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Plan4all

Plan4all Metadata Profile -Final version

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¹ OJ L 79, 24.3.2005, p. 1.

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1. Introduction

The Plan4all project focuses on implementation of the INSPIRE Directive into spatial planning processes, in order to achieve interoperability and harmonisation of spatial planning data, based on the existing best practices in the EU. In this framework, one of the main objectives is to design a Plan4all metadata profile.

1.1. Scope

The aim of WP3 is to define the European metadata profile for spatial planning, which will cover the requirements given by national legislations and the INSPIRE Directive. The work includes:

- to analyse the requirements on spatial planning metadata given by national legislation.
- to define the European metadata profile (platform neutral) for spatial planning.

The goal of Task 3.2 is to design European spatial planning metadata profile based on

- Analysis of National Requirements on Spatial Planning Metadata (Task 3.1)
- Conceptual Data Models for Selected Themes (Task 4.2)

The deliverable D3.2.2 “Plan4all Metadata Profile – Final version“ provides a common metadata profile for cataloguing of spatial planning activities across Europe.

- Platform neutral metadata profile proposal
- ISO 19115/19119/19139 mapping / implementation proposal
- Technical guidance for the implementation
- Implementation examples

The metadata profiles of single selected INSPIRE spatial data themes that Plan4all is focused on will be part of the deliverable Conceptual Data Models for Selected Themes (D 4.2).

1.2. Background

Plan4all metadata profile is compliant to:

- ISO 191xx standards (19115, 19119, 19139, ...),
- INSPIRE Metadata Regulation – see the document:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:326:0012:0030:EN:PDF>

- INSPIRE Metadata Implementing Rules – see the document:

http://inspire.jrc.ec.europa.eu/documents/Metadata/INSPIRE_MD_IR_and_ISO_v1_2_20100616.pdf

- INSPIRE Generic Conceptual Model – see the document:

http://inspire.jrc.ec.europa.eu/reports/ImplementingRules/DataSpecifications/D2.5_v3.1.pdf

The documents provide a framework within which harmonised data specifications for the INSPIRE spatial data themes will be developed. For this purpose they contain “Requirements” (Req) and “Recommendations” (Rec). See also “Methodology for the development of data specifications”:

http://inspire.jrc.ec.europa.eu/reports/ImplementingRules/DataSpecifications/D2.6_v3.0.pdf

1.3. Content

The rest of the document is organized as follows. Chapter 2 gives an explanation about the methodology of work within the framework of WP3. Chapter 3 summarises the previous work on metadata in the scope of the PLAN4ALL project. Chapter 4 gives the definition of the profile. Chapter 5 brings implementation instructions. Chapter 6 brings definitions of additional queryables for discovery services and Chapter 7 describes the relation to metadata profiles of single spatial data themes.

2. Methodology

Dataset and services metadata profile has been designed in these steps:

1. Preparing initial metadata elements table derived from national legislation and user requirements coming from D 3.1.
2. Consolidation of element names and their meaning (removing duplicities coming from different interpretation or terminology).
3. Mapping to ISO 19139 and INSPIRE elements
4. Solving extra elements over ISO profile.
5. Creating technical guidelines and examples, putting metadata in the central catalogue, validation, testing.

3. Previous analysis about metadata within the framework of the Plan4all project

3.1. Recommendations for metadata based on the analysis of the INSPIRE requirements

As far as metadata are concerned, Plan4all will work on two levels (Fig. 1):

- On one hand, the INSPIRE requirements claim for the definition of metadata elements on dataset level, for each spatial data theme (Land Cover, Land Use, Utility and Government services, Production and industrial facilities, Agricultural and aquaculture facilities, Area management/restriction/regulation zones and reporting units, Natural risk zones), in addition to the mandatory metadata elements set of the INSPIRE Metadata Regulation;
- On the other hand, a main objective of the project is the definition of an overall spatial planning metadata profile applicable for spatial plan as a whole [D-3.1].

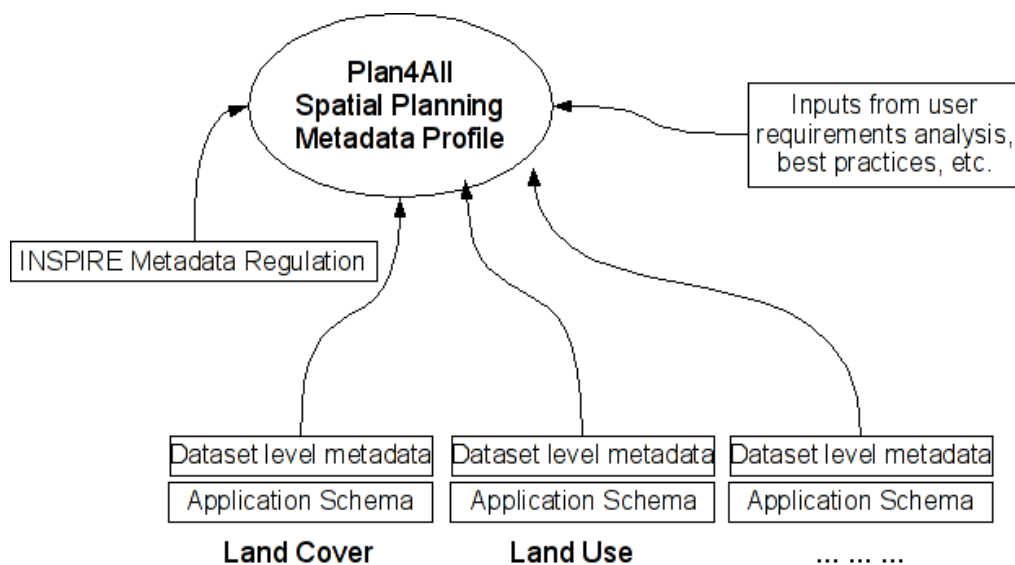


Fig. 1: Plan4all and Metadata [D2.3]

The INSPIRE “Metadata Regulation” is mandatory for all spatial data themes of the INSPIRE Directive Annexes. The INSPIRE document “Technical Guidelines based on EN ISO 19115 and EN ISO 19119 (Revised edition)” provides technical guidelines for the implementation of the INSPIRE Metadata Regulation on the base of ISO 19115 (ISO 19115 and ISO 19115/Cor1:2006) and ISO 19119 (ISO 19119 and ISO 19119:2005/Amd1:2008). The document compares the core requirements of ISO 19115 against those of INSPIRE: **the conclusion is that the conformance to ISO 19115 does not guarantee the conformance to INSPIRE.**

On the other hand, it has to be said that the conformance to INSPIRE Metadata Implementing Rules does not guarantee the conformance to ISO 19115 (e.g. INSPIRE does not contains the ISO 19115 Core elements). [D-2.3]

3.2. *Collecting of metadata in particular project countries*

Within the framework of Task 3.1 a survey among the project partners was done.

The questionnaires detected some requirements for metadata elements over the INSPIRE profile coming from these domains:

- National metadata standards (if they exist)
- National spatial planning legislation (if exists)
- User requirements for spatial planning metadata

All questionnaires and analysis results are available for download on the wiki of the PLAN4ALL project:

<http://www.plan4all.eu/wiki/WP3:T.3.1> (restricted access)

4. Plan4all Metadata Profile

The Plan4all metadata profile is intended to provide metadata of

- spatial plans according to national legislation (digital or non digital),
- datasets which are part of digital spatial plans,
- spatial services providing access to digital spatial plans.

This profile doesn't take into account description of single textual documents inside spatial plan. But these documents – if available on the Internet – may be linked from metadata records.

The Plan4all metadata profile is compliant to

- ISO 19115/19119/19139 standards,
- INSPIRE metadata profile [**INS MD**],
- INSPIRE metadata implementing rules [**INS MD IMPL**].

The Plan4all metadata profile is intended not only for discovery but also as documentation of spatial plans (evaluation, use), its components (datasets) and corresponding services. Particular components are logically related / coupled and some links are set to map these relations. These links consequently enable users to understand these relationships, address and browse them (Fig. 5).

The Plan4all metadata profile is presented as platform independent list of metadata elements in tabular form, ISO19139 and INSPIRE mapping.

There is no extension beyond ISO 19115/19119 to enable users to maximise the interoperability across different software platforms.

The Plan4all metadata profile is multilingual. Multilinguality shall be according to the concept that is described in Annex J of the EN ISO 19115 and section A.6 of the INSPIRE Technical Guidelines [**INSP MD IMPL**].

Some special requirements for spatial planning metadata were solved by introducing

- Predefined sentences in text elements (e.g.in hirerachyLevelName – see Tbl. 1)
- Mapping between spatial planning common used terms and ISO 19115 code lists (e.g. responsible party roles – see Tbl. 2)

These extensions are documented in this profile and would be understand in the scope of spatial planning user without disruption the standard.

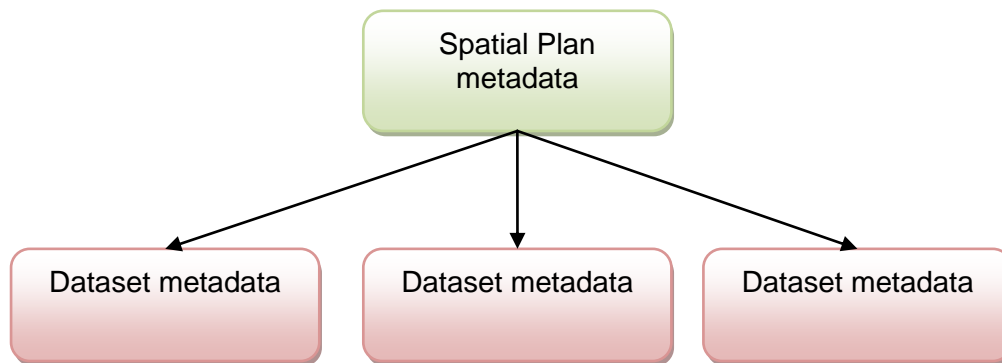


Fig. 2: Relation between Spatial Plan metadata and Dataset metadata

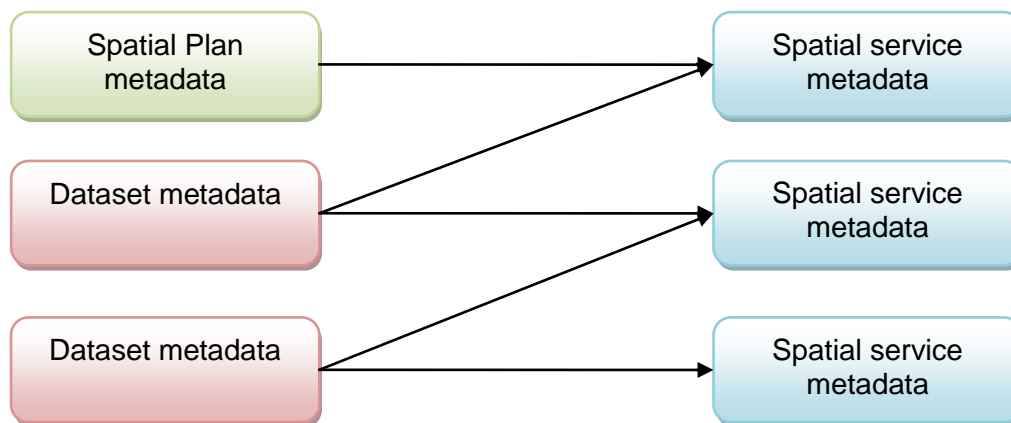


Fig. 3: Relation between Spatial Plan metadata and Spatial Services metadata

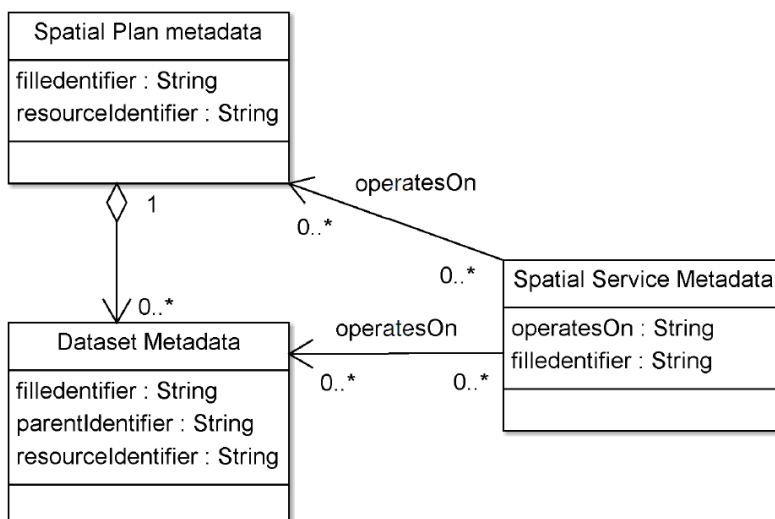


Fig. 4: UML model of metadata model components relationship

4.1. Spatial plan metadata

Spatial plan metadata are the most important part of this profile. It contains metadata of Spatial Plan as a whole. It is useful for cataloguing Spatial Plans on any level (regional, national, European) even if they are not confirmed yet. We are aware that Spatial Plan consists of many components – documents, maps in paper and digital form and corresponding spatial data which maps are constructed from. Individual components may be optionally described by independent metadata records with links to corresponding Spatial Plan (4.4.1).

