

8 Dataset-level metadata

This section specifies dataset-level metadata elements, which should be used for documenting metadata for a complete dataset or dataset series.

NOTE Metadata can also be reported for each individual spatial object (spatial object-level metadata). Spatial object-level metadata is fully described in the application schema(s) (section 5).

For some dataset-level metadata elements, in particular those for reporting data quality and maintenance, a more specific scope can be specified. This allows the definition of metadata at sub-dataset level, e.g. separately for each spatial object type (see instructions for the relevant metadata element).

8.1 Metadata elements defined in INSPIRE Metadata Regulation

Table 5 gives an overview of the metadata elements specified in Regulation 1205/2008/EC (implementing Directive 2007/2/EC of the European Parliament and of the Council as regards metadata).

The table contains the following information:

- The first column provides a reference to the relevant section in the Metadata Regulation, which contains a more detailed description.
- The second column specifies the name of the metadata element.
- The third column specifies the multiplicity.
- The fourth column specifies the condition, under which the given element becomes mandatory.

Table 5 – Metadata for spatial datasets and spatial dataset series specified in Regulation 1205/2008/EC

Metadata Regulation Section	Metadata element	Multiplicity	Condition
1.1	Resource title	1	
1.2	Resource abstract	1	
1.3	Resource type	1	
1.4	Resource locator	0..*	Mandatory if a URL is available to obtain more information on the resource, and/or access related services.
1.5	Unique resource identifier	1..*	
1.7	Resource language	0..*	Mandatory if the resource includes textual information.
2.1	Topic category	1..*	
3	Keyword	1..*	
4.1	Geographic bounding box	1..*	
5	Temporal reference	1..*	
6.1	Lineage	1	

6.2	Spatial resolution	0..*	Mandatory for data sets and data set series if an equivalent scale or a resolution distance can be specified.
7	Conformity	1..*	
8.1	Conditions for access and use	1..*	
8.2	Limitations on public access	1..*	
9	Responsible organisation	1..*	
10.1	Metadata point of contact	1..*	
10.2	Metadata date	1	
10.3	Metadata language	1	

Generic guidelines for implementing these elements using ISO 19115 and 19119 are available at <http://inspire.jrc.ec.europa.eu/index.cfm/pageid/101>. The following sections describe additional theme-specific recommendations and requirements for implementing these elements.

8.1.1 Conformity

The *Conformity* metadata element defined in Regulation 1205/2008/EC requires to report the conformance with the Implementing Rule for interoperability of spatial data sets and services. In addition, it may be used also to document the conformance to another specification.

Recommendation 16 Dataset metadata should include a statement on the overall conformance of the dataset with this data specification (i.e. conformance with all requirements).

Recommendation 17 The *Conformity* metadata element should be used to document conformance with this data specification (as a whole), with a specific conformance class defined in the Abstract Test Suite in Annex A and/or with another specification.

The *Conformity* element includes two sub-elements, the *Specification* (a citation of the Implementing Rule for interoperability of spatial data sets and services or other specification), and the *Degree* of conformity. The *Degree* can be *Conformant* (if the dataset is fully conformant with the cited specification), *Not Conformant* (if the dataset does not conform to the cited specification) or *Not Evaluated* (if the conformance has not been evaluated).

Recommendation 18 If a dataset is not yet conformant with all requirements of this data specification, it is recommended to include information on the conformance with the individual conformance classes specified in the Abstract Test Suite in Annex A.

Recommendation 19 If a dataset is produced or transformed according to an external specification that includes specific quality assurance procedures, the conformity with this specification should be documented using the *Conformity* metadata element.

Recommendation 20 If minimum data quality recommendations are defined then the statement on the conformity with these requirements should be included using the

Conformity metadata element and referring to the relevant data quality conformance class in the Abstract Test Suite.

NOTE Currently no minimum data quality requirements are included in the IRs. The recommendation above should be included as a requirement in the IRs if minimum data quality requirements are defined at some point in the future.

