INSPIRE

deda.next

Piergiorgio Cipriano

EDIAQI Task 4.3 - Interoperability management

T4.3 Interoperability management [M1-24, Lead: DEDA, Participants: LC, KNOW, ASC, WINGS, THIN, TalTech, LAS]

The goal of the task is to define and implement a common interoperability approach and related technical solution to identify, which data will be managed (storage, analysis, visualization, FAIR, etc.) with which metadata standard, the semantic, the documentation, the technological solutions, the methodology, etc. As described in part A, we will start from and adopt OGC standards (i.e., SensorThings API for IoT), CityGML (for 3D data models of monitored buildings in pilot areas) and WMS (also ISO19128, for interoperable web map services) or INSPIRE Buildings data specification. The activity will contribute to the "data management plan and data standard interoperability" (Activity 2.1). Data will be transferred and handled through common standard formats and protocols. IAQ monitoring data will be collected according to a common interoperable technical approach, with common semantics described in machine-readable vocabularies. In this task a common methodology to be used for identifying and assessing IAQ elements and ensuring a continuous improvement of Air Hygiene and Well-being between Pilots will also be identified. This methodology will be deployed by taking into account and integrating the beyond state-of-the-art technical standards on IAQ Management System (ISO 16000). The IAQ behavioural change monitoring campaigns will be driven by a process management which shall rests on the following pillars: (i) data on building and people for a risk level and assessment of IAQ aspects building categories; (ii) real-time analytical measurements on IAQ via wireless remote multi-sensor devices; (iii) collection of subjective perceptions and complaints about IAQ from residents.

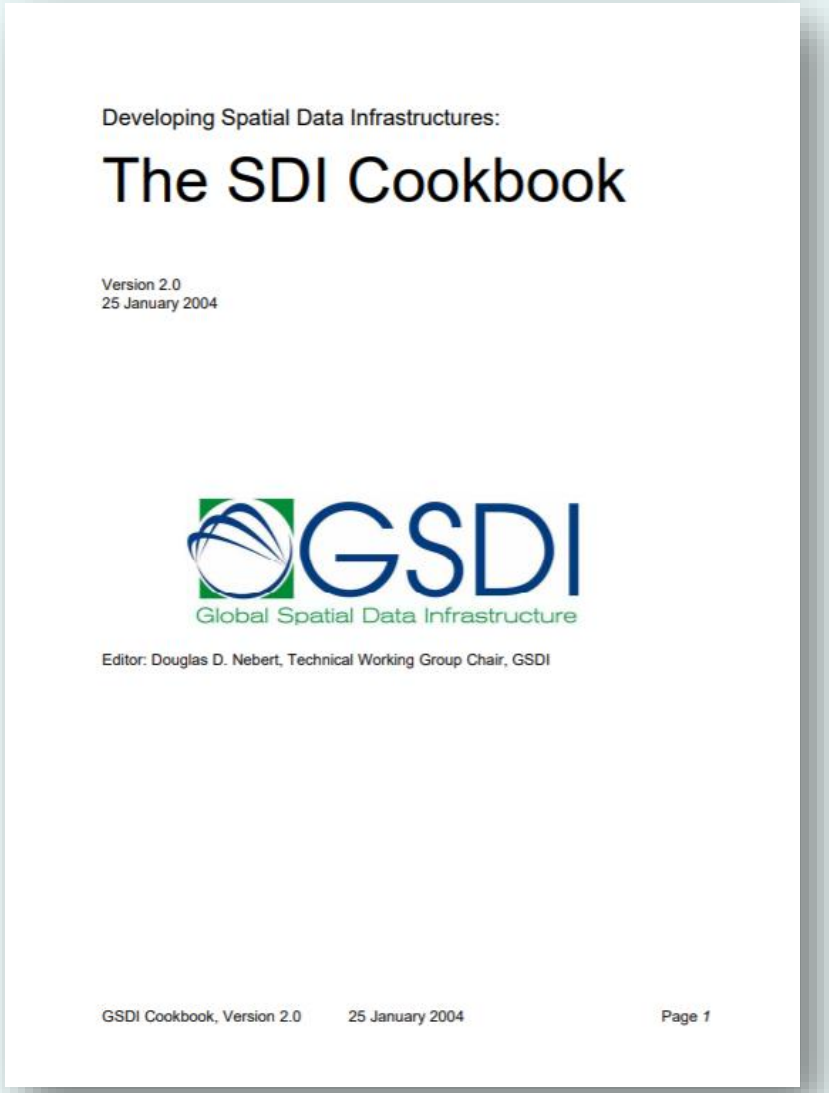
Infrastructure for (Spatial) Information

aka (Spatial) Data Infrastrucure

Definitions (Rajibifard, Masser, Chan, GSDI, ...)

- components (data, policies, standard, requirements)
- dynamic infrastructure (continuous evolution, data producer/user)
- data sharing / interchange
- organizational aspects

(Spatial) Data Infrastructure


Developing Spatial Data Infrastructures:

The SDI Cookbook

Version 2.0
25 January 2004

GSDI
Global Spatial Data Infrastructure

Editor: Douglas D. Nebert, Technical Working Group Chair, GSDI

GSDI Cookbook, Version 2.0 25 January 2004 Page 1

*… an SDI hosts geographic data and attributes, sufficient documentation (metadata), means to **discover, visualize**, and **evaluate** the data (catalogs and Web mapping), and some method to provide access to the geographic data.*

*… it must also include the **organisational agreements** needed to coordinate and administer it on a local, regional, national, and or trans-national scale. […] the infrastructure provides the ideal environment to **connect applications to data** – influencing both data collection and applications construction through minimal appropriate **standards** and **policies**.*

(Spatial) Data Infrastructure

Technical Introduction to SDI

TECHNICAL INTRODUCTION TO SPATIAL DATA INFRASTRUCTURES

Spatial data infrastructures (SDI) are a set of technological and non-technological components meant to facilitate access, exchange and re-use of geospatial data within and between organisations.

http://www.eo4geo.eu/training/introduction-to-sdi-architecture-and-components/

Interoperability

- it is the core of data infrastructures

- ability of two or more systems to communicate and cooperate, sharing data through the adoption of communication protocols and standard formats [ISO/IEC 2382-1]

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A Directive is ...