4.1.1. Overview

Tables column names:

INS – INSPIRE Metadata number

ISO – ISO 19115 number

Mult – Plan4all profile multiplicity

INS	ISO	ELEMENT	Mult	DESCRIPTION
1.1	360	Spatial plan title	1	Name by which the spatial plan is known.
1.2	25	Spatial plan abstract	1	Brief narrative summary of the content of the resource(s).
1.3	6	Resource type	1	Type of the resource. (dataset)
	7	Spatial plan type	1	Type of spatial plan regarding areal scope.
1.4	277	Resource locator	0..*	Mandatory if a URL is available to obtain more information on the resource, and/or access related services.
1.5	365	Unique resource identifier	1..*	Unique identifier of spatial plan
1.7	39	Spatial plan language	1..*	Spatial Plan language.
2.1	41	Topic category	1..*	Main theme(s) of the dataset.
3	53	Keyword	1..*	Commonly used word(s) or formalized word(s) or phrase(s) used to describe the subject and the originating controlled vocabulary.
4.1	343	Geographic bounding	1..*	Geographic position of the Spatial Plan

		box		expressed by the smallest bounding rectangle.
	342	Geographic boundary polygon	0..*	boundary enclosing the dataset, expressed as the closed set of (x,y) coordinates of the polygon
	335	Spatial extent description	0..1	Description of spatial extent of dataset; text.
5	362	Reference date	1..*	Spatial plan reference date.
5	337	Temporal extent	0..*	Spatial plan effecting and expiration date.
6.1	83	Lineage	1	General explanation of the data producer's knowledge about the lineage of a dataset.
	84	Process step	0..*	Description of legal milestones during the spatial plan design
6.2	38	Spatial Resolution	0..*	Mandatory for spatial plan if an equivalent scale or a resolution distance can be specified.
8.1	68	Conditions for access and use	0..*	Conditions for access and use of spatial data sets and services, where applicable
8.2	70, 72, 74	Limitations on public access	0..*	Access or other constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource.
9	29	Responsible organisation	1..*	Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s)
10.1	8	Metadata point of contact	1..*	Party responsible for the metadata information.
10.2	9	Metadata date	1	Date that the metadata was created.
10.3	3	Metadata Language	1	Language used for documenting metadata (main language)
	2	File identifier	1	Metadata file identifier.
	10	Metadata standard name	1	Name of the metadata standard.
	11	Metadata standard version	1	Name of the metadata standard version.
	368	Presentation form	1..*	Mode in which the resource is presented.
	21	Application schema	0..*	Provides information about the conceptual schema of a Spatial plan data.
	79	Data quality scope	1	Level to which data quality information apply.
	13	Reference system information	0..*	Information on reference system
	143	Maintenance and update frequency	0..1	Information on updates frequency.
	26	Purpose	0..1	Summary of the intentions with which the resource(s) was developed
	28	Status	1..1	Represents the status of the resource described by metadata. Possible values are in the ISO 19115 code list 'MD_ProgressCode'.
	68	Legal relevance	0..1	Legal character.

4.1.2. Detailed description

Spatial plan title

Plan4all	Multiplicity Description Note	[1] Name by which the cited resource is known.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 1.1 Resource title Mandatory [1]
ISO 19115	Number Name Definition XPath Data type Domain	360 title Name by which the cited resource is known. identificationInfo[1]/*/citation/*/title CharacterString Free text
	Example	Spatial Plan of Olomouc municipality

Spatial plan abstract

Plan4all	Multiplicity Description Note	[1] Brief narrative summary of the content of the resource(s).
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 1.2 Resource abstract Mandatory [1]
ISO 19115	Number Name Definition XPath Data type Domain	25 abstract Brief narrative summary of the content of the resource(s). identificationInfo[1]*/abstract CharacterString Free text
	Example	Local plan of Olomouc draft published according to Act. No. 183/2006

Resource type

Plan4all	Multiplicity Description Note	[1] Type of the resource. “dataset” shall be used for Spatial Plan !
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 1.3 Resource Type Mandatory [1]
ISO 19115	Number Name	6 hierarchyLevel

	Definition XPath Data type Domain	Scope to which metadata applies. hierarchyLevel MD_ScopeCode CodeList (See Annex B of ISO 19115)
	Example	dataset

Spatial plan type

Plan4all	Multiplicity Description Note	[1] Type of spatial plan regarding areal scope. Predefined list of codes in the scope of Plan4all. To distinguish spatial plan metadata, the form is: spatialPlan.<type> (see type codelist at 4.5.1 tbl 1) In multilingual records the codes MUST have these predefined values and shall not be translated.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	7 hierarchyLevelName Name of the hierarchy levels for which the metadata is provided hierarchyLevelName CharacterString Free text
	Example	spatialPlan.local

Resource locator

Plan4all	Multiplicity Description Note	[0..*] Mandatory if a URL is available to obtain more information on the resource, and/or access related services. Linkage to spatial plan on-line digital documents may be defined here. “protocol” subelement is added beyond INSPIRE scope. It provides information about linkage type.. The form is: <Domain>-<version>-<protocol>-<method>-operation Examples: Link to web page: WWW:LINK-1.0-http--link Download file (dataset): WWW:LINK-1.0-http--download WMS 1.3: OGC:WMS-1.1.1-http-get-capabilities WFS 2.0 post: OGC:WFS-2.0.0-http-post-capabilities Also name and/or description elements may be optionally used here to describe particular linked resources.
Inspire	Reference Element name Obligation / condition	Part B 1.4 Resource locator * Conditional for spatial dataset and spatial dataset series: Mandatory if a URL is available to obtain more information on the resources and/or access related services. * Conditional for services: Mandatory if linkage to the service is

	Multiplicity	available [0..*]
ISO 19115	Number	277
	Name	onLine
	Definition	Information about online sources from which the resource can be obtained.
	XPath	distributionInfo/*/transferOptions/*/online (linkage, protocol, name, description)
	Data type	Class
	Domain	CI_OnlineResource <<DataType>> (B.3.2.5)
	Example	http://portal.plan4all.eu/services/wms?service=WMS OGC:WMS-1.1.1-http-get-capabilities Regulation Description for regulation document

Unique resource identifier

Plan4all	Multiplicity Description Note	[1..*] Unique identifier of spatial plan. Mandatory if available According to last INSPIRE teams decision, it should be in the form <responsible Party ULR>#<Identifier in the scope of the organization> (see example)
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 1.5 Unique resource identifier Mandatory for dataset and dataset series. [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	365 Identifier Value uniquely identifying an object within a namespace. identificationInfo/*/citation/*/identifier MD_Identifier or RS_Identifier See B.2.7.3 of ISO 19115. The code property is required at a minimum, and a codeSpace property may be provided.
	Example	http://www.olomouc.cz#SPATIALPLAN2010

Spatial plan language

Plan4all	Multiplicity Description Note	[1..*] Resource language. Spatial Plan textual documents language. If corresponding dataset language is different, it should be documented in dataset level metadata.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 1.7 Resource language * Conditional for spatial dataset and spatial dataset series: Mandatory if the resource includes textual information. * Not applicable to services. [0..*]
ISO	Number	39

19115	Name Definition XPath Data type Domain	language Language(s) used within the datasets identificationInfo[1]*/language LanguageCode (ISO/TS 19139) Codelist (See ISO/TS 19139) based on alpha-3 codes of ISO 639-2. Use only three-letter codes from in ISO 639-2/B (bibliographic codes), as defined at http://www.loc.gov/standards/iso639-2/ The list of codes for the 23 official EU languages is: Bulgarian – bul Italian – ita Czech – cze Latvian – lav Danish – dan Lithuanian – lit Dutch – dut Maltese – mlt English – eng Polish – pol Estonian – est Portuguese – por Finnish – fin Romanian – rum French – fre Slovak – slo German – ger Slovenian – slv Greek – gre Spanish – spa Hungarian – hun Swedish – swe Irish – gle
	Example	eng

Topic category

Plan4all	Multiplicity Description Note	[1..*] Main theme(s) of the dataset. Because the resource is spatial plan, “planningCadastre” code is mandatory here. Optionally other topic categories may be listed here.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 2.1 Topic category * Mandatory for datasets and dataset series. * Not applicable to services. [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	41 topicCategory Main theme(s) of the dataset identificationInfo[1]*/topicCategory MD_TopicCategory Enumeration (See B.5.27 of ISO 19115 or Part D 2 of the INSPIRE Implementing Rules for Metadata)
	Example	imageryBaseMapsEarthCover

Keyword

Plan4all	Multiplicity Description Note	[1..*] Commonly used word(s) or formalised word(s) or phrase(s) used to describe the subject and the originating controlled vocabulary. According to INSPIRE at least GEMET keyword will be
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		used. Also Plan4All vocabulary terms should be listed here. Thesaurus citation should be included if thesaurus is used. For more instructions see 5.4.3.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 3.1 Keyword value Mandatory [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	53 keyword Commonly used word(s) or formalised word(s) or phrase(s) used to describe the subject. identificationInfo[1]*/descriptiveKeywords/*/keyword CharacterString Free text
ISO 19115	Number Name Definition XPath Data type Domain	55 ThesaurusName Name of the formally registered thesaurus or a similar authoritative source of keywords. identificationInfo[1]*/descriptiveKeywords/*/thesaurusName CI_Citation The following properties are expected: • title of type CharacterString (Free text) • reference date defined as: o a date type : creation, revision or publication o date
	Example	Keyword: Land use Thesaurus: • title: “GEMET Thesaurus version 2.1” o date: 2008-06-13, dateType: publication

Geographic bounding box

Plan4all	Multiplicity Description Note	[1..*] Geographic position of the Spatial Plan expressed by the smallest bounding rectangle. Values shall be expressed in decimal degrees with at least 2 decimals.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 4.1 Geographic bounding box * Mandatory for spatial dataset and dataset series. * Conditional for spatial services: Mandatory for services with an explicit geographic extent. [1..*]
ISO 19115	Number Name Definition	343 EX_GeographicBoundingBox Geographic position of the dataset. NOTE This is only an

	XPath Data type Domain	approximate reference so specifying the coordinate reference system is unnecessary. identificationInfo/*/citation/*/identifier Specified Class (EX_GeographicExtent) Lines 344-347 and 340
	Example	12.09 18.91 48.59 51.04

Geographic boundary polygon

Plan4all	Multiplicity Description Note	[0..*] Boundary enclosing the dataset, expressed as the closed set of (x,y) coordinates of the polygon Additionally extent polygon (generalized) is strongly recommended for defining Spatial Plan spatial extent.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	342 polygon Sets of points defining the bounding polygon. identificationInfo/*/extent/*/geographicElement/*/polygon Class GM_Object (B.4.6) -90 to 90 latitude -180 to 180 longitude
	Example	

Spatial extent description

Plan4all	Multiplicity Description Note	[0..*] Description of spatial extent of dataset; text. Additional description of extent
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	335 description Spatial and temporal extent for the referring object. identificationInfo/*/extent/*/description CharacterString Free text
	Example	Olomouc municipality, Czech republic

Reference date

Plan4all	Multiplicity Description Note	[1..*] Spatial plan dates. After spatial plan adoption, the “publication” should map date
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		of spatial plan issue. Other dates (update) may be mapped with corresponding date types.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 2.2.5 Date of publication / last revision / revision At least one date must be set [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	362 Date Reference date for the cited resource. identificationInfo/*/citation/*/date Class CI_Date (B.3.2.4) <<DataType>>
	Example	2010-06-14