Recommendation 21 When documenting conformance with this data specification or one of the conformance classes defined in the Abstract Test Suite, the *Specification* sub-element should be given using the http URI identifier of the conformance class or using a citation including the following elements:

- title: "INSPIRE Data Specification on *Orthoimagery* – Technical Guidelines – <name of the conformance class>"
- date:
 - dateType: publication
 - date: 2012-12-17

EXAMPLE 1: The XML snippets below show how to fill the *Specification* sub-element for documenting conformance with the whole data specification on Addresses v3.0.1.

```
<gmd:DQ_ConformanceResult>
  <gmd:specification href="http://inspire.ec.europa.eu/conformanceClass/ad/3.0.1/tg" />
  <gmd:explanation> (...) </gmd:explanation>
  <gmd:pass> (...) </gmd:pass>
</gmd:DQ_ConformanceResult>
```

or (using a citation):

```
<gmd:DQ_ConformanceResult>
  <gmd:specification>
    <gmd:CI_Citation>
      <gmd:title>
        <gco:CharacterString>INSPIRE Data Specification on Orthoimagery – Technical
Guidelines</gco:CharacterString>
      </gmd:title>
      <gmd:date>
        <gmd:date>
          <gco:Date>2012-12-17</gco:Date>
        </gmd:date>
        <gmd:dateType>
          <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resou
rces/Codelist/ML_gmxCodelists.xml#CI_DateTypeCode"
codeListValue="publication">publication</gmd:CI_DateTypeCode>
        </gmd:dateType>
      </gmd:date>
    </gmd:CI_Citation>
  </gmd:specification>
  <gmd:explanation> (...) </gmd:explanation>
  <gmd:pass> (...) </gmd:pass>
</gmd:DQ_ConformanceResult>
```

EXAMPLE 2: The XML snippets below show how to fill the *Specification* sub-element for documenting conformance with the CRS conformance class of the data specification on Addresses v3.0.1.

```
<gmd:DQ_ConformanceResult>
  <gmd:specification href="http://inspire.ec.europa.eu/conformanceClass/ad/3.0.1/crs" />
  <gmd:explanation> (...) </gmd:explanation>
  <gmd:pass> (...) </gmd:pass>
</gmd:DQ_ConformanceResult>
```

or (using a citation):

```
<gmd:DQ_ConformanceResult>
  <gmd:specification>
```

```

<gmd:CI_Citation>
  <gmd:title>
    <gco:CharacterString>INSPIRE Data Specification on Orthoimagery – Technical Guidelines –
CRS</gco:CharacterString>
  </gmd:title>
  <gmd:date>
    <gmd:date>
      <gco:Date>2012-12-17</gco:Date>
    </gmd:date>
    <gmd:dateType>
      <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resou
rces/Codelist/ML_gmxCodeLists.xml#CI_DateTypeCode"
codeListValue="publication">publication</gmd:CI_DateTypeCode>
    </gmd:dateType>
  </gmd:date>
</gmd:CI_Citation>
</gmd:specification>
<gmd:explanation> (...) </gmd:explanation>
<gmd:pass> (...) </gmd:pass>
</gmd:DQ_ConformanceResult>

```

8.1.2 Lineage

Recommendation 22 Following the ISO/DIS 19157 Quality principles, if a data provider has a procedure for the quality management of their spatial data sets then the appropriate data quality elements and measures defined in ISO/DIS 19157 should be used to evaluate and report (in the metadata) the results. If not, the *Lineage* metadata element (defined in Regulation 1205/2008/EC) should be used to describe the overall quality of a spatial data set.

According to Regulation 1205/2008/EC, lineage “is a statement on process history and/or overall quality of the spatial data set. Where appropriate it may include a statement whether the data set has been validated or quality assured, whether it is the official version (if multiple versions exist), and whether it has legal validity. The value domain of this metadata element is free text”.

The Metadata Technical Guidelines based on EN ISO 19115 and EN ISO 19119 specifies that the statement sub-element of LI_Lineage (EN ISO 19115) should be used to implement the lineage metadata element.