A "directive" is a legislative act that sets out a goal that all EU countries must achieve. However, it is up to the individual countries to devise their own laws on how to reach these goals. One example is the EU single-use plastics directive, which reduces the impact of certain single-use plastics on the environment, for example by reducing or even banning the use of single-use plastics such as plates, straws and cups for beverages.

https://european-union.europa.eu/institutions-law-budget/law/types-legislation_en

INSPIRE Directive is ...

EDIAQI

Learn

About INSPIRE
INSPIRE Policy Background
INSPIRE Principles
INSPIRE Legislation
Implementing Rules
INSPIRE Technical Guidance
Who's who?
Training

Quick search

- Data and Service Sharing
- Data Specifications
- Implement
- INSPIRE
- INSPIRE in your Country
- Learn
- Maintenance and

INSPIRE Principles

INSPIRE is based on a number of common principles:

- Data should be collected only once and kept where it can be maintained most effectively.
- It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
- It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes.
- Geographic information needed for good governance at all levels should be readily and transparently available.
- Easy to find what geographic information is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used.

Category:
INSPIRE
Learn

https://inspire.ec.europa.eu/inspire-principles/9

INSPIRE Directive is …

https://eur-lex.europa.eu/legal-content/IT/ALL/?uri=celex%3A32007L0002

I

(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

DIRECTIVES

DIRECTIVE 2007/2/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 14 March 2007

establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee (1),

After consulting the Committee of the Regions,

Acting in accordance with the procedure laid down in Article 251 of the Treaty, in the light of the joint text approved by the Conciliation Committee on 17 January 2007 (2),

integration, it is necessary to establish a measure of coordination between the users and providers of the information so that information and knowledge from different sectors can be combined.

(2) The Sixth Environment Action Programme adopted by Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 (3) requires full consideration to be given to ensuring that the Community's environmental policy-making is undertaken in an integrated way, taking into account regional and local differences. A number of problems exist regarding the availability, quality, organisation, accessibility and sharing of spatial information needed in order to achieve the objectives set out in that programme.

(3) The problems regarding the availability, quality, organisation, accessibility and sharing of spatial information are common to a large number of policy and information themes and are experienced across the various levels of public authority. Solving these problems requires measures that address exchange, sharing, access and use of interoperable spatial data and spatial data services across the various levels of public authority and across different

English EN My EUR-Lex

Experimental features

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…ment and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information

… DE, ET, EL, EN, FR, IT, LV, LT, HU, MT, NL, PL, PT, RO, SK, SL, FI, SV)

…e 030 P. 270 - 283

…rent consolidated version: 26/06/2019

Expand all Collapse all

…	ET	EL	EN	FR	GA	HR	IT	LV	LT	HU	MT	NL	PL	PT	RO	SK	SL	FI	SV
…	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML	HTML
…	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF
…	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC	DOC

INSPIRE Directive is …

EDIAQI

Annex I

1. Coordinate reference systems
2. Geographical grid systems
3. Geographical names
4. Administrative units
5. Addresses
6. Cadastral parcels
7. Transport networks
8. Hydrography
9. Protected sites

Annex II

1. Elevation
2. Land cover
3. Ortho-imagery
4. Geology

Annex III

1. Statistical units
2. Buildings
3. Soil
4. Land use
5. Human health and safety
6. Utility and governmental services
7. Environmental monitoring facilities
8. Production and industrial facilities
9. Agricultural and aquaculture facilities
10. Population distribution – demography
11. Area management/ restriction/regulation zones & reporting units
12. Natural risk zones
13. Atmospheric conditions
14. Meteorological geographical features
15. Oceanographic geographical features
16. Sea regions
17. Bio-geographical regions
18. Habitats and biotopes
19. Species distribution
20. Energy Resources
21. Mineral resources

INSPIRE Directive is …

Article 11

1. Member States shall establish and operate a network of the following services for the spatial data sets and services for which metadata have been created in accordance with this Directive:
   a) discovery services making it possible to search for spatial data sets and services on the basis of the content of the corresponding metadata and to display the content of the metadata;
   b) view services making it possible, as a minimum, to display, navigate, zoom in/out, pan, or overlay viewable spatial data sets and to display legend information and any relevant content of metadata;
   …

