- discovering suitable data sets based on their descriptions (metadata);
- accessing the selected data sets through their view or download services.

The metadata used in the Geoportal are regularly harvested from the discovery services of EU Member States and EFTA countries. The status of harvesting is available [here](#).

Feedback regarding the functionality as well as data set availability is welcome [here](#).

Priority Data Sets Viewer

The application displays the availability and provides access to the selected priority data sets used for environmental reporting. It allows filtering by environmental domain, environmental legislation and country, as well as individual priority data sets.

[Browse Priority Data Sets](#)

INSPIRE Thematic Viewer

The application displays the availability and provides access to all EU MS data sets falling under the scope of INSPIRE Directive filtered by data themes and countries (i.e. Annex I, II and III).

[Browse INSPIRE Thematic Data Sets](#)

INSPIRE Reference Validator

The validator application is to help data providers, solution providers and national coordinators to check whether their data sets, network services and metadata meet the requirements defined in the INSPIRE Technical Guidelines. The validation tests are based on the Abstract Test Suites agreed between Member States and the Commission in the INSPIRE Maintenance and Implementation Group.

[Go to INSPIRE validator](#)

INSPIRE Geoportal Version: 1.4.0

INSPIRE NEWS & EVENTS INSPIRE Tools Geoportal