Recommendation 23 To describe the transformation steps and related source data, it is recommended to use the following sub-elements of LI_Lineage:

- For the description of the transformation process of the local to the common INSPIRE data structures, the LI_ProcessStep sub-element should be used.
- For the description of the source data the LI_Source sub-element should be used.

NOTE 1 In order to improve the interoperability, domain templates and instructions for using these free text elements (descriptive statements) may be specified here and/or in an Annex of this data specification.

Section 8.3 gives more details on how to complete the LI_ProcessStep and LI_Source sub-elements for the theme *Orthoimagery*.

8.1.3 Temporal reference

According to Regulation 1205/2008/EC, at least one of the following temporal reference metadata sub-elements shall be provided: temporal extent, date of publication, date of last revision, date of creation.

Recommendation 24 It is recommended that at least the date of the last revision of a spatial data set should be reported using the *Date of last revision* metadata sub-element.

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.

This Technical Guidance proposes to implement the required metadata elements based on ISO 19115 and ISO/TS 19139.

The following TG requirements need to be met in order to be conformant with the proposed encoding.

TG Requirement 3 Metadata instance (XML) documents shall validate without error against the used ISO 19139 XML schema.

NOTE Section 2.1.2 of the Metadata Technical Guidelines discusses the different ISO 19139 XML schemas that are currently available.

TG Requirement 4 Metadata instance (XML) documents shall contain the elements and meet the INSPIRE multiplicity specified in the sections below.

TG Requirement 5 The elements specified below shall be available in the specified ISO/TS 19139 path.

Recommendation 25 The metadata elements for interoperability should be made available together with the metadata elements defined in the Metadata Regulation through an INSPIRE discovery service.

NOTE While this not explicitly required by any of the INSPIRE Implementing Rules, making all metadata of a data set available together and through one service simplifies implementation and usability.

8.2.1 Coordinate Reference System

Metadata element name	Coordinate Reference System
Definition	Description of the coordinate reference system used in the dataset.
ISO 19115 number and name	13. referenceSystemInfo
ISO/TS 19139 path	referenceSystemInfo
INSPIRE obligation / condition	mandatory
INSPIRE multiplicity	1..*
Data type(and ISO 19115 no.)	186. MD_ReferenceSystem
Domain	<p>To identify the reference system, the referenceSystemIdentifier (RS_Identifier) shall be provided.</p> <p>NOTE More specific instructions, in particular on pre-defined values for filling the referenceSystemIdentifier attribute should be agreed among Member States during the implementation phase to support interoperability.</p>
Implementing instructions	
Example	<pre>referenceSystemIdentifier: code: ETRS_89 codeSpace: INSPIRE RS registry</pre>
Example XML encoding	<pre><gmd:referenceSystemInfo> <gmd:MD_ReferenceSystem> <gmd:referenceSystemIdentifier> <gmd:RS_Identifier> <gmd:code> <gco:CharacterString>ETRS89 </gco:CharacterString> </gmd:code> <gmd:codeSpace> <gco:CharacterString>INSPIRE RS registry</gco:CharacterString> </gmd:codeSpace> </gmd:RS_Identifier> </gmd:referenceSystemIdentifier> </gmd:MD_ReferenceSystem> </gmd:referenceSystemInfo></pre>
Comments	

8.2.2 Temporal Reference System

Metadata element name	Temporal Reference System
Definition	Description of the temporal reference systems used in the dataset.
ISO 19115 number and name	13. referenceSystemInfo
ISO/TS 19139 path	referenceSystemInfo
INSPIRE obligation / condition	Mandatory, if the spatial data set or one of its feature types contains temporal information that does not refer to the Gregorian Calendar or the Coordinated Universal Time.
INSPIRE multiplicity	0..*
Data type(and ISO 19115 no.)	186. MD_ReferenceSystem