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0002&from=EN

INSPIRE Directive is …

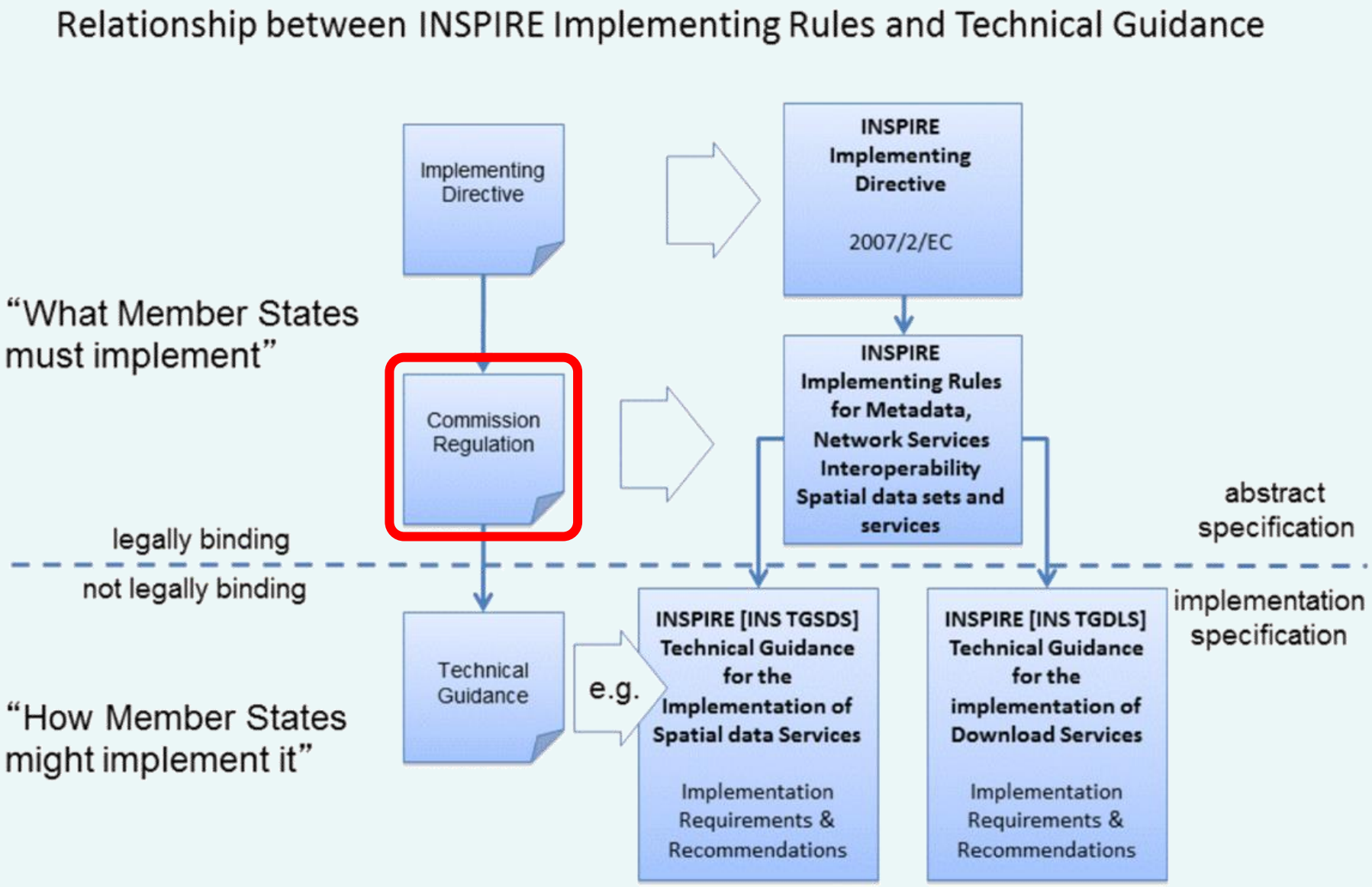
Article 11

…

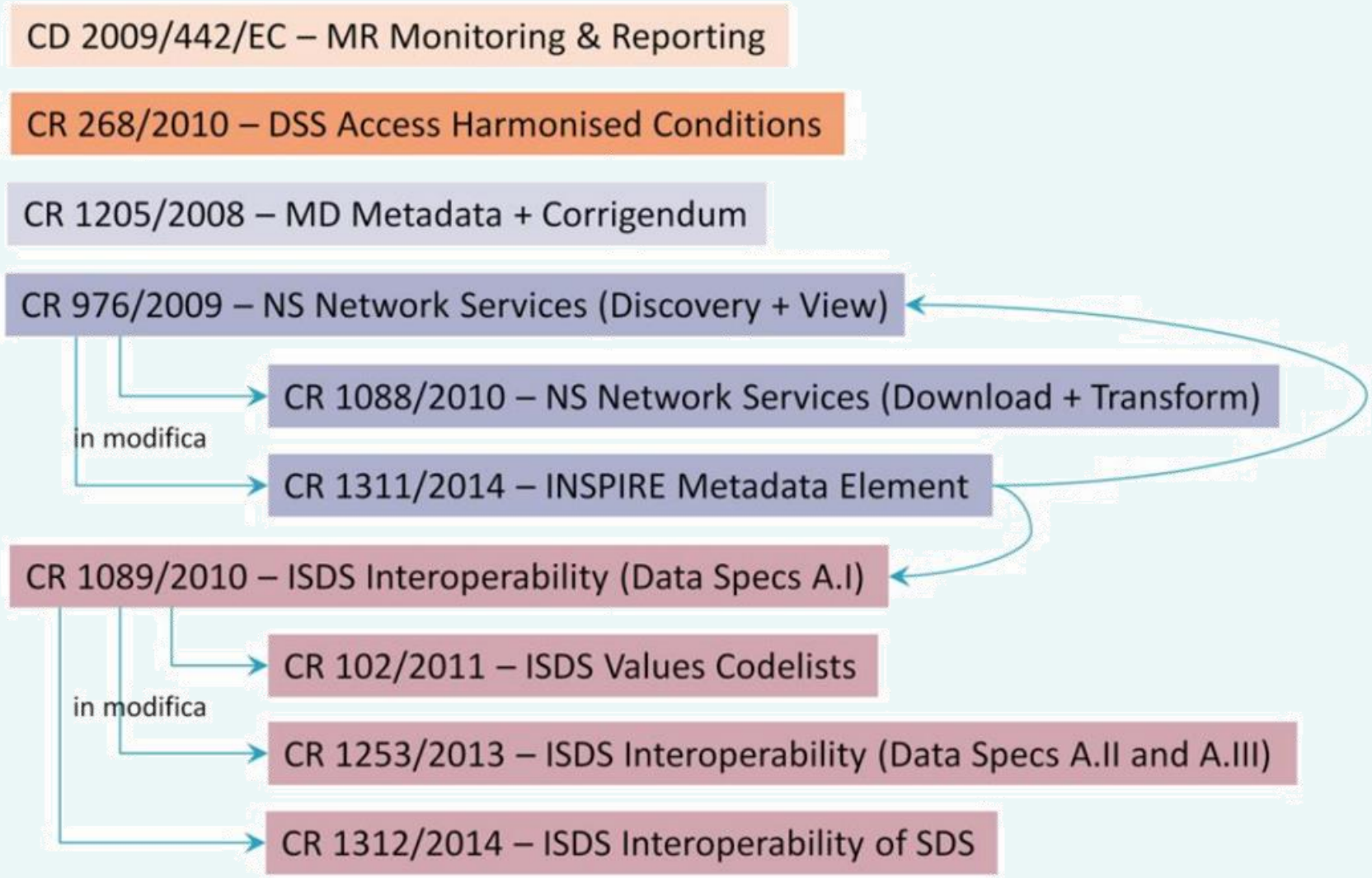
c) download services, enabling copies of spatial data sets, or parts of such sets, to be downloaded and, where practicable, accessed directly;
d) transformation services, enabling spatial data sets to be transformed with a view to achieving interoperability;
e) services allowing spatial data services to be invoked.

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0002&from=EN

INSPIRE Directive is … not just a Directive



INSPIRE Regulations



INSPIRE Regulation 1089/2010 (data)

Article 1 (Subject matter)

This Regulation sets out the requirements for technical arrangements for the interoperability and, where practicable, harmonisation of spatial data sets and spatial data services corresponding to the themes listed in Annexes I, II and III to Directive 2007/2/EC.