Temporal extent

Plan4all	Multiplicity Description Note	[0..*] Spatial plan effecting and expiration date. This element shall be mandatory after spatial plan adoption. If no expiration date is defined, the end value will be set to far future (3000 a.d.)
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 5.1 Temporal Extent Conditional: At least one temporal reference is required. [0..*]
ISO 19115	Number Role Name Definition XPath Data type Domain	337 temporalElement Provides temporal component of the extent of the referring object. identificationInfo/*/extent/*/temporalElement/EX_Temporal Extent/extent Association EX_TemporalExtent (B.3.1.3)
	Example	2008-06-14 3000-01-01

Lineage

Plan4all	Multiplicity Description Note	[1] General explanation of the data producer's knowledge about the lineage of a dataset. Lineage should be more precisely described with processStep element.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 6.1 Lineage * Mandatory for spatial dataset and spatial dataset series. * Not applicable to services. [1]
ISO 19115	Number	83

	Name Definition XPath Data type Domain	Statement General explanation of the data producer's knowledge about the lineage of a dataset. dataQualityInfo/*/lineage/*/statement CharacterString Free text
	Example	Local plan of Olomouc draft was created according to Act. No. 183/2006 Coll. and subsequent legislative

Process step

Plan4all	Multiplicity Description Note	[0..*] Description of legal milestones during the spatial plan design. See Process Step description 4.4.2. For Spatial plan metadata it should be used for legal aspect rather than technical ones.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Role Name Definition XPath Data type Domain	84 processStep Information about events in the life of a dataset specified by the scope. dataQualityInfo/*/lineage/*/processStep Association LI_ProcessStep (B.2.4.2.2)
	Example	Description: procurement approval DateTime: 2008-09-15T00:00:00 Processor: Statutární město Olomouc, role: owner

Spatial resolution

Plan4all	Multiplicity Description Note	[0..*] Mandatory for spatial plan if an equivalent scale or a resolution distance can be specified. More scale denominators may be set to map different scales used. It is recommended to enter scale denominator in any case if it is possible. Than all records may be compared and searched unique way.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 6.2 Spatial resolution * Conditional: Mandatory if an equivalent scale or a resolution distance can be specified. * Conditional: Mandatory when there is a restriction on the spatial resolution for service [0..*]
ISO 19115	Number Name Definition	38 spatialResolution Factor which provides a general understanding of the density of spatial data in the dataset.

	XPath Data type Domain	identificationInfo/*/spatialResolution Class MD_Resolution <<Union>> (B.2.2.5)
	Example	10000 10 meters

Conditions for access and use

Plan4all	Multiplicity Description Note	[0..*] Conditions for access and use of spatial data sets and services, where applicable Spatial plan metadata is not part of INSPIRE data themes! So this element is not mandatory at this level.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 8.1 Condition applying to access and use Mandatory [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	68 useLimitation Restrictions on the access and use of a resource or metadata. identificationInfo[1]/*/resourceConstraints/*/useLimitation CharacterString Free text
	Example	no conditions apply

Limitations on public access

Plan4all	Multiplicity Description Note	[0..*] Access or other constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource. Spatial plan metadata is not part of INSPIRE data themes! So this element is not mandatory at this level.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 8.2 Limitations on public access Mandatory [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	70 accessConstraints Access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource. identificationInfo[1]/*/resourceConstraints/*/accessConstraints MD_RestrictionCode Codelist (strictly limited to the value defined in B.5.24 of ISO 19115)
	Example	intellectualPropertyRights (rights to financial benefit from and control of distribution of non-tangible property that is a

		result of creativity).
ISO 19115	Number	72
	Name	otherConstraints
	Definition	Other restrictions and legal prerequisites for accessing and using the resource or metadata.
	XPath	identificationInfo[1]/*/resourceConstraints/*/otherConstraints
	Data type	CharacterString
	Domain	Free text
	Example	No limitations
ISO 19115	Number	74
	Name	classification
	Definition	Name of the handling restrictions on the resource.
	XPath	identificationInfo[1]/*/resourceConstraints/*/classification
	Data type	MD_ClassificationCode
	Domain	Codelist (See B.5.11 of ISO 19115)
	Example	restricted

Responsible organisation

Plan4all	Multiplicity	[1..*]
	Description	Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s)
	Note	Spatial Plan roles are listed ad mapped to ISO in Tbl. 2.
Inspire	Reference	Part B 9.1
	Element name	Responsible party
	Obligation / condition	Mandatory
	Multiplicity	[1..*]
ISO 19115	Number	29
	Name	pointOfContact
	Definition	Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s).
	XPath	identificationInfo[1]/*/pointOfContact
	Data type	CI_ResponsibleParty
	Domain	Expected properties: see 4.4.1
	Example	

Metadata point of contact

Plan4all	Multiplicity	[1..*]
	Description	Party responsible for the metadata information.
	Note	
Inspire	Reference	Part B 10.1
	Element name	Metadata point of contact
	Obligation / condition	Mandatory
	Multiplicity	[1..*]
ISO 19115	Number	8
	Name	contact

	Definition XPath Data type Domain	Party responsible for the metadata information. contact CI_ResponsibleParty Expected properties according to 4.4.1
	Example	Josef Novák Magistrát města Olomouce Horní náměstí 583 779 11 Olomouc Czech republic http://www.olomouc.eu podatelna@mmol.cz

Metadata date

Plan4all	Multiplicity Description Note	[1] Date that the metadata was created.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 10.2 Metadata date Mandatory [1]
ISO 19115	Number Name Definition XPath Data type Domain	9 dateStamp Date that the metadata was created. dateStamp Date ISO 8601
	Example	2005-03-27

Metadata language

Plan4all	Multiplicity Description Note	[1] Language used for documenting metadata. Because Plan4All uses multilingual metadata record it identifies “main” metadata language which typically corresponds with national language.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 10.3 Metadata language Mandatory [1]
ISO 19115	Number Name Definition XPath Data type Domain	3 language Language used for documenting metadata. language LanguageCode (ISO/TS 19139) Codelist (See ISO/TS 19139) based on alpha-3 codes of ISO 639-2. Use only three-letter codes from in ISO 639-2/B (bibliographic codes), as defined at http://www.loc.gov/standards/iso639-2/

		<p>The list of codes for the 23 official EU languages is:</p> <p>Bulgarian – bul Czech – cze Danish – dan Dutch – dut English – eng Estonian – est Finnish – fin French – fre German – ger Greek – gre Hungarian – hun Irish – gle Italian – ita Latvian – lav Lithuanian – lit Maltese – mlt Polish – pol Portuguese – por Romanian – rum Slovak – slo Slovenian – slv Spanish – spa Swedish – swe</p>
	Example	eng

File identifier

Plan4all	Multiplicity Description Note	[1] Metadata file identifier. Identifier (typically UUID) of the metadata record
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	2 fileIdentifier Unique identifier for this metadata file. fileIdentifier CharacterString Free text
	Example	00d32154-1656-4fcc-9ddd-6dbe9a1baeb0

Metadata standard name

Plan4all	Multiplicity Description Note	[1] Name of the metadata standard. Phrase “ISO19115/19119 - Plan4All profile” shall be used
Inspire	Reference Element name Obligation /	N/A

	condition Multiplicity	
ISO 19115	Number Name Definition XPath Data type Domain	10 metadataStandardName Name of the metadata standard (including profile name) used. metadataStandardName CharacterString Free text
	Example	ISO19115/19119 - Plan4All profile

Metadata standard version

Plan4all	Multiplicity Description Note	[1] Name of the metadata standard version. “2003/Cor.1:2006, Plan4all:2010” shall be used
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	11 metadataStandardVersion Version (profile) of the metadata standard used. metadataStandardVersion CharacterString Free text
	Example	2003/Cor.1:2006 – Plan4all:2010

Presentation fForm

Plan4all	Multiplicity Description Note	[1..*] Mode in which the resource is presented. Special mapping of ISO codes to spatial plan types. To distinguish paper Spatial planning from digital ones Possible values – subset of ISO codes: mapDigital – for digital spatial plan mapHardcopy – for digital plan with maps in paper form imageDigital – scanned paper maps
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	368 presentationForm Mode in which the resource is represented. identificationInfo/*/citationInfo/*/presentationForm Class CI_PresentationFormCode

		<<CodeList>> (B.5.4)
	Example	mapDigital

Application schema

Plan4all	Multiplicity Description Note	[0..*] Provides information about the conceptual schema of a Spatial plan data. May be used at this level for whole Spatial Plan structure description or at dataset level for individual corresponding datasets description.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Role Name Definition XPath Data type Domain	21 applicationSchemaInfo Provides information about the conceptual schema of a dataset. MD_ApplicationSchemaInformation Association MD_ApplicationSchema Information (B.2.12)
	Example	See XML fragment at 5.3

Data quality scope

Plan4all	Multiplicity Description Note	[1] Level to which data quality information apply. By default whole dataset should be supposed.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Role Name Definition XPath Data type Domain	139 level Hierarchical level of the data specified by the scope. dataQualityInfo/*/scope Class MD_ScopeCode <<CodeList>> (B.5.25)
	Example	dataset

Reference system info

Plan4all	Multiplicity Description Note	[0..*] Information on reference system May be used at this level or on dataset level for individual datasets
Inspire	Reference	N/A

	Element name Obligation / condition Multiplicity	
ISO 19115	Number Role Name Definition XPath Data type Domain	13 referenceSystemInfo Description of the spatial and temporal reference systems used in the dataset. referenceSystemInfo/*/referenceSystemIdentifier Association MD_ReferenceSystem (B.2.7)
	Example	Codespace: urn:ogc:def:crs:EPSG:: Code: 4326

Maintenance and update frequency

Plan4all	Multiplicity Description Note	[0..1] Information on updates frequency.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	143 maintenanceAndUpdateFrequency Frequency with which changes and additions are made to the resource after the initial resource is completed. resourceMaintenance/*/maintenanceAndUpdateFrequency Class MD_MaintenanceFrequencyCode <<CodeList>> (B.5.18)
	Example	annually

Purpose

Plan4all	Multiplicity Description Note	[0..1] Summary of the intentions with which the resource(s) was developed
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath	26 purpose Summary of the intentions with which the resource(s) was developed. identificationInfo/*/purpose

	Data type	CharacterString
	Domain	Free text
	Example	Public proceedings of Local plan of Olomouc draft

Status

Plan4all	Multiplicity Description Note	[0..*] Represents the status of the resource described by metadata. Possible values are in the ISO 19115 code list 'MD_ProgressCode'. Distinguish if Spatial Plan is in design phase (underDevelopment) or if it is already adopted (completed). Plans after expiration date should be denoted as “obsolete”
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	28 status Status of the resource(s). identificationInfo/*/status Class MD_ProgressCode <<CodeList>> (B.5.23)
	Example	completed

Legal relevance

Plan4all	Multiplicity Description Note	Legal character. Phrase “ NO LEGAL RELEVANCE. ” (uppercase) should be set if Spatial Plan has not legal relevance. The value may continue by textual description why and some other conditions. In multilingual records the value shall be as is in English. National language translations may be provided.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	68 useLimitation Limitation affecting the fitness for use of the resource or metadata. Example, “not to be used for navigation”. identificationInfo/*/resourceConstraints/*/useLimitation CharacterString Free text
	Example	NO LEGAL RELEVANCE.

4.2. Dataset metadata

Dataset metadata are intended to hold metadata of particular datasets used in digital spatial plan. Profile may be also used for other datasets used in spatial planning.