Domain	<p>No specific type is defined in ISO 19115 for temporal reference systems. Thus, the generic MD_ReferenceSystem element and its reference SystemIdentifier (RS_Identifier) property shall be provided.</p> <p>NOTE More specific instructions, in particular on pre-defined values for filling the referenceSystemIdentifier attribute should be agreed among Member States during the implementation phase to support interoperability.</p>
Implementing instructions	
Example	<pre>referenceSystemIdentifier: code: GregorianCalendar codeSpace: INSPIRE RS registry</pre>
Example XML encoding	<pre><gmd:referenceSystemInfo> <gmd:MD_ReferenceSystem> <gmd:referenceSystemIdentifier> <gmd:RS_Identifier> <gmd:code> <gco:CharacterString>GregorianCalendar</gco:CharacterString > </gmd:code> <gmd:codeSpace> <gco:CharacterString>INSPIRE RS registry</gco:CharacterString> </gmd:codeSpace> </gmd:RS_Identifier> </gmd:referenceSystemIdentifier> </gmd:MD_ReferenceSystem> </gmd:referenceSystemInfo></pre>
Comments	

8.2.3 Encoding

Metadata element name	Encoding
Definition	Description of the computer language construct that specifies the representation of data objects in a record, file, message, storage device or transmission channel
ISO 19115 number and name	271. distributionFormat
ISO/TS 19139 path	distributionInfo/MD_Distribution/distributionFormat
INSPIRE obligation / condition	mandatory
INSPIRE multiplicity	1
Data type (and ISO 19115 no.)	284. MD_Format
Domain	See B.2.10.4. The property values (name, version, specification) specified in section 5 shall be used to document the default and alternative encodings.
Implementing instructions	
Example	<pre>name: Orthoimagery GML application schema version: version 3.0, GML, version 3.2.1 specification: D2.8.II.3 Data Specification on <i>Orthoimagery</i> – Technical Guidelines</pre>

Example XML encoding	<pre> <gmd:MD_Format> <gmd:name> <gco:CharacterString> Orthoimagery GML application schema </gco:CharacterString> </gmd:name> <gmd:version> <gco:CharacterString>3.0, GML, version 3.2.1</gco:CharacterString> </gmd:version> <gmd:specification> <gco:CharacterString>D2.8.II.3 Data Specification on Orthoimagery – Technical Guidelines</gco:CharacterString> </gmd:specification> </gmd:MD_Format> </pre>
Comments	

8.2.4 Character Encoding

Metadata element name	Character Encoding
Definition	The character encoding used in the data set.
ISO 19115 number and name	
ISO/TS 19139 path	
INSPIRE obligation / condition	Mandatory, if an encoding is used that is not based on UTF-8.
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	
Domain	
Implementing instructions	
Example	-
Example XML encoding	<pre> <gmd:characterSet> <gmd:MD_CharacterSetCode codeListValue="8859part2" codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/I SO_19139_Schemas/resources/Codelist/ML_gmxCodelists.xml#C haracterSetCode">8859-2</gmd:MD_CharacterSetCode> </gmd:characterSet> </pre>
Comments	

8.2.5 Spatial representation type

Metadata element name	Spatial representation type
Definition	The method used to spatially represent geographic information.
ISO 19115 number and name	37. spatialRepresentationType
ISO/TS 19139 path	
INSPIRE obligation / condition	Mandatory
INSPIRE multiplicity	1..*
Data type (and ISO 19115 no.)	B.5.26 MD_SpatialRepresentationTypeCode
Domain	
Implementing instructions	<p>Of the values included in the code list in ISO 19115 (vector, grid, textTable, tin, stereoModel, video), only vector, grid and tin should be used.</p> <p>NOTE Additional code list values may be defined based on feedback from implementation.</p>
Example	-
Example XML encoding	

Comments	
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8.2.6 Data Quality – Logical Consistency – Topological Consistency

See section 8.3.2 for instructions on how to implement metadata elements for reporting data quality.

8.3 Recommended theme-specific metadata elements

Recommendation 26 The metadata describing a spatial data set or a spatial data set series related to the theme *Orthoimagery* should comprise the theme-specific metadata elements specified in Table 6.