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02010R1089-20131230&from=EN

INSPIRE Regulation 1089/2010 (data)

EDIAQI

2. COMMON DATA TYPES

2.1. **Identifier (Identifier)**

External unique object identifier published by the responsible body, which may be used by external applications to reference the spatial object.

Attributes of the data type Identifier

Attribute	Definition	Type	Voidability
localId	A local identifier, assigned by the data provider. The local identifier is unique within the namespace, that is no other spatial object carries the same unique identifier.	CharacterString	
namespace	Namespace uniquely identifying the data source of the spatial object.	CharacterString	
versionId	The identifier of the particular version of the spatial object, with a maximum length of 25 characters. If the specification of a spatial object type with an external object identifier includes life-cycle information, the version identifier is used to distinguish between the different versions of a spatial object. Within the set of all versions of a spatial object, the version identifier is unique.	CharacterString	voidable

INSPIRE Regulation 1089/2010 (data)

EDIAQI

2.3.1.1. Costruzione astratta (AbstractConstruction)

Tipo di oggetto territoriale astratto che raggruppa le proprietà semantiche degli edifici e di parti di edifici.

Si tratta di un tipo astratto.

Attributi del tipo di oggetto territoriale «AbstractConstruction»

Attributo	Definizione	Tipo	Voidability
inspireId	Identificatore esterno di oggetto dell'oggetto territoriale.	Identifier	
name	Nome della costruzione.	GeographicalName	voidable
dateOfConstruction	Data di costruzione.	DateOfEvent	voidable
dateOfDemolition	Data di demolizione.	DateOfEvent	voidable
dateOfRenovation	Data dell'ultima ristrutturazione importante.	DateOfEvent	voidable

INSPIRE Regulation 1089/2010 (data)

2.3.1.2. Edificio astratto (AbstractBuilding)

Tipo di oggetto territoriale astratto che raggruppa le proprietà semantiche comuni dei tipi di oggetti territoriali «Building» e «BuildingPart».

È un sottotipo di «AbstractConstruction».

Si tratta di un tipo astratto.

Attributi del tipo di oggetto territoriale «AbstractBuilding»

Attributo	Definizione	Tipo	Voidability
buildingNature	Caratteristiche dell'edificio che lo rendono generalmente interessante per applicazioni di mappatura. Le caratteristiche possono riguardare l'aspetto fisico e/o la funzione dell'edificio.	BuildingNatureValue	voidable
currentUse	Attività ospitata nell'edificio. Questo attributo riguarda principalmente gli edifici che ospitano attività umane.	CurrentUse	voidable
numberOfDwellings	Numero di abitazioni.	Integer	voidable
numberOfBuildingUnits	Numero di unità abitative nell'edificio. Un'unità abitativa è una suddivisione di un edificio con il suo accesso richiudibile dall'esterno o da un'area comune (ossia non da un'altra unità abitativa), è atomica, indi-	Integer	voidable

INSPIRE Regulation 1089/2010 (data)

2.3.1.3. Edificio (Building)

Un edificio è una costruzione chiusa sovrastante e/o sottostante il suolo, utilizzata o destinata a essere utilizzata come rifugio per esseri umani, animali o cose o per la produzione di beni economici. Un edificio è qualsiasi struttura costruita o eretta in maniera permanente sul suo sito.

È un sottotipo di «AbstractBuilding».

Si tratta di un tipo astratto.

Relazioni del tipo di oggetto territoriale «Building»

Relazione	Definizione	Tipo	Voidability
parts	Le parti di cui è composto l'edificio.	BuildingPart	voidable

2.3.1.4. Parte dell'edificio (BuildingPart)

La parte di un edificio è una suddivisione di un edificio che potrebbe essere considerata di per sé un edificio.

È un sottotipo di «AbstractBuilding».

Si tratta di un tipo astratto.

INSPIRE Regulation 1089/2010 (data)

2.3.2. *Tipi di dati*

2.3.2.1. Uso corrente (CurrentUse)

Questo tipo di dati consente di descrivere in dettaglio gli usi correnti.

Attributi del tipo di dati «CurrentUse»

Attributo	Definizione	Tipo	Voidability
currentUse	L'uso corrente.	CurrentUseValue	
percentage	La parte, fornita come percentuale, destinata all'uso corrente.	Integer	

Vincoli del tipo di dati «CurrentUse»

Il totale di tutte le percentuali deve essere pari o inferiore a 100.

INSPIRE Regulation 1089/2010 (data)

2.3.2.5. Altezza dal suolo (HeightAboveGround)

Distanza verticale tra un riferimento inferiore ed un riferimento superiore.

Attributi del tipo di dati «HeightAboveGround»

Attributo	Definizione	Tipo	Voidability
heightReference	Elemento utilizzato come riferimento superiore.	ElevationReferenceValue	voidable
lowReference	Elemento utilizzato come riferimento inferiore.	ElevationReferenceValue	voidable
status	Il modo in cui è stata rilevata l'altezza.	HeightStatusValue	voidable
value	Valore dell'altezza dal suolo.	Length	

INSPIRE Regulation 1089/2010 (data)

2.3.3.3. Uso corrente (CurrentUseValue)

Valori che indicano l'uso corrente.

I valori ammessi per questo elenco di codici comprendono i valori specificati nella tabella sottostante e valori più limitati definiti dai fornitori di dati.

Questo elenco di codici è gerarchico.