4.2.1. Overview

Tables column names:

INS – INSPIRE Metadata number

ISO – ISO 19115 number

Mult – Plan4all profile multiplicity

INS	ISO	ELEMENT	P4	DESCRIPTION
1.1	360	Resource title	1	Name by which the cited resource is known.
1.2	25	Resource abstract	1	Brief narrative summary of the content of the resource(s).
1.3	6	Resource type	1	“dataset” or “series” should be used
1.4	277	Resource locator	0..*	Mandatory if a URL is available to obtain more information on the resource, and/or access related services.
1.5	365	Unique resource identifier	1..*	Value uniquely identifying an object within a namespace.
1.7	39	Resource language	0..*	Mandatory if the resource includes textual information.
2.1	41	Topic category	1..*	Main theme(s) of the dataset.
3	53	Keyword	1..*	Commonly used word(s) or formalised word(s) or phrase(s) used to describe the subject.
4.1	343	Geographic bounding box	1..*	Geographic position of the dataset expressed by the smallest bounding rectangle.
5	362	date	1..*	Reference date for the resource
5	337	Temporal extent	0..*	Spatial plan effecting and expiration date.
6.1	83	Lineage	1	General explanation of the data producer’s knowledge about the lineage of a dataset.
6.2	38	Spatial resolution	0..*	Mandatory for data sets and data set series if an equivalent scale or a resolution distance can be specified.
7	130, 132	Conformity	1..*	Conformity of spatial data sets with the implementing rules provided for in Article 7(1) and any additional document
8.1	68	Conditions for access and use	1..*	Conditions for access and use of spatial data sets and services, and where applicable
8.2	70, 72, 74	Limitations on public access	1..*	Access or other constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource.
9	29	Responsible organisation	1..*	Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s)
10.1	8	Metadata point of contact	1..*	Party responsible for the metadata information.

10.2	9	Metadata date	1	Date that the metadata was created.
10.3	3	Metadata language	1	Language used for documenting metadata.
	2	File identifier	1	Metadata file identifier.
	5	Parent identifier	0..1	File identifier of the metadata to which a metadata is a child. It is used for identification of Spatial Plan which the dataset is part of.
	10	Metadata standard name	1	Name of the metadata standard.
	11	Metadata standard version	1	Name of the metadata standard version.
	37	Spatial representation type	1..*	Method used to spatially represent geographic information (e.g. vector)
	37,1 78	Geometry type	0..*	Represents the geometrical type of a spatial dataset whose spatial representation type is 'Vector', and it may assume 3 possible values: Point, Polyline or Polygon.
	31	Image	0..*	An image to illustrate the data that has been returned.
	40	Character set	0..*	Character coding used for the dataset.
	21	Application schema	0..*	Provides information about the conceptual schema of a dataset
	79	Data quality scope	1	Level to which data quality information apply.
	13	Reference system info	1..*	Information on reference system.
	271	Distribution format	1..*	Information on distribution format.
	273	Transfer options	0..*	Number of volumes, data carriers etc...
	143	Maintenance and update frequency	0..1	Information on updates frequency.
	85	Source	0..*	Represents the description of the dataset from which the present dataset is derived through the production process described within the metadata element 'Lineage'.
	84	Process step	0..*	Description of process step of data acquisition or processing.

4.2.2. Detailed description

Only elements different from 4.1.2 or with different meaning are listed here !

Resource type

Plan4all	Multiplicity Description Note	[1] “dataset” or “series” should be used
Inspire	Reference Element name Obligation / condition	Part B 1.3 Resource Type Mandatory

	Multiplicity	[1]
ISO 19115	Number	6
	Name	hierarchyLevel
	Definition	Scope to which metadata applies.
	XPath	hierarchyLevel
	Data type	MD_ScopeCode
	Domain	CodeList (See Annex B of ISO 19115)
	Example	dataset

Resource language

Plan4all	Multiplicity	[0..*]
	Description	Mandatory if the resource includes textual information.
	Note	
Inspire	Reference	Part B 1.7
	Element name	Resource language
	Obligation / condition	* Conditional for spatial dataset and spatial dataset series: Mandatory if the resource includes textual information. * Not applicable to services.
	Multiplicity	[0..*]
ISO 19115	Number	39
	Name	language
	Definition	Language(s) used within the datasets
	XPath	identificationInfo[1]*/language
	Data type	LanguageCode (ISO/TS 19139)
	Domain	See 4.2.1
	Example	eng

Topic category

Plan4all	Multiplicity	[1..*]
	Description	Main theme(s) of the dataset.
	Note	
Inspire	Reference	Part B 2.1
	Element name	Topic category
	Obligation / condition	* Mandatory for datasets and dataset series. * Not applicable to services.
	Multiplicity	[1..*]
ISO 19115	Number	41
	Name	topicCategory
	Definition	Main theme(s) of the dataset
	XPath	identificationInfo[1]*/topicCategory
	Data type	MD_TopicCategory
	Domain	Enumeration (See B.5.27 of ISO 19115 or Part D 2 of the INSPIRE Implementing Rules for Metadata)
	Example	planningCadastre, biota

Date

Plan4all	Multiplicity	[1..*]
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	Description Note	Reference date for the cited resource. Generally dataset may be different from Spatial plan date
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 2.2.5 Date of publication / last revision / revision At least one date must be set [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	362 date Reference date for the cited resource. identificationInfo/*/citation/*/date Class CI_Date (B.3.2.4) <<DataType>>
	Example	2010-09-30 publication

Conformity

Plan4all	Multiplicity Description Note	[1..*] Conformity of spatial data sets with the implementing rules provided for in Article 7(1) and any additional document.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 7 Degree Mandatory [1] understood in the context of a conformity statement when reported in the metadata – there may be more than one conformity statement.
ISO 19115	Number Name Definition XPath Data type Domain	130 specification Citation of the product specification or user requirement against which data is being evaluated. dataQualityInfo/*/report/*/result/*/specification CI_Citation The following properties are expected: * title of type CharacterString (Free text); * reference date defined as: ** a date type: creation, revision or publication; ** an effective date.
	Example	* title: “INSPIRE Implementing rules laying down technical arrangements for the interoperability and harmonisation of orthoimagery”. * date: ** dateType: publication ** date: 2011-05-15
ISO 19115	Number Name Definition XPath	132 Pass indication of the conformance result dataQualityInfo/*/report/*/result/*/pass

	Data type Domain	Boolean * true if conformant * false if not conformant
	Example	true

Responsible organisation

Plan4all	Multiplicity Description Note	[1..*] Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s) Particular dataset processors may be included here.
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 9.1 Responsible party Mandatory [1..*]
ISO 19115	Number Name Definition XPath Data type Domain	29 pointOfContact Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s). identificationInfo[1]*/pointOfContact CI_ResponsibleParty Expected properties are described in 4.4.1
	Example	

Parent identifier

Plan4all	Multiplicity Description Note	[0..1] File identifier of the metadata to which a metadata is a child. For datasets as part of spatial plan this element is mandatory to establish link
Inspire	Reference Element name Obligation / condition Multiplicity	
ISO 19115	Number Name Definition XPath Data type Domain	5 parentIdentifier File identifier of the metadata to which this metadata is a subset (child). identificationInfo/*/citationInfo/*/presentationForm CharacterString Free text
	Example	4c91d585-483c-4d83-85ad-12400a01080d

Spatial representation type

Plan4all	Multiplicity Description Note	[1..*] e.g. vector
Inspire	Reference Element name	N/A

	Obligation / condition Multiplicity	
ISO 19115	Number Name Definition XPath Data type Domain	37 spatialRepresentationType Method used to spatially represent geographic information. identificationInfo/*/spatialRepresentationType Class MD_SpatialRepresentation TypeCode <<CodeList>> (B.5.26)
	Example	

Geometry type

Plan4all	Multiplicity Description Note	[0..*] Represents the geometrical type of a spatial dataset whose spatial representation type is 'vector', and it may assume 3 possible values: Point, Polyline or Polygon. If dataset is vector type
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath Data type Domain	178 geometricObjects Information about the geometric objects used in the dataset. spatialRepresentationInfo/*/geometricObjects Class MD_GeometricObjects <<DataType>> (B.2.6.3)
	Example	Polygon

Image

Plan4all	Multiplicity Description Note	[0..*] An image to illustrate the data that has been returned. Linkage to the image should be provided.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Name Definition XPath	49 graphicOverview provides a graphic that illustrates the resource(s) (should include a legend for the graphic) identificationInfo/*/ graphicOverview/*/fileName

	Data type	Free text
	Domain	string
	Example	http://mydomain/picture.png

Distribution format

Plan4all	Multiplicity Description Note	[1..*] Information on distribution format. It should include information about format version.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Role Name Definition XPath Data type Domain	271 distributionFormat Provides a description of the format of the data to be distributed. distributibutionInfo/*/distributionFormat Association MD_Format (B.2.10.4)
	Example	Shapefile, version 1.0

Transfer options

Plan4all	Multiplicity Description Note	[0..*] Other transfer options not covered by Linkage . Number of volumes, data carriers etc... for off-line distribution. Medium name and volumes should be provided at least.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Role Name Definition XPath Data type Domain	273 transferOptions Provides information about technical means and media by which a resource is obtained from the distributor. distributibutionInfo/*/transferOptions/*/offLine Association MD_DigitalTransferOptions (B.2.10.2)
	Example	Medium: cdRom, volumes: 6

Source

Plan4all	Multiplicity Description Note	[0..*] Represents the description of the dataset from which the present dataset is derived through the production process described within the metadata element 'Lineage'. See 4.4.3
Inspire	Reference	N/A

	Element name Obligation / condition Multiplicity	
ISO 19115	Number Role Name Definition XPath Data type Domain	85 source Information about the source data used in creating the data specified by the scope. dataQualityInfo/*/lineage/*/source Association LI_Source (B.2.4.2.3)
	Example	Description: Master coverage for digital spatial plan Scale denominator: 1000 SourceReferenceSystem: urn:ogc:def:crs:EPSG::2065 Title: Cadastral map. Date: revision: 2010-05-12

Process step

Plan4all	Multiplicity Description Note	[0..*] e.g. digitalisation of analogue orthophotos See processStep in 4.4.2. For datasets it should include some technical steps.
Inspire	Reference Element name Obligation / condition Multiplicity	N/A
ISO 19115	Number Role Name Definition XPath Data type Domain	84 processStep Information about events in the life of a dataset specified by the scope. dataQualityInfo/*/lineage/*/processStep Association LI_ProcessStep (B.2.4.2.2)
	Example	Digitizing on scanned raster maps 2009-01-01T08:30:00

4.3. Spatial Service metadata

Spatial Service metadata profile is very close to the INSPIRE profile. Protocol information is for better addressing.

4.3.1. Overview

Tables column names:

INS – INSPIRE Metadata number

ISO – ISO 19115 number

Mult – Plan4all profile multiplicity

INS	ISO	ELEMENT	Mult	DESCRIPTION
1.1	360	Resource title	1	Name by which the cited service is known.

1.2	25	Resource abstract	1	Brief narrative summary of the content of the service.
1.3	6	Resource type	1	“service” should be used
1.4	277	Resource locator	0..*	URL of the service
1.5	365	Unique resource identifier	0..*	Value uniquely identifying an object within a namespace.
3	53	Keyword	1..*	Commonly used word(s) or formalised word(s) or phrase(s) used to describe the subject.
4.1	343	Geographic bounding box	1..*	Geographic position of the service expressed by the smallest bounding rectangle
5	362	date	1..*	reference date for the cited resource
5	337	Temporal extent	0..*	Spatial plan effecting and expiration date.
5	362, 337	Temporal reference	1..*	Time period, covered by the content of the dataset
7	130,132	Conformity	1..*	Conformity of spatial data sets with the implementing rules provided for in Article 7(1) and any additional document
8.1	68	Conditions for access and use	1..*	Conditions for access and use of spatial data services, where applicable
8.2	70, 72, 74	Limitations on public access	1..*	Access or other constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource.
9	29	Responsible organisation	1..*	Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s).
10.1	8	Metadata point of contact	1..*	Party responsible for the metadata information.
10.2	9	Metadata date	1	Date that the metadata was created.
10.3	3	Metadata language	1	Language used for documenting metadata.
	2	File identifier	1	Metadata file identifier.
B 1.6	9 of C2.2.	Coupled resource	0..*	Provides information about the datasets that the service operates on.
B 2.2	1 of C2.2	Spatial data service type	1	A service type name from a registry of services.

4.3.2. Detailed description

Only elements different from 4.1.2 and 4.2.2 or with different meaning are listed here !