The table contains the following information:

- The first column provides a reference to a more detailed description.
- The second column specifies the name of the metadata element.
- The third column specifies the multiplicity.

Table 6 – Optional theme-specific metadata elements for the theme *Orthoimagery*

Section	Metadata element	Multiplicity
8.3.1	Maintenance Information	0..1
8.3.3	Data Quality – Completeness – Omission	0..*
8.3.4	Data Quality – Positional Accuracy – Gridded data position accuracy	0..*
8.3.5	Process step	0..*
8.3.6	Data source	0..*
8.3.7	Image description	0..*
8.3.8	Browse graphic information	0..*
8.3.9	Digital transfer options information	0..*

Recommendation 27 For implementing the metadata elements included in this section using ISO 19115, ISO/DIS 19157 and ISO/TS 19139, the instructions included in the relevant sub-sections should be followed.

8.3.1 Maintenance Information

Metadata element name	Maintenance information
Definition	Information about the scope and frequency of updating
ISO 19115 number and name	30. resourceMaintenance
ISO/TS 19139 path	identificationInfo/MD_Identification/resourceMaintenance
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..1
Data type(and ISO 19115 no.)	142. MD_MaintenanceInformation

Domain	<p>This is a complex type (lines 143-148 from ISO 19115).</p> <p>At least the following elements should be used (the multiplicity according to ISO 19115 is shown in parentheses):</p> <ul style="list-style-type: none"> – maintenanceAndUpdateFrequency [1]: frequency with which changes and additions are made to the resource after the initial resource is completed / domain value: MD_MaintenanceFrequencyCode – updateScope [0..*]: scope of data to which maintenance is applied / domain value: MD_ScopeCode – maintenanceNote [0..*]: information regarding specific requirements for maintaining the resource / domain value: free text
Implementing instructions	
Example	
Example XML encoding	
Comments	

8.3.2 Metadata elements for reporting data quality

Recommendation 28 For reporting the results of the data quality evaluation, the data quality elements, sub-elements and (for quantitative evaluation) measures defined in chapter 7 should be used.

Recommendation 29 The metadata elements specified in the following sections should be used to report the results of the data quality evaluation. At least the information included in the row “Implementation instructions” should be provided.

The first section applies to reporting quantitative results (using the element DQ_QuantitativeResult), while the second section applies to reporting non-quantitative results (using the element DQ_DescriptiveResult).

Recommendation 30 If a dataset does not pass the tests of the Application schema conformance class (defined in Annex A), the results of each test should be reported using one of the options described in sections 8.3.2.1 and 8.3.2.2.

NOTE 1 If using non-quantitative description, the results of several tests do not have to be reported separately, but may be combined into one descriptive statement.

NOTE 2 The sections 8.3.2.1 and 8.3.2.2 may need to be updated once the XML schemas for ISO 19157 have been finalised.

The scope for reporting may be different from the scope for evaluating data quality (see section 7). If data quality is reported at the data set or spatial object type level, the results are usually derived or aggregated.

Recommendation 31 The scope element (of type DQ_Scope) of the DQ_DataQuality subtype should be used to encode the reporting scope.

Only the following values should be used for the level element of DQ_Scope: Series, Dataset, featureType.

If the level is featureType the levelDescription/MDScopeDescription/features element (of type Set< GF_FeatureType>) shall be used to list the feature type names.

NOTE In the level element of DQ_Scope, the value featureType is used to denote spatial object type.