Valori per l'elenco di codici «CurrentUseValue»

Valore	Nome	Definizione	Valore «parent» (o principale)
residential	residenziale	L'edificio (o una componente dell'edificio) è utilizzato a fini residenziali.	
individualResidence	residenza individuale	L'edificio (o una componente dell'edificio) contiene solo un'abitazione.	residenziale
collectiveResidence	residenza collettiva	L'edificio (o una componente dell'edificio) contiene più di un'abitazione.	residenziale
twoDwellings	due abitazioni	L'edificio (o una componente dell'edificio) contiene due abitazioni.	collectiveResidence

INSPIRE Registry

Archivio INSPIRE

Archivio INSPIRE

URI	http://inspire.ec.europa.eu/registry
Label	**Archivio INSPIRE**
Content summary	L"infrastruttura di INSPIRE prevede una serie di elementi, che richiedono descrizioni chiare e la possibilità di essere referenziati tramite identificatori univoci. Esempi di tali elementi includono i temi di INSPIRE, elenchi di codici, schemi di applicazioni o servizi di ricerca. I Registri forniscono un mezzo per assegnare identificatori agli oggetti e le loro etichette, definizioni e descrizioni (in diverse lingue). Il Registro di INSPIRE fornisce un punto di accesso centrale per un numero di registri gestiti a livello centrale . I contenuti di questi registri sono basati sulla direttiva INSPIRE, sulle modalità di applicazione e sulle linee guida tecniche.
Registry Manager	Commissione Europea, Centro Comune di Ricerca

INSPIRE Registry

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Available items

Show 10 entries Showing 1 to 5 of 5 entries Filter:

Label	Application Schema	Theme	Governance level	Status
agricoltura	Base di edifici	Edifici	Linee guida tecniche sulla specifica dei dati	Valid
ausiliario	Base di edifici	Edifici	Linee guida tecniche sulla specifica dei dati	Valid
commercio e servizi	Base di edifici	Edifici	Linee guida tecniche sulla specifica dei dati	Valid
industriale	Base di edifici	Edifici	Linee guida tecniche sulla specifica dei dati	Valid
residenziale	Base di edifici	Edifici	Linee guida tecniche sulla specifica dei dati	Valid

1

https://inspire.ec.europa.eu/codelist/CurrentUseValue

INSPIRE Regulation 976/2009 (services)

COMMISSION REGULATION (EC) No 976/2009

of 19 October 2009

implementing Directive 2007/2/EC of the European Parliament and of the Council as regards the Network Services

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (1), and in particular Article 16 thereof,

Whereas:

(1) Directive 2007/2/EC lays down general rules for the establishment of the Infrastructure for Spatial Information in the European Community. Member States are required to establish and operate a network of services for the spatial data sets and services for which metadata have been created in accordance with

Article 2

Definitions

For the purposes of this Regulation, the definitions set out in Part A of the Annex to Commission Regulation (EC) No 1205/2008 (2) shall apply.

The following definitions shall also apply:

1. 'initial operating capability' means the ability of a Network Service to provide full functionality without guaranteeing quality of service in conformity with the rules set out in Annex I to this Regulation or access to the service for all users through the INSPIRE geo-portal;

2. 'performance' means the minimal level by which an objective is considered to be attained representing the fact how fast a request can be completed within an INSPIRE Network Service;

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0976&from=EN

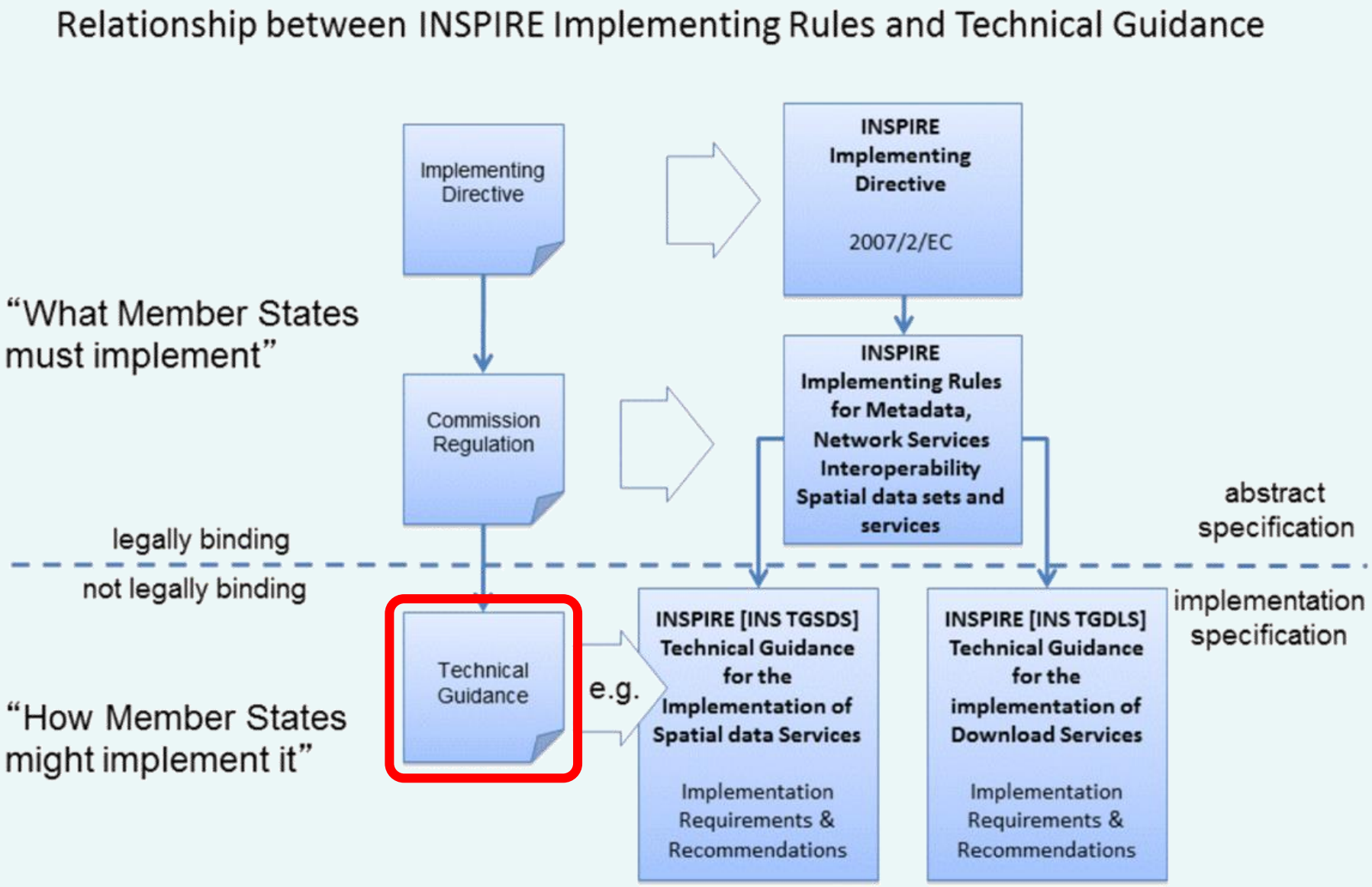
INSPIRE Regulation 976/2009 (services)

Article 1 (Subject matter)

This Regulation sets out the requirements for the establishment and maintenance of the Network Services provided for in Article 11(1) of Directive 2007/2/EC (hereinafter 'the Network Services') and obligations related to the availability of those services to the public authorities of the Member States and third parties pursuant to Article 12 of that Directive.