Resource type

Plan4all	Multiplicity Description Note	[1] “service” should be used service
Inspire	Reference	Part B 1.3

	Element name Obligation / condition Multiplicity	Resource Type Mandatory [1]
ISO 19115	Number Name Definition XPath Data type Domain	6 hierarchyLevel Scope to which metadata applies. hierarchyLevel MD_ScopeCode CodeList (See Annex B of ISO 19115)
	Example	service

Coupled resource

Plan4all	Multiplicity Description Note	[0..*] Provides information about the datasets that the service operates on. According to INSPIRE technical guidance
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 1.6 Coupled resource * Not applicable to dataset and dataset series * Conditional to services: Mandatory if linkage to datasets on which the service operates are available. [0..*]
ISO 19115	Number Name Definition XPath Data type Domain	9 of C.2.2 identificationInfo[1]/*/operatesOn Provides information about the datasets that the service operates on. identificationInfo/*/operatesOn MD_DataIdentification A unique resource identifier or locator of the MD_DataIdentification object.
	Example	http://image2000.jrc.it#image2000_1_n12_multi

Spatial data service type

Plan4all	Multiplicity Description Note	[1] A service type name from a registry of services. If the service is part of INSPIRE, the code should be According to INSPIRE technical guidance (e.g. view). If not, OGC codes are recommended (e.g. OGC:WMS)
Inspire	Reference Element name Obligation / condition Multiplicity	Part B 2.2 Spatial data service type * Mandatory for services. * Not applicable to dataset and dataset series. [1]
ISO 19115	Number Name Definition XPath	1 of C.2.2 identificationInfo[1]/*/serviceType A service type name from a registry of services. identificationInfo[1]/*/serviceType

	Data type Domain	GenericName See 1.3.1
	Example	view, OGC:WMS

4.4. Compound elements definition

4.4.1. Responsible party

ISO	Element	Mult	Description	ISO 19139 XPath
375	individualName	0..1	Name of the responsible person: surname, given name, title separated by a delimiter.	individualName
376	organisationName	0..1	Name of the responsible organisation. Mandatory if available.	organisationName
381	deliveryPoint	0..*	Address line for the location (as described in ISO 11180, Annex A).	address/*/deliveryPoint
382	city	0..1	City of the location.	address/*/city
384	postalCode	0..1	ZIP or other postal code.	address/*/postalCode
385	country	0..1	Country of the physical address.	address/*/country
386	electronicMailAddress	1..*	Address of the electronic mailbox of the responsible organization or individual.	address/*/electronicMailAddress
390	linkage	0..*	location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme such as http://www.plan4all.eu .	contactInfo/*/onlineResource/*/linkage
379	role	1	Function performed by the responsible party.	role

It is strongly recommended to provide full postal address including country name or linkage.

4.4.2. Process step

ISO	Element	Mult	Description	Plan4all meaning
87	description	1	description of the event, including related parameters or tolerances	Name of legal Spatial Plan design milestone according to concrete national law.
88	rationale	0..1	requirement or purpose for the process step	
89	dateTime	0..1	date and time or range of date and time on or over which the process step occurred	Date of process step confirmation
90	processor	0..1	Party, who is involved in the processStep	Processor – see party table (4.4.1)

4.4.3. Source

ISO	Element	Mult	Description	Plan4all meaning
93	description	1	detailed description of the level of the source data	Description of the resource and rationale of this use
94	scaleDenominator	0..1	denominator of the representative fraction on a source map	Strongly recommended because it influence result accuracy
95	sourceReferenceSystem	0..1	spatial reference system used by the source data	RS_Identifier
96	sourceCitation	0..1	recommended reference to be used for the source data	Title and reference date should be filled

4.5. Codelists for Spatial Planning

4.5.1. Spatial plan type

Spatial plan types are mapped to hierarchyLevelName. Additionally spatial plans record may be simply retrieved by constraint hierarchyLevelName isLike “spatialPlan%” in discovery services.

Tbl. 1: Spatial plan hierarchy level names

Hierarchy level name	Description
spatialPlan.country	National plans or policies
spatialPlan.state	State level documentation <u>(for federal countries)</u>
spatialPlan.regional	Regional plans
spatialPlan.subRegional	Provincial level (province or other sub-regional level denomination)
spatialPlan.supraLocal	Super Local level (e.g. mountain communities or aggregations of municipalities)
spatialPlan.local	Municipality level - local plans
spatialPlan.subLocal	Plans for part of municipality area like zone plans, regulatory plans, development plans etc.
spatialPlan.other	Level not listed here
spatialPlan	Spatial plan metadata without qualification

Note: The value shall be provided as it is without translation to national language.

4.5.2. Organization roles

In spatial plan process organizations play specific roles during preparation, creation and adoption phase (Tbl. 2). Plan4all provides mapping of these roles to ISO 19115 responsible party role codes. Even if it is not fully equivalent to original meaning of code in ISO, it enables users to access to spatial plan specific roles. This mapping is supposed to be used for Spatial Plan Metadata (4.1) not for dataset/data series or service metadata.

Tbl. 2: Mapping organisation roles as used in spatial planning to ISO 19115 codelist (B 5.5).

Name	ISO code	Description
Applicant	user	Specific user - demandant on plan issue
Procurer	custodian	Party, who formally controls plan creating (typically authority with extended power office)
Creator	originator	Person, organisation or a service that is primarily responsible for creating the plan
Designer	author	Authorized planner - person responsible for creating the plan inside Creator organisation
Publisher	publisher	Organisation that published (issued) the plan
Contributor	processor	Person, organisation or service that has made contributions to the content of the plan and/or processed the data in a manner such that the plan has been modified
Submitter	owner	Party, who order plan creation
Evaluator	principalInvestigator	Respective authority - organisation that controlled compliance with upper level documentation

4.5.3. Spatial plan life cycle phases mapping

During spatial plan life cycle the most basic milestones are mapped by ISO elements according the table 3. Detailed description of particular steps should be documented by processStep element according to national legislation.

Tbl. 3: Mapping Spatial plan lifecycle phases to ISO 19115 elements

Name	ISO mapping	Plan4all element
Work start	<i>Creating metadata record about this plan</i> <ul style="list-style-type: none"> identificationInfo/*/status = 'underDevelopment' identificationInfo/*/citation/*/date (dateType=creation) 	Status Reference date
Adoption (publication)	<ul style="list-style-type: none"> identificationInfo/*/citation/*/date (dateType=publication) identificationInfo/*/status = 'completed' 	Reference date Status
Coming into force	<ul style="list-style-type: none"> identificationInfo/*/extent/*/temporalElement/*/extent/TimePeriod/gml:beginPosition 	Temporal extent
Expiration	<ul style="list-style-type: none"> identificationInfo/*/extent/*/temporalElement/*/extent/TimePeriod/gml:endPosition identificationInfo/*/status = 'obsolete' 	Temporal extent Status

5. Implementing guidelines

5.1. XML schemas, validation

Standard provides mapping to ISO 19139. It shall use ISO / OGC XML schemas used in CSW 2.0.2 and ISO AP. Validation may be provided by some external validation tools based on SCHEMATRON or XSLT. These tools are not part of this profile. This solution enables

users to use elements outside the profile. The same approach is used in INPIRE [INS MD IMPL].

Schema used for spatial plan and dataset metadata:

<http://schemas.opengis.net/iso/19139/20060504/gmd/gmd.xsd>

Schema used for spatial services metadata:

<http://schemas.opengis.net/iso/19139/20060504/srv/srv.xsd>

Schema for discovery service:

<http://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd>

and (for ISO AP profile)

<http://schemas.opengis.net/csw/2.0.2/profiles/apiso/1.0.0/apiso.xsd>

Note: Older metadata schema versions are used due to compatibility with ISO AP profile and service metadata. See more in [INS MD IMPL], 2.1.2. In the future – when the schemas are corrected – new version will be used.

5.2. Multilinguality

Plan4all metadata records may be multilingual. From the perspective of European spatial planning activities it is recommended to provide metadata at least bilingual – in national language (as metadata language) and English. Multilinguality shall be according to the concept that is described in Annex J of the EN ISO 19115 and section A.6 of the INSPIRE Technical Guidelines [INSP MD IMPL]. Multilinguality shall be implemented by ISO 19139 PT_FreeText.

Example:

```
<gmd:title xsi:type="PT_FreeText_PropertyType">
  <gco:CharacterString>Územní plán Olomouce</gco:CharacterString>
  <gmd:PT_FreeText>
    <gmd:textGroup>
      <gmd:LocalisedCharacterString locale="locale-en">Spatial plan of
Olomouc</LocalisedCharacterString>
    </gmd:textGroup>
  </gmd:PT_FreeText>
</gmd:title>
```

5.3. Application schema

For spatial plan structure description application schemas may be optionally used on Spatial plan level metadata, where all components should be described or at dataset level where only corresponding part of the schema should be presented. Link to application schema should be provided by applicationSchemaInfo in the metadata. It enables link the binary file used by modelling software or some images or ascii files representing the schema.

Example:

```
<gmd:MD_ApplicationSchemaInformation>
  <gmd:name>
```


5.4.1. Linking between Spatial plan metadata and corresponding Dataset metadata

There is a presumption that there is only 1:N relationship between Spatial plan and corresponding datasets as integral part of Spatial plan. Other relationship types may be described in aggregationInfo outside of this profile if needed. Also lineage – source may be used for description of data sources used for creating of Spatial plan.

The relationship is established by parentIdentifier element in dataset metadata record. It is expected that client software enables (in one or more steps) to find corresponding metadata records in upward and also downward direction (query based on identifier and parentIdentifier).

Example:

```
<gmd:parentIdentifier>
  <gco:CharacterString>
    4c91d585-483c-4d83-85ad-12400a01080d
  </gco:CharacterString>
</gmd:parentIdentifier>
```

5.4.2. Linking between Dataset and Services Metadata

Generally relationship between dataset metadata and spatial services is N:M (one dataset may be coupled with more services and one service may operate on more datasets). The links from metadata to metadata are available and from metadata to service and from services to metadata. Solutions are described and discussed in INSPIRE discovery services technical guidelines.

Most of these links are enabled by unique identifiers of the resource provided in Identification element. According to INSPIRE each dataset should have unique external identifier in URI form composed from unique identifier of the organization and identifier in the scope of the organization. The xlink syntax will be used, e.g. <http://myorganization.com#ID>
XPath: /identificationInfo/*/citation/*/identifier

Example:

```
<gmd:identifier>
  <gmd:RS_Identifier>
    <gmd:code>
      <gco:CharacterString>ZONING</gco:CharacterString>
    </gmd:code>
    <gmd:codeSpace>
      <gco:CharacterString>http://www.plan4all.eu</gco:CharacterString>
    </gmd:codeSpace>
  </gmd:RS_Identifier>
</gmd:identifier>

<gmd:identifier>
  <gmd:MD_Identifier>
    <gmd:code>
      <gco:CharacterString>
        http://www.plan4all.eu#ZONING
      </gco:CharacterString>
    </gmd:code>
  </gmd:RS_Identifier>
</gmd:identifier>
```

Note: ISO19139 enables both forms, INSPIRE will probably use the first of them.

A) Links from service metadata to dataset metadata:

- a) coupledResource element contains information about data sources used in service:
- Scoped Name of dataset (e.g. layer name in WMS)
 - Operation name of the service
 - Identifier of the dataset (Generally one service may contain more layers coming from one dataset)

Example:

```
<srv:coupledResource>
  <srv:SV_CoupledResource>
    <srv:operationName>
      <gco:CharacterString>GetMap</gco:CharacterString>
    </srv:operationName>
    <srv:identifier>
      <gco:CharacterString>
        http://www.plan4all.eu#ZONING
      </gco:CharacterString>
    </srv:identifier>
    <gco:ScopedName>zones</gco:ScopedName>
  </srv:SV_CoupledResource>
</srv:coupledResource>
```

- b) operatesOn element contains MD_Identification of corresponding datasets which service uses. INSPIRE recommends use this element by reference. This way we get the identifier of dataset again.

Example:

```
<srv:operatesOn xlink:type="simple" xlink:title="Plan4all development zones"
  xlink:href="http://mysite.com/metadata.xml#4b84e845-4790-47f9-bfb5-06c40a01080d"/>
```

Note 1: a) and b) elements are from user point of view ambiguous and only one of them may be used in the future.

Note 2: We recommend use xlink:title to enable one-pass listing of coupled resources on client side.

Note 3: Dataset metadata should have defined ID of the MD_Identification element go properly use reference to it. INSPIRE recommends using the same value as fileIdentifier of this dataset metadata.

B) From dataset metadata to service metadata

Catalogue clients may query catalogues the services with request operatesOnIdentifier to get corresponding services where dataset is used.

C) From service to dataset metadata

In spatial service GetCapabilities document is place for metadata link on Layer/Feature Class level. The link should address catalogue service GetRecordById response according to the INSPIRE technical guidelines. Format should be XML.