8.3.2.1. Guidelines for reporting quantitative results of the data quality evaluation

Metadata element name	See chapter 7
Definition	See chapter 7
ISO/DIS 19157 number and name	3. report
ISO/TS 19139 path	dataQualityInfo/*/report
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO/DIS 19157 no.)	Corresponding DQ_xxx subelement from ISO/DIS 19157, e.g. 12. DQ_CompletenessCommission
Domain	Lines 7-9 from ISO/DIS 19157 7. DQ_MeasureReference (C.2.1.3) 8. DQ_EvaluationMethod (C.2.1.4.) 9. DQ_Result (C2.1.5.)
Implementing instructions	39. nameOfMeasure NOTE This should be the name as defined in Chapter 7. 42. evaluationMethodType 43. evaluationMethodDescription NOTE If the reported data quality results are derived or aggregated (i.e. the scope levels for evaluation and reporting are different), the derivation or aggregation should also be specified using this property. 46. dateTime NOTE This should be data or range of dates on which the data quality measure was applied. 63. DQ_QuantitativeResult / 64. value NOTE The DQ_Result type should be DQ_QuantitativeResult and the value(s) represent(s) the application of the data quality measure (39.) using the specified evaluation method (42-43.)
Example	See Table E.12 — Reporting commission as metadata (ISO/DIS 19157)
Example XML encoding	

8.3.2.2. Guidelines for reporting descriptive results of the Data Quality evaluation

Metadata element name	See chapter 7
Definition	See chapter 7
ISO/DIS 19157 number and name	3. report
ISO/TS 19139 path	dataQualityInfo/*/report
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO/DIS 19157 no.)	Corresponding DQ_xxx subelement from ISO/DIS 19157, e.g. 12. DQ_CompletenessCommission
Domain	Line 9 from ISO/DIS 19157 9. DQ_Result (C2.1.5.)
Implementing instructions	67. DQ_DescriptiveResult / 68. statement NOTE The DQ_Result type should be DQ_DescriptiveResult and in the statement (68.) the evaluation of the selected DQ sub-element should be expressed in a narrative way.
Example	See Table E.15 — Reporting descriptive result as metadata (ISO/DIS 19157)

Example XML encoding	
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8.3.3 Data Quality – Completeness – Omission

Metadata element name	Data Quality – Completeness – Omission
Definition	Data absent from the dataset, as described by the scope
ISO 19115 number and name	18. dataQualityInfo
ISO/TS 19139 path	dataQualityInfo
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	110. DQ_CompletenessOmission
Domain	Lines 100-107 from ISO 19115
Implementing instructions	
Example	
Example XML encoding	
Comments	See clause 7.1.1 in Chapter 7 for detailed information.

8.3.4 Data Quality – Positional Accuracy – Gridded data position accuracy

Metadata element name	Data Quality - Positional accuracy – Gridded data position accuracy
Definition	closeness of gridded data position values to values accepted as or being true
ISO 19115 number and name	18. dataQualityInfo
ISO/TS 19139 path	dataQualityInfo
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	118. DQ_GriddedDataPositionalAccuracy
Domain	Lines 100-107 from ISO 19115
Implementing instructions	
Example	
Example XML encoding	
Comments	See clause 7.1.2 in Chapter 7 for detailed information.

8.3.5 Process step

Metadata element name	Process step
Definition	Information about an event or transformation in the life of a dataset including the process used to maintain the dataset
ISO 19115 number and name	84. processStep
ISO/TS 19139 path	dataQualityInfo/lineage/LI_Lineage/processStep
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	86. LI_ProcessStep
Domain	See B.2.4.2.2. This is a complex type (lines 87-91 from ISO 19115). The description (free text) property shall be provided.
Implementing instructions	
Example	
Example XML encoding	
Comments	This metadata element aims to supplement the <i>Lineage</i> metadata element defined in Regulation 1205/2008/EC with a precise description of a process or operation that has been

	<p>applied to the orthoimagery dataset.</p> <p>For example, the following processing steps, which are common in orthoimagery, may be traced here:</p> <ul style="list-style-type: none"> - data acquisition - aero/spatio-triangulation - orthorectification - mosaicking - radiometric correction <p>Note that such information may convey, most often implicitly, supplementary indications of the expected quality of a dataset (e.g. the radiometric aspect of a mosaic), which often depends on the nature of the production process.</p>
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8.3.6 Data source