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0976&from=EN

INSPIRE Directive is … not just a Directive



INSPIRE Technical Guidelines (data)

Data Models

INSPIRE data models

The INSPIRE Implementing Rules on interoperability of spatial data sets and services and the data specification guidance documents are based on the UML data models developed by the INSPIRE Thematic Working Groups. These data models are managed in a common UML repository, which also stores older revisions of the models.

INSPIRE Technical Guidelines (data)

ISO19101

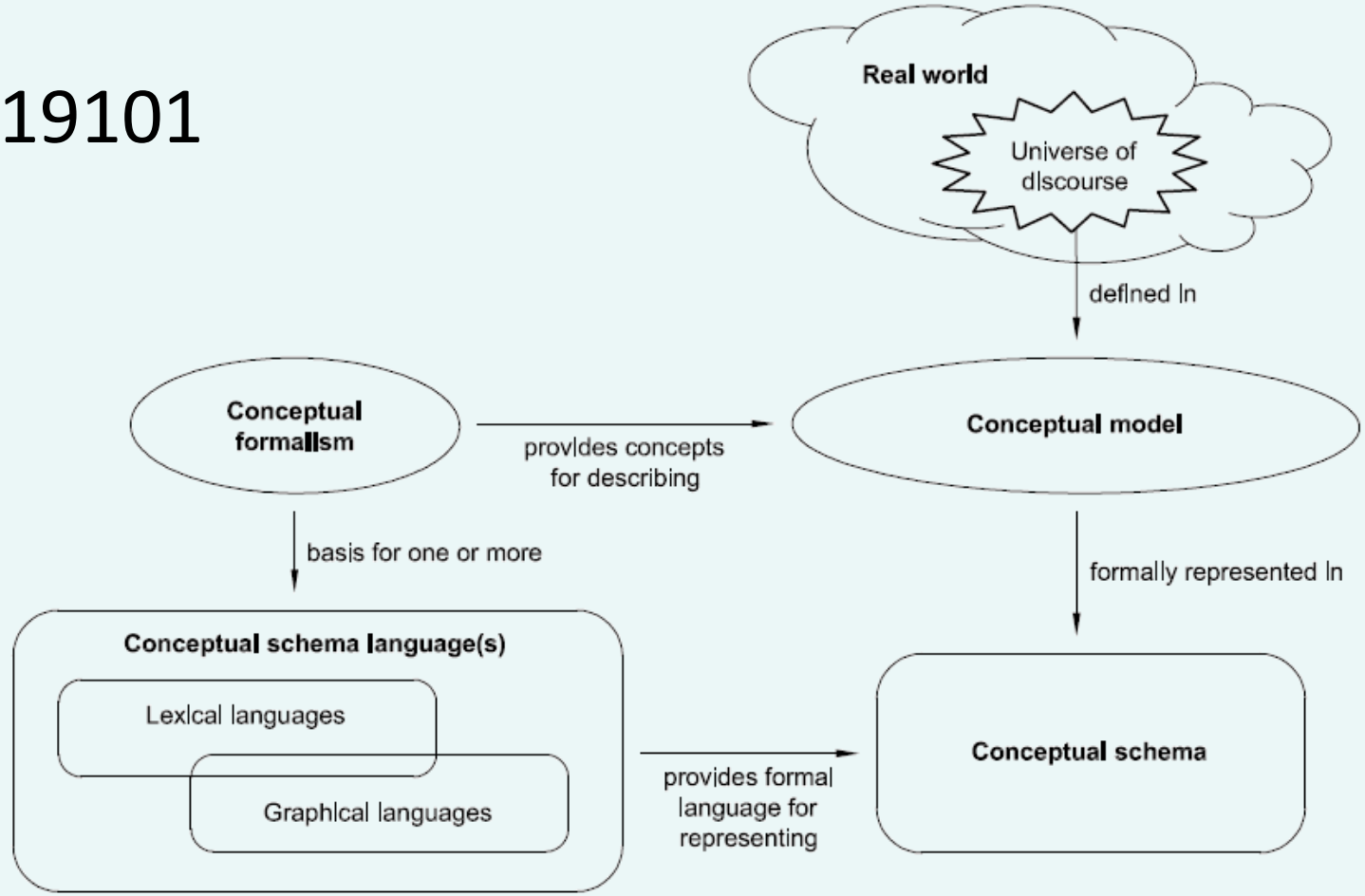


Figure 4 — From reality to conceptual schema

INSPIRE Technical Guidelines (data)

Acquisition Oriented data model

Query Oriented data model

Output Oriented data model

Data Models Processing Stage (Molenaar 1998)

Real world

Uncertainty in conceiving geographic phenomena

Conception

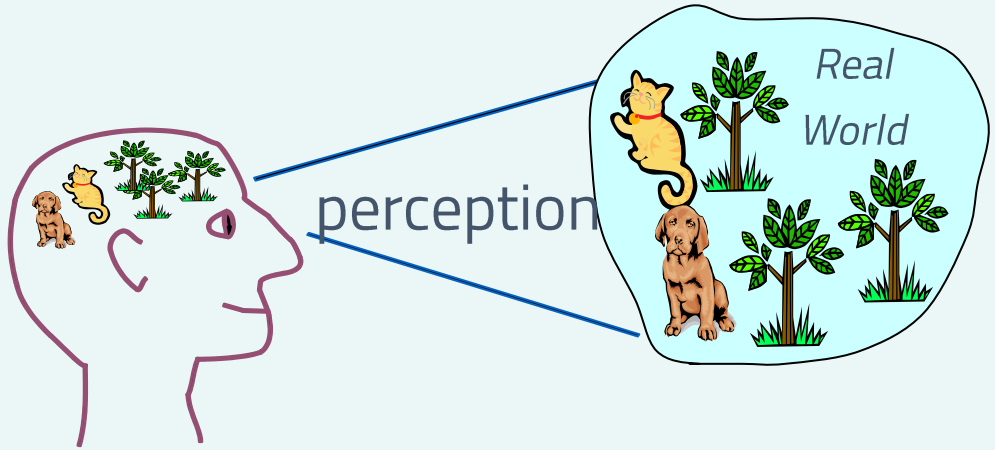
Uncertainty in measuring and representing geographical phenomena