Example:

```
<wms:MetadataURL type="ISO19139">
  <wms:Format>application/xml</Format>
  <wms:OnlineResource xlink:type="simple"
xlink:href="http://mysite.com/csw?service=CSW&request=GetRecordById&outputS
chema=http://www.isotc211.org/2005/gmd&Id=c9330510-0510-1933-a57d-
c88088beb3f3"/>
</wms:MetadataURL>
```

Note: If there is no direct way to catalogue service but only to metadata record, the catalogue service address may be separated from the URL if it is part of.

D) From service metadata to service

Access to corresponding service from service metadata is enabled by distributionInfo/*/transferOptions/*/onLine element. This element is intended for generic description to any on-line resource (more information about dataset, download, ...) To distinguish if the linkage is to spatial service, protocol element should be filled, e.g. OGC:WMS-1.3.0-http-get-capabilities for WMS 1.3. The URL should link to W*S GetCapabilities document, the function should be set to “download”.

Example:

```
<gmd:onLine>
  <gmd:CI_OnlineResource>
    <gmd:linkage>
      <gmd:URL>http://mysite.com/myservice</URL>
    </gmd:linkage>
    <gmd:protocol>
      <gco:CharacterString>
        OGC:WMS-1.1.1-http-get-capabilities
      </gco:CharacterString>
    </gmd:protocol>
    <gmd:name>
      <gco:CharacterString>
        Web map service of Olomouc digital spatial plan 2010
      </gco:CharacterString>
    </gmd:name>
  </gmd:CI_OnlineResource>
</gmd:onLine>
```

E) From dataset metadata to service

Access to corresponding service from dataset metadata is similar to service metadata. But service may operate on one or more datasets where each may be represented by one or more layers. To identify the them adding linkage with defined layers in URL and protocol designating corresponding operation (GetMap ev. GetFeatures) is proposed.

Example:

```
<gmd:onLine>
  <gmd:CI_OnlineResource>
```

```

    <gmd:linkage>

<gmd:URL>http://mysite.com/mysevice?service=WMS&version=1.1.1&request=GetM
ap&layers=zones</URL>
    </gmd:linkage>
    <gmd:protocol>
        <gco:CharacterString>
            OGC:WMS-1.1.1-http-get-map
        </gco:CharacterString>
    </gmd:protocol>
</gmd:CI_OnlineResource>
</gmd:onLine>
  
```

F) From spatial plan metadata to spatial plan documents

Spatial plan documents available on-line or central spatial plan web page may be addressed by Linkage element. In description element should be described e.g. document type. The protocol should have corresponding value to distinguish from web services etc.

Example:

```

<gmd:onLine>
  <gmd:CI_OnlineResource>
    <gmd:linkage>
      <gmd:URL>http://mysite.com/spatialplan/document1.pdf</URL>
    </gmd:linkage>
    <gmd:protocol>
      <gco:CharacterString>
        WWW:LINK-1.0-http--download
      </gco:CharacterString>
    </gmd:protocol>
    <gmd:name>
      <gco:CharacterString>
        Regulation
      </gco:CharacterString>
    </gmd:name>
  </gmd:CI_OnlineResource>
</gmd:onLine>
  
```

5.4.3. Using descriptive keywords

According to INSPIRE at least GEMET keyword shall be used for spatial datasets and series metadata and INSPIRE services classification for spatial services metadata. For the Plan4all profile at least one term from the Plan4all vocabulary should be used.

If the keywords are organized hierarchically (thesauri like GEMET), the full path to root parent term should be presented this form:
 <root-term>/<child-level1>/.../<input-term> (see example). Delimiter should be slash (“/”), Terms should be multi-lingual to enable multi-lingual search on any level of hierarchy across multiple thesauri.

Example:

```

<descriptiveKeywords>
  <MD_Keywords>
    <keyword xsi:type="PT_FreeText_PropertyType">
      <gco:CharacterString>
  
```

```

Správní oblasti/chráněná pásma/regulovaná území a jednotky
podávající hlášení
</gco:CharacterString>
<PT_FreeText>
  <textGroup>
    <LocalisedCharacterString locale="locale-eng">
      Area management/restriction/regulation zones and reporting
      units
    </LocalisedCharacterString>
  </textGroup>
</PT_FreeText>
</keyword>
<keyword xsi:type="PT_FreeText_PropertyType">
  <gco:CharacterString>Dopravní síť</gco:CharacterString>
  <PT_FreeText>
    <textGroup>
      <LocalisedCharacterString locale="locale-eng">
        Transport network
      </LocalisedCharacterString>
    </textGroup>
  </PT_FreeText>
</keyword>
<thesaurusName>
  <CI_Citation>
    <title>
      <gco:CharacterString>
        GEMET - INSPIRE themes, version 1.0
      </gco:CharacterString>
    </title>
    <date>
      <CI_Date>
        <date>
          <gco:Date>2008-06-01</gco:Date>
        </date>
        <dateType>
          <CI_DateTypeCode codeListValue="revision" codeList="...">
            Revision
          </CI_DateTypeCode>
        </dateType>
      </CI_Date>
    </date>
  </CI_Citation>
</thesaurusName>
</MD_Keywords>
</descriptiveKeywords>

```

6. Discovery service Queryables

Common queryables for discovery service and set of core and additional queryables is defined in [CSW ISO AP]. Additional queryables defined for INSPIRE are defined in [INS NS]. Plan4all discovery service should implement all queryables defined in [INS NS]. Also for Spatial Planning activities these additional queryables have been defined:

Tbl. 3: Additional Plan4all queryables

Plan4all Name	Plan4all discovery queryable properties	Property Mapping to Information Model
Spatial Plan type	HierarchyLevelName	hierarchyLevelName

ProcessStep	ProcessStep	
-------------	-------------	--

Tbl. 4: Composition of union ProcessStep

Plan4all Name	Plan4all discovery queryable properties	Property Mapping to Information Model
Process Step Description	ProcessStepDescription	dataQualityInfo/*/lineage/*/processStep*/description
Process Step Date	ProcessStepDate	dataQualityInfo/*/lineage/*/processStep*/dateTime
Process Step Processor	ProcessStepOrganisation	dataQualityInfo/*/lineage/*/processStep*/processor*/organisationName

Note1: According to CSW standard catalogue ProcessStep components are paired in query, it means that if the request is ProcessStepDescription='adoption' AND ProcessStepDate<2010, catalogue returns all metadata records of spatial plans adopted before 2010.

Note2: There is no AnyText queryable in INSPIRE queryables set, but it is mandatory according to CSW 2.0.2. Of course this queryable is mandatory for the Plan4all profile too.

Comprehensive list of all Plan4all queryables is in ANNEX I.

7. Metadata & Conceptual Data Models

The main aim of WP3 is the creation of the 'PLAN4ALL Spatial Planning Metadata Profile'. Metadata dealing with the particular themes – Land Cover, Land Use, Utility and Government services, Production and industrial facilities, Agricultural and aquaculture facilities, Area management/restriction/regulation zones and reporting units, Natural risk zones will be part of data specification in the scope of WP4.

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ISO 19119:2005, *Geographic information – Services*

ISO 19119:2005 PDAM 1, *Geographic information – Services*

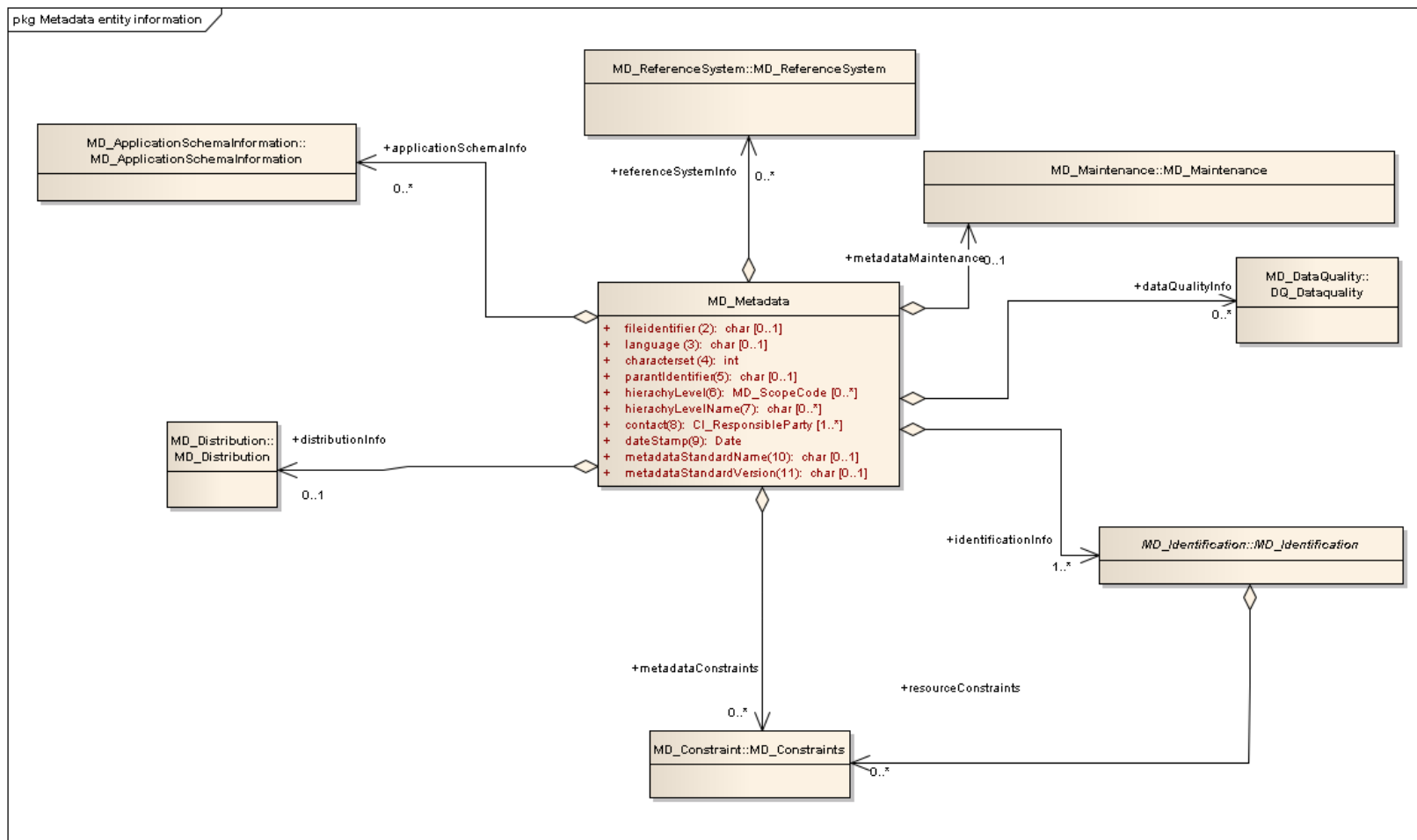
ISO/TS 19139:2006, *Geographic information - Metadata - Implementation specification*