Metadata element name	Data source
Definition	Information about the source data used in creating the data specified by the scope
ISO 19115 number and name	85. source
ISO/TS 19139 path	dataQualityInfo/lineage/LI_Lineage/source
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	92.LI_Source
Domain	See B.2.4.2.3. This is a complex type (lines 93-98 from ISO 19115). Either the description (free text) or the sourceExtent (EX_Extent) properties shall be provided.
Implementing instructions	
Example	
Example XML encoding	
Comments	<p>This metadata element aims to supplement the <i>Lineage</i> metadata element defined in Regulation 1205/2008/EC with a precise description of data sources that have been used as input to generate the orthoimagery dataset.</p> <p>For example, the following data sources may be described and referenced here:</p> <ul style="list-style-type: none"> - image sources - calibration data - control data (e.g. control points) - image positions and orientations - elevation data - seamlines used to build the mosaic elements <p>Metadata on image sources may as well include the specifications and the conditions of data acquisition (e.g. sensors characteristics, image overlap, solar elevation, et.).</p> <p>Concerning elevation data, it is recommended to provide information about the following basic characteristics of the Digital Elevation Models (DEM) used to rectify images:</p> <ul style="list-style-type: none"> - structure (grid or TIN data) - for grid data: surface type (Digital Terrain Model or Digital Surface Model) - for grid data: DTM/DSM spacing (distance)

	<ul style="list-style-type: none"> - for grid data: water bodies flattened (yes/no) - for DSM: modelling of buildings (yes/no) - for DSM: modelling of trees (yes/no) - additional breaklines (yes/no) - vertical datum information - vertical accuracy (rmse) - positional accuracy (rmse) <p>Information relative to the seamlines carrying the geometry of the mosaic elements can be particularly helpful to assess the accuracy and the reliability of the acquisition times provided through these mosaic elements. Seamlines may have been slightly generalized, so that the exact race between adjoining pixels from neighbouring images is lost. Or feathering may have been applied to mosaick images, so that some range values in the mosaic can be defined as a combination of values stemming from several input images with different capture time.</p>
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8.3.7 Image description

Metadata element name	Image description
Definition	Information about an image's suitability for use
ISO 19115 number and name	16. contentInfo
ISO/TS 19139 path	contentInfo
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	243. MD_ImageDescription
Domain	<p>See B.2.2.2. This is a complex type (lines 244-255 and 240-242 from ISO 19115).</p> <p>At least the following element should be used:</p> <ul style="list-style-type: none"> – cloudCoverPercentage [1]: area of the dataset obscured by clouds, expressed as a percentage of the spatial extent/ domain value: Real
Implementing instructions	
Example	
Example XML encoding	
Comments	

8.3.8 Browse graphic information

Metadata element name	Browse graphic information
Definition	Graphic that provides an illustration of the dataset (should include a legend for the graphic)
ISO 19115 number and name	31. graphicOverview
ISO/TS 19139 path	identificationInfo/MD_Identification/graphicOverview
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	48. MD_BrowseGraphic

Domain	See B.2.2.2. This is a complex type (lines 49-51 from ISO 19115). The following element is mandatory: – filename [1]: name of the file that contains a graphic that provides an illustration of the dataset / domain value: free text
Implementing instructions	
Example	
Example XML encoding	
Comments	

8.3.9 Digital transfer options information

Metadata element name	Digital transfer options information
Definition	Technical means and media by which a resource is obtained from the distributor
ISO 19115 number and name	273. transferOptions
ISO/TS 19139 path	distributionInfo/MD_Distribution/transferOptions
INSPIRE obligation / condition	optional
INSPIRE multiplicity	0..*
Data type (and ISO 19115 no.)	MD_DigitalTransferOptions
Domain	See B.2.10.2. This is a complex type (lines 275-278 from ISO 19115). At least the following elements should be used (the multiplicity according to ISO 19115 is shown in brackets): – unitsOfDistribution [0..1]: tiles, layers, geographic areas, etc., in which data is available / domain value: free text – offline [0..1]: information about offline media on which the resource can be obtained / domain value: MD_Medium
Implementing instructions	
Example	
Example XML encoding	
Comments	