Measurement

(Longley, et al. 2001)

Uncertainty in analyzing geographic phenomena

Analyses



INSPIRE Technical Guidelines (data)

http://inspire.ec.europa.eu/documents/Data_Specifications/INSPIRE_DataSpecification_HY_v3.1.pdf

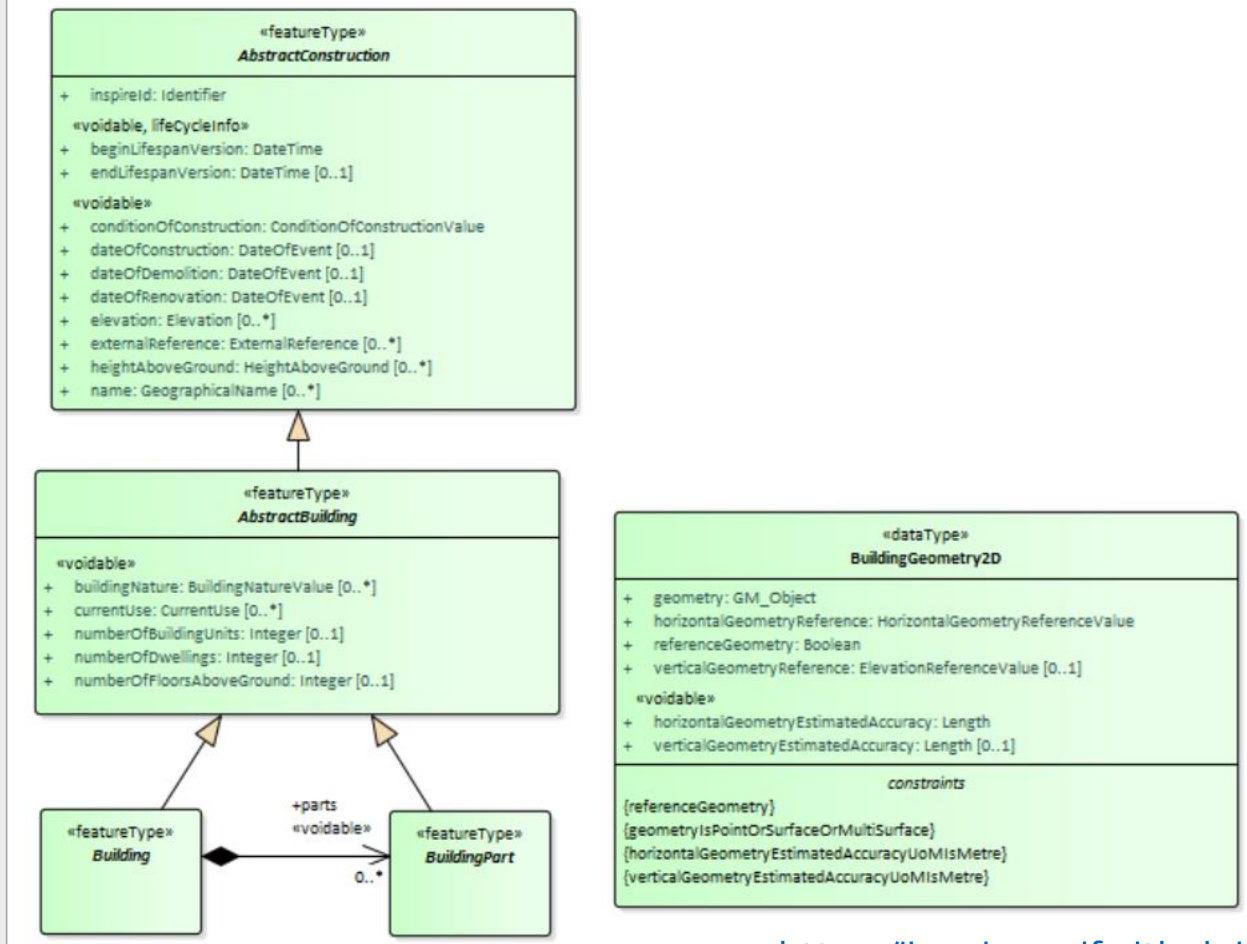
INSPIRE Technical Guidelines (data)

EDIAQI

ENTERPRISE ARCHITECT

INSPIRE Consolidated UML Model

- INSPIRE Consolidated UML Model
  - Foundation Schemas
  - Themes
    - Annex I
    - Annex II
    - Annex III
      - AC-MF
      - BU
        - «applicationSchema» BuildingsBase
          - Buildings - Base: Main Types
          - Buildings - Base: Data Types
          - Buildings - Base: Code Lists
          - «featureType» AbstractConstruction
          - «codeList» ConditionOfConstructionValue
          - «dataType» DateOfEvent
          - «dataType» HeightAboveGround
          - «codeList» HeightStatusValue
          - «featureType» AbstractBuilding
          - «dataType» Elevation
          - «codeList» ElevationReferenceValue
          - «featureType» Building
          - «dataType» BuildingGeometry2D
          - «featureType» BuildingPart
          - «dataType» CurrentUse
          - «codeList» CurrentUseValue
          - «dataType» ExternalReference
          - «codeList» BuildingNatureValue
          - «codeList» HorizontalGeometryReferenceValue
        - «applicationSchema» Buildings2D
        - «applicationSchema» Buildings3D
      - AF
      - AM
      - BR
      - EF
      - ER
      - HB
      - HH



Buildings - Base: Main Types : Class diagram

https://inspire-mif.github.io/uml-models/approved/html/

INSPIRE Technical Guidelines (data)