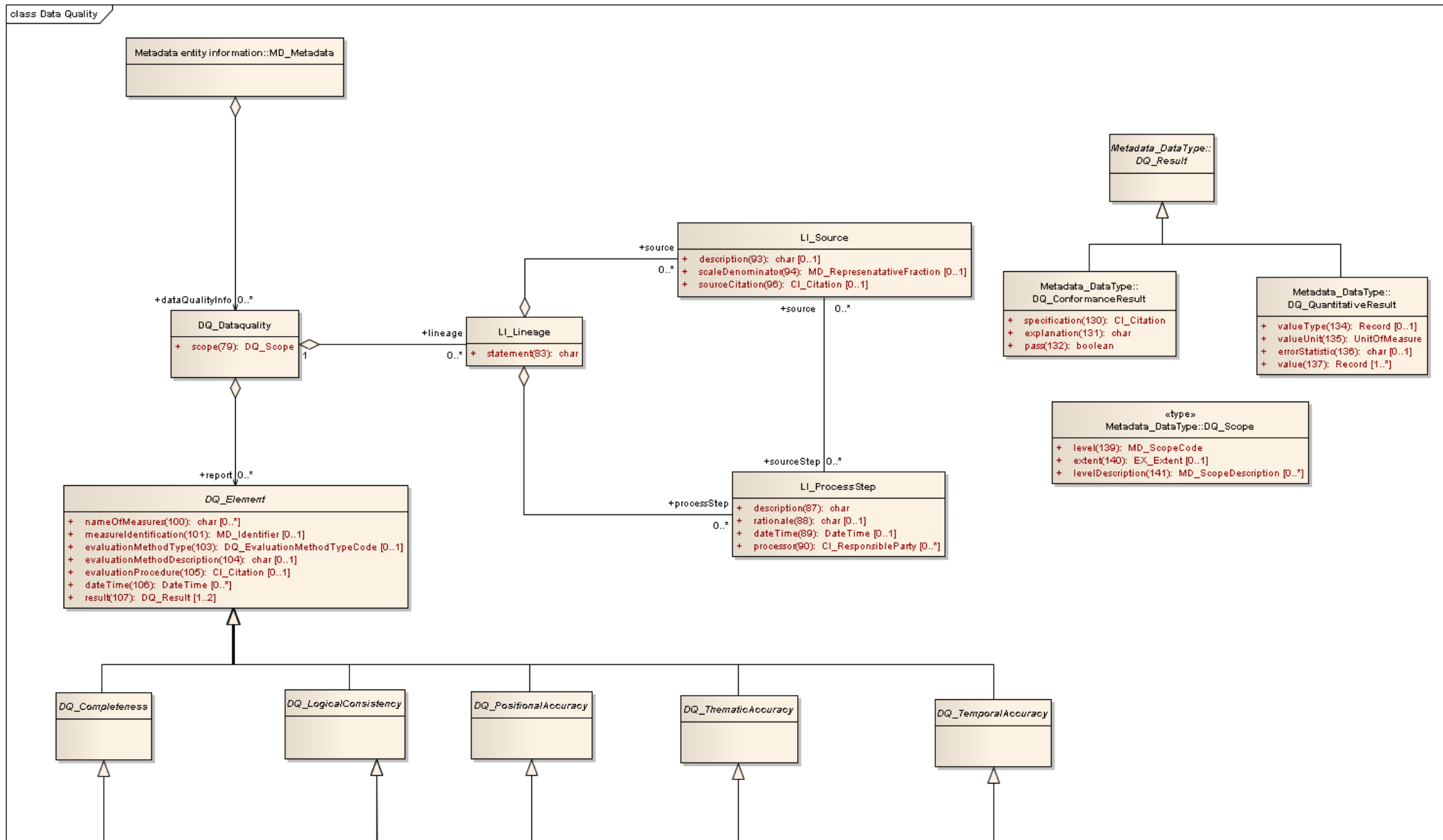
OGC 07-006, **OGC CSW**, OGC™ Catalogue Services Specification, version 2.0.2 (Corrigendum Release 2).

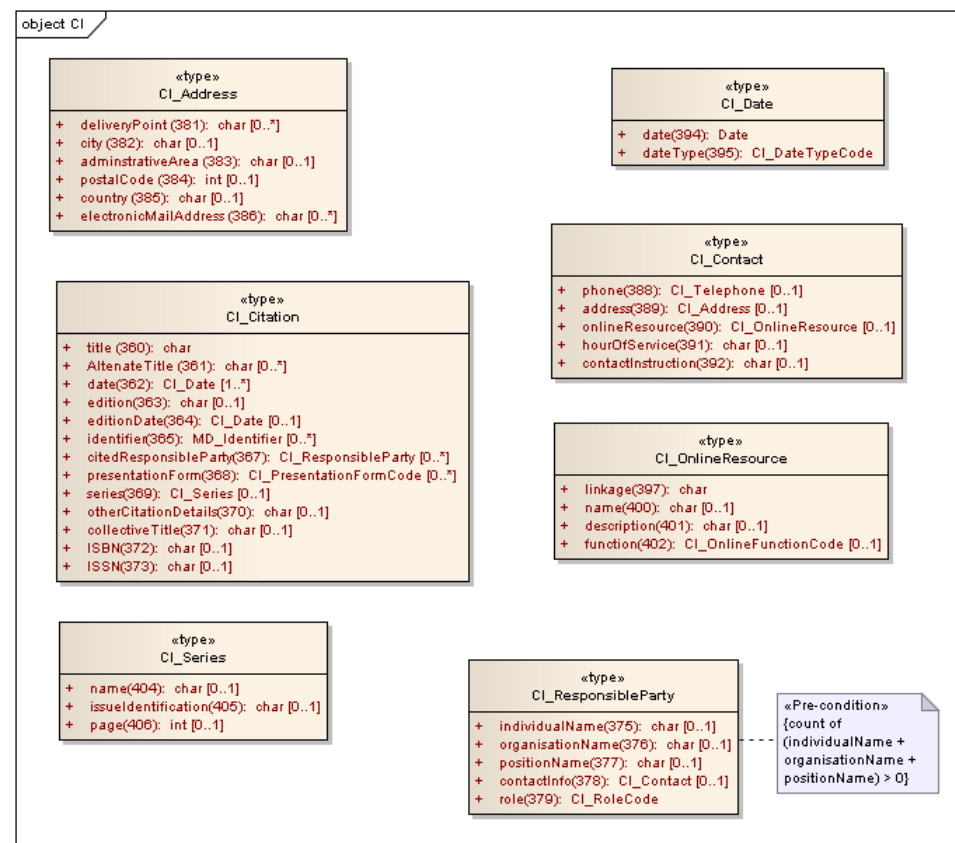
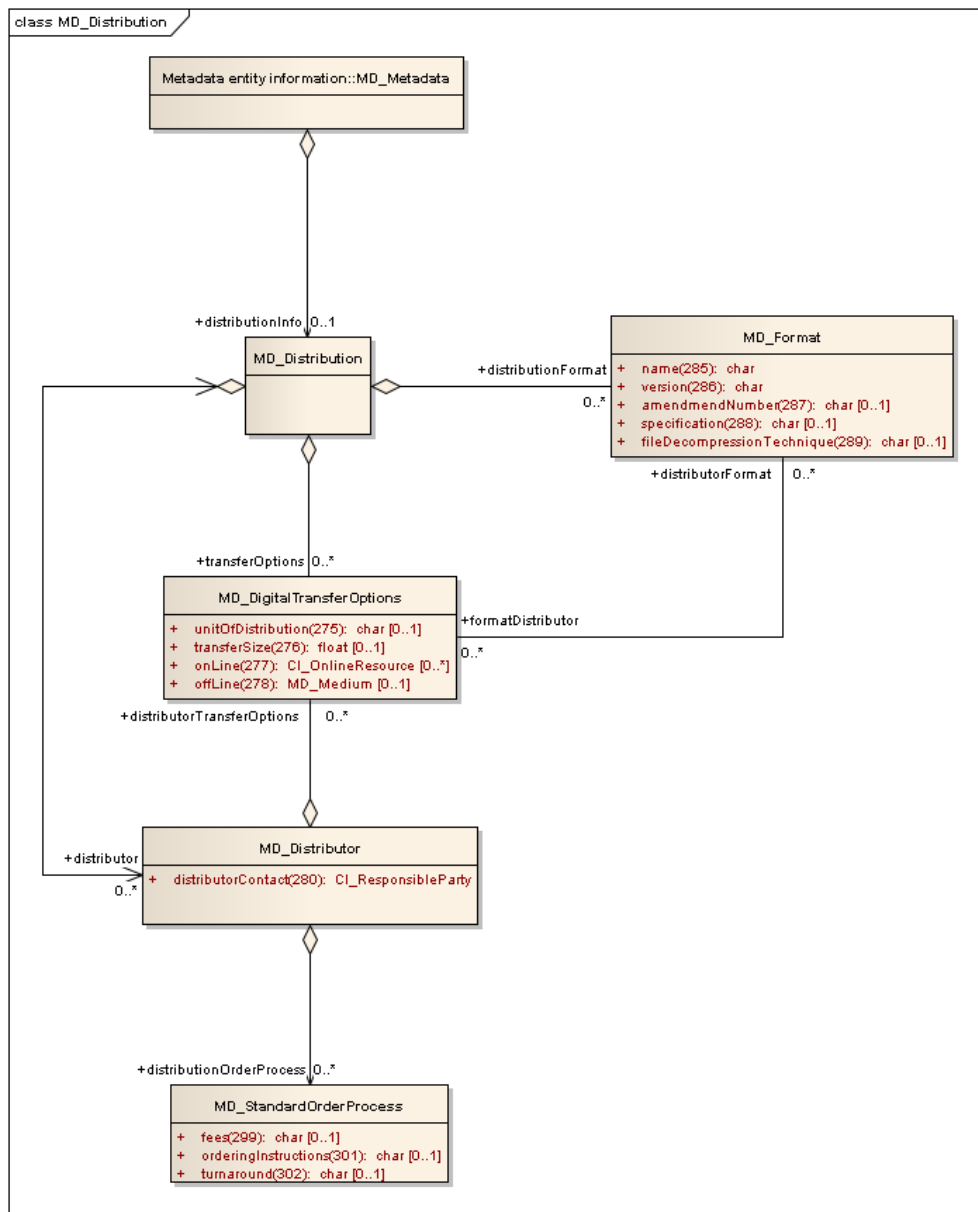
OGC 07-045, **CSW ISO AP**, OGC™ Catalogue Services Specification 2.0.2 - ISO Metadata Application Profile for CSW 2.0, version 1.0.0 (2007).

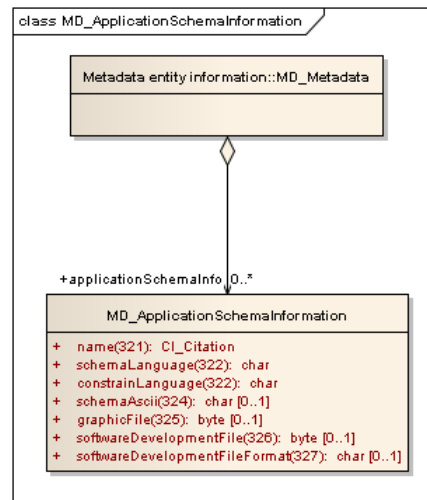
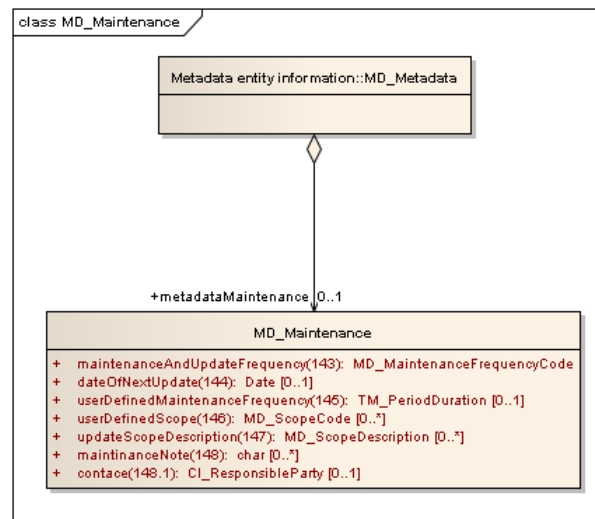
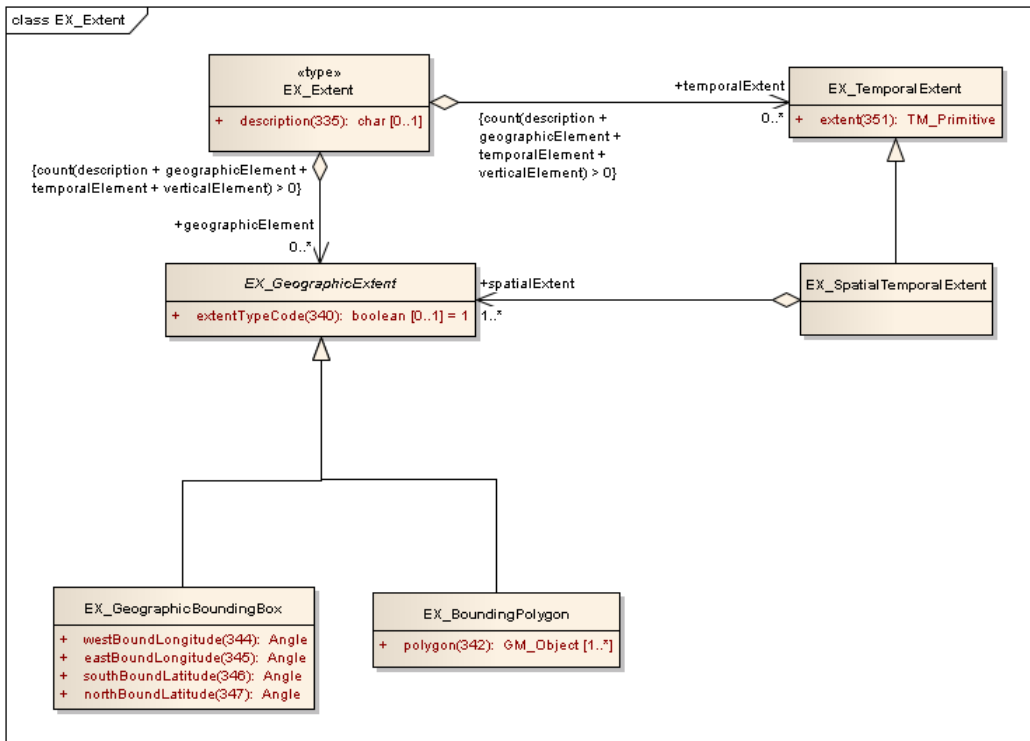
OGC 05-008, **OGC OWS**, OGC Web Services Common Specification, version 1.0 (May 2005)

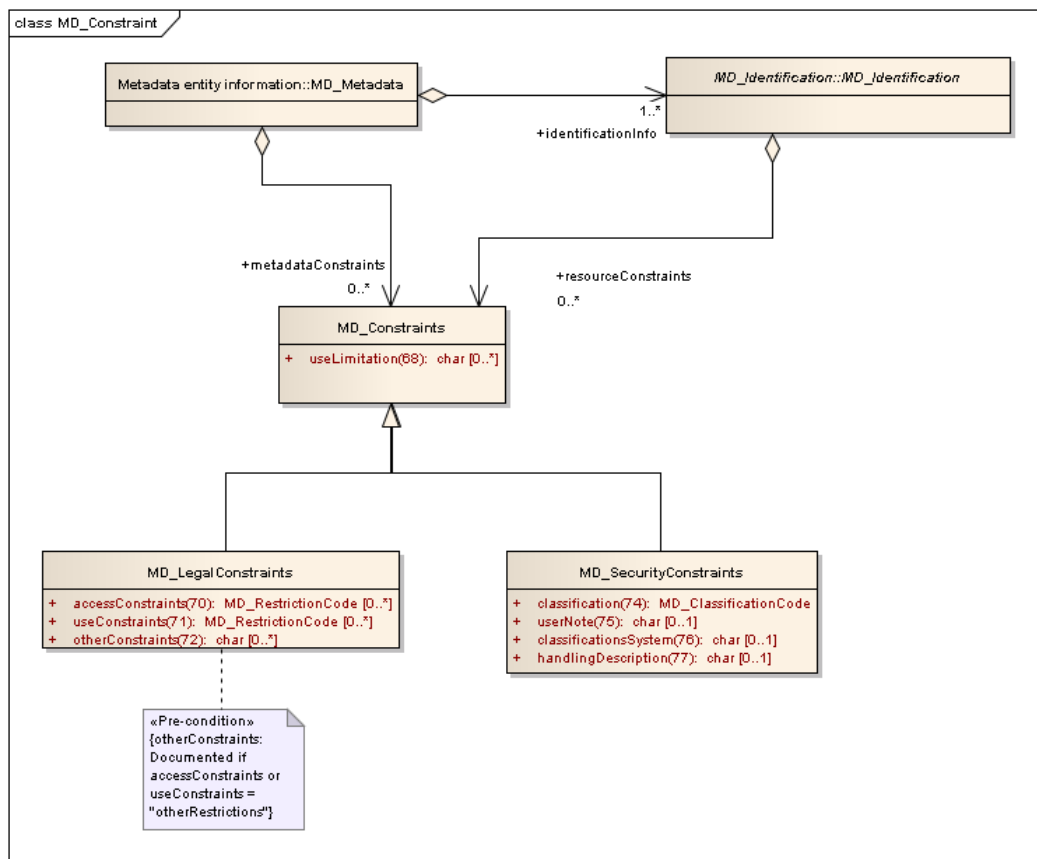
ANNEX I - Plan4all Metadata Profile UML model











ANNEX II – Plan4all Metadata Profile CSW queryables

NAME (INSPIRE / Plan4all)	Plan4all Discovery Service (CSW ISO AP) queryable properties	Is mandatory for INSPIRE Discovery Service?	Manda tory OGC
Resource title	Title	Yes	Yes
Resource Abstract	Abstract	Yes	
Resource Type	Type	Yes	
Unique resource identifier	ResourceIdentifier	Yes	Yes
Topic category	TopicCategory	Yes, if resources of type 'dataset' or 'series' are supported by the catalogue service instance	
Spatial data service type	ServiceType	Yes, if resources of type 'service' are supported by the catalogue service instance.	
Keyword	Subject	Yes	
Geographic bounding box	BoundingBox	Yes, if resources of type 'dataset' or 'series' are supported by the catalogue service instance	
Temporal Reference	TemporalExtent PublicationDate RevisionDate CreationDate	Yes	
Spatial resolution	SpatialResolution	Yes, if resources of type 'dataset' or 'series' are supported by the discovery service instance	
Responsible party	OrganisationName	Yes	
Responsible party role	Role	Yes	
Degree	-	Yes	
<i>Specification</i>	-	Yes	
<i>Limitations on public access</i>	-	Yes	
Conditions applying to access and use	-	Yes	
Lineage	-	Yes	
Metadata Language	Language	Yes	
	AnyText	No	Yes
Spatial Plan type	HierarchyLevelName	No	
ProcessStep	<i>ProcessStep</i>	No	

ANNEX III – Plan4all metadata example (Spatial Plan)

```

<MD_Metadata xmlns="http://www.isotc211.org/2005/gmd"
xmlns:gco="http://www.isotc211.org/2005/gco"
xmlns:srv="http://www.isotc211.org/2005/srv"
xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc"
xmlns:ows="http://www.opengis.net/ows"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.isotc211.org/2005/gmd
http://schemas.opengis.net/iso/19139/20060504/gmd/gmd.xsd">
  <fileIdentifier>
    <gco:CharacterString>4c1afe76-b514-4159-8b25-
760893e43c34</gco:CharacterString>
  </fileIdentifier>
  <language>
    <LanguageCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#CI_LanguageCode"
codeListValue="cze">cze</LanguageCode>
  </language>
  <characterSet>
    <MD_CharacterSetCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#MD_CharacterSetCode"
codeListValue="utf8">utf-8</MD_CharacterSetCode>
  </characterSet>
  <hierarchyLevel>
    <MD_ScopeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#MD_ScopeCode"
codeListValue="dataset">dataset</MD_ScopeCode>
  </hierarchyLevel>
  <hierarchyLevelName>
    <gco:CharacterString>spatialPlan.local</gco:CharacterString>
  </hierarchyLevelName>
  <contact>
    <CI_ResponsibleParty>
      <individualName>
        <gco:CharacterString>Miloslav Dvořák</gco:CharacterString>
      </individualName>
      <organisationName>
        <gco:CharacterString>City of Olomouc</gco:CharacterString>
      </organisationName>
      <contactInfo>
        <CI_Contact>
          <phone>
            <CI_Telephone>
              <voice>
                <gco:CharacterString>+420588488372</gco:CharacterString>
              </voice>
              <facsimile>
                <gco:CharacterString>+420588488364</gco:CharacterString>
              </facsimile>
            </CI_Telephone>
          </phone>
          <address>
            <CI_Address>
              <deliveryPoint>
                <gco:CharacterString>Hynaisova 10</gco:CharacterString>
              </deliveryPoint>
            </CI_Address>
          </address>
        </CI_Contact>
      </contactInfo>
    </ResponsibleParty>
  </contact>

```

```

    </deliveryPoint>
    <city>
      <gco:CharacterString>Olomouc</gco:CharacterString>
    </city>
    <postalCode>
      <gco:CharacterString>77900</gco:CharacterString>
    </postalCode>
    <country>
      <gco:CharacterString>Czech republic</gco:CharacterString>
    </country>
    <electronicMailAddress>
<gco:CharacterString>miloslav.dvorak@olomouc.eu</gco:CharacterString>
      </electronicMailAddress>
    </CI_Address>
  </address>
  <onlineResource>
    <CI_OnlineResource>
      <linkage>
        <URL>http://www.olomouc.eu</URL>
      </linkage>
    </CI_OnlineResource>
  </onlineResource>
</CI_Contact>
</contactInfo>
<role>
  <CI_RoleCode codeListValue="author"
codeList="./resources/codeList.xml#CI_RoleCode">author</CI_RoleCode>
  </role>
</CI_ResponsibleParty>
</contact>
<dateStamp>
  <gco:Date>2010-09-27</gco:Date>
</dateStamp>
<metadataStandardName>
  <gco:CharacterString>ISO19115/19119 - Plan4All
profile</gco:CharacterString>
</metadataStandardName>
<metadataStandardVersion>
  <gco:CharacterString>2003/Cor.1:2006,
Plan4all:2010</gco:CharacterString>
</metadataStandardVersion>
<locale>
  <PT_Locale id="locale-eng">
    <languageCode>
      <LanguageCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#LanguageCode"
codeListValue="eng"/>
    </languageCode>
    <characterEncoding>
      <MD_CharacterSetCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#MD_CharacterSetCode"
codeListValue="utf8"/>
    </characterEncoding>
  </PT_Locale>
</locale>
<spatialRepresentationInfo>
  <MD_VectorSpatialRepresentation>
    <geometricObjects>
      <MD_GeometricObjects>
        <geometricObjectType>

```

```

    <MD_GeometricObjectTypeCode codeListValue="complex"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#MD_GeometricObjectTypeCode
">complex</MD_GeometricObjectTypeCode>
    </geometricObjectType>
  </MD_GeometricObjects>
</geometricObjects>
</MD_VectorSpatialRepresentation>
</spatialRepresentationInfo>
<referenceSystemInfo>
  <MD_ReferenceSystem>
    <referenceSystemIdentifier>
      <RS_Identifier>
        <code>
          <gco:CharacterString>2065</gco:CharacterString>
        </code>
        <codeSpace>
          <gco:CharacterString>urn:ogc:def:crs:EPSG</gco:CharacterString>
        </codeSpace>
      </RS_Identifier>
    </referenceSystemIdentifier>
  </MD_ReferenceSystem>
</referenceSystemInfo>
<identificationInfo>
  <MD_DataIdentification>
    <citation>
      <CI_Citation>
        <title xsi:type="PT_FreeText_PropertyType">
          <gco:CharacterString>Koncept Územního plánu
Olomouc</gco:CharacterString>
          <PT_FreeText>
            <textGroup>
              <LocalisedCharacterString locale="locale-eng">Local plan of
Olomouc draft</LocalisedCharacterString>
            </textGroup>
          </PT_FreeText>
        </title>
        <alternateTitle xsi:type="PT_FreeText_PropertyType">
          <gco:CharacterString/>
        </alternateTitle>
        <date>
          <CI_Date>
            <date>
              <gco:Date>2010-06-01</gco:Date>
            </date>
            <dateType>
              <CI_DateTypeCode codeListValue="publication"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#CI_DateTypeCode">publicati
on</CI_DateTypeCode>
            </dateType>
          </CI_Date>
        </date>
        <date>
          <CI_Date>
            <date>
              <gco:Date>2010-05-31</gco:Date>
            </date>
            <dateType>
              <CI_DateTypeCode codeListValue="creation"
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_1913
9_Schemas/resources/Codelist/ML_gmxCodelists.xml#CI_DateTypeCode">creation<
/CI_DateTypeCode>

```



```

        <gco:CharacterString>Sumavska
416/15</gco:CharacterString>
        </deliveryPoint>
        <city>
          <gco:CharacterString>Brno</gco:CharacterString>
        </city>
        <administrativeArea>
          <gco:CharacterString/>
        </administrativeArea>
        <postalCode>
          <gco:CharacterString>602 00</gco:CharacterString>
        </postalCode>
        <country>
          <gco:CharacterString>Czech
Republic</gco:CharacterString>
        </country>
        <electronicMailAddress>
          <gco:CharacterString>jakub.kyncl@knesl-
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