European Commission

INSPIRE
Infrastructure for Spatial Information in Europe

D2.8.III.2 Data Specification on *Buildings* – Technical Guidelines

Title	D2.8.III.2 INSPIRE Data Specification on *Buildings* – Technical Guidelines
Creator	INSPIRE Thematic Working Group *Buildings*
Date	2013-12-10
Subject	INSPIRE Data Specification for the spatial data theme *Buildings*
Publisher	European Commission Joint Research Centre
Type	Text

https://inspire.ec.europa.eu/id/document/tg/bu

INSPIRE Technical Guidelines (data)

https://inspire-regadmin.jrc.ec.europa.eu/dataspecification/ThemeOverview.action?themeId1=bu

European Commission > INSPIRE > INSPIRE Interactive Data Specifications > Read/Compare Related Themes > Detailed description

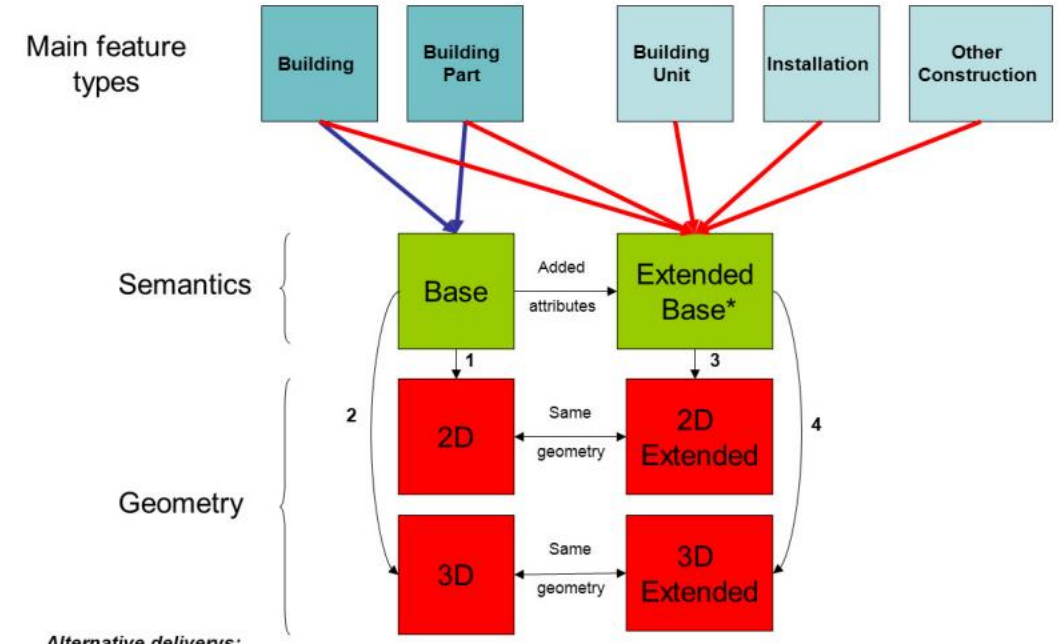
Home | Read/Compare Technical Guidelines | Find your scope | Favorites

Select Theme...

Buildings

- Theme Overview
- Executive Summary
- Detailed description
- Data content and structure
- Data quality
- Metadata
- Delivery
- Data capture
- Portrayal
- Abstract Test Suite
- Use cases

Microsoft Word - INSPIRE_DataSpec... 6 / 15 90%



INSPIRE Technical Guidelines (data)

EDIAQI

Use cases

Building data is a key theme for environmental studies. On one hand, buildings are the places where people live, work and spend more of their time and where they should be ensured good quality of habitat and protection from risks (flood, fire, earthquake, …) and from pollutions (noise, air pollution, …). Buildings by themselves may deserve protection because of their historical or architectural interest. On the other hand, buildings and their inhabitants are consuming natural resources (heating, land, transport, construction material) and there is clear need to promote more sustainable buildings and to control urban spreading. This data specification addresses requirements related to European reporting, such as the Noise Directive, the Air Quality Directive, the Energy Performance of Building Directive and the Population and Housing Census Directive. The Flood Directive and the project of Soil Directive have also been taken into account.

https://inspire-regadmin.jrc.ec.europa.eu/dataspecification/ExecutiveSummary.action?hideMenu=&themeId1=bu

INSPIRE Technical Guidelines (data)

Existing data and standards

There are nowadays many datasets describing building related features. These datasets are mainly produced by well identified member state organisations, usually mandated national cadastral and mapping agencies. Building data exist with various levels of detail both in geometry and in semantics. For example, there are representations of buildings and constructions as points, surfaces or solids. The 2D surface representation is the most frequent, the building having been captured e.g. by its foot print or roof edge or envelope. The 3D representations of buildings are generally described using the well defined levels of detail of the CityGML OGC standard. All these various representations have their interest and their limits.

https://inspire-regadmin.jrc.ec.europa.eu/dataspecification/ExecutiveSummary.action?hideMenu=&themeId1=bu

INSPIRE Technical Guidelines (services)

README.md

Good Practice document for INSPIRE download services based on OGC SensorThings API

Overview of work pertaining to INSPIRE

For compliance with INSPIRE, data providers must demonstrate complaince with the INSPIRE Implementing Rules. Pertaining to the data requirements towards download services, we have shown alignment between STA V1.1 and both INSPIRE Environmental Monitoring Facilities and the Observational model in our publication on "Extending INSPIRE to the Internet of Things through SensorThings API" doi:10.3390/geosciences8060221

Data Alignment - Matching tables

The Excel Sheet INSPIRE SensorThings Matching provides a good basis for the alignment of an existing data source with the requirements from STA and INSPIRE

EC INSPIRE Documents

INSPIRE Data Specification Implementing Rules

INSPIRE Data Specification Technical Guidelines

Network Services Alignment

8 watching

0 forks

Report repository

Releases

No releases published

Packages

No packages published

Contributors 3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https://github.com/INSPIRE-MIF/gp-ogc-sensorthings-api

INSPIRE Technical Guidelines (services)

EDIAQI

Extending INSPIRE to the Internet of Things through SensorThings API

by Alexander Kotsev [1,*,†,‡,§], Katharina Schleidt [2,‡], Steve Liang [3,‡], Hylke Van der Schaaf [4,‡], Tania Khalafbeigi [3,‡], Sylvain Grellet [5,‡], Michael Lutz [1,‡], Simon Jirka [6,‡] and Mickaël Beaufils [5,‡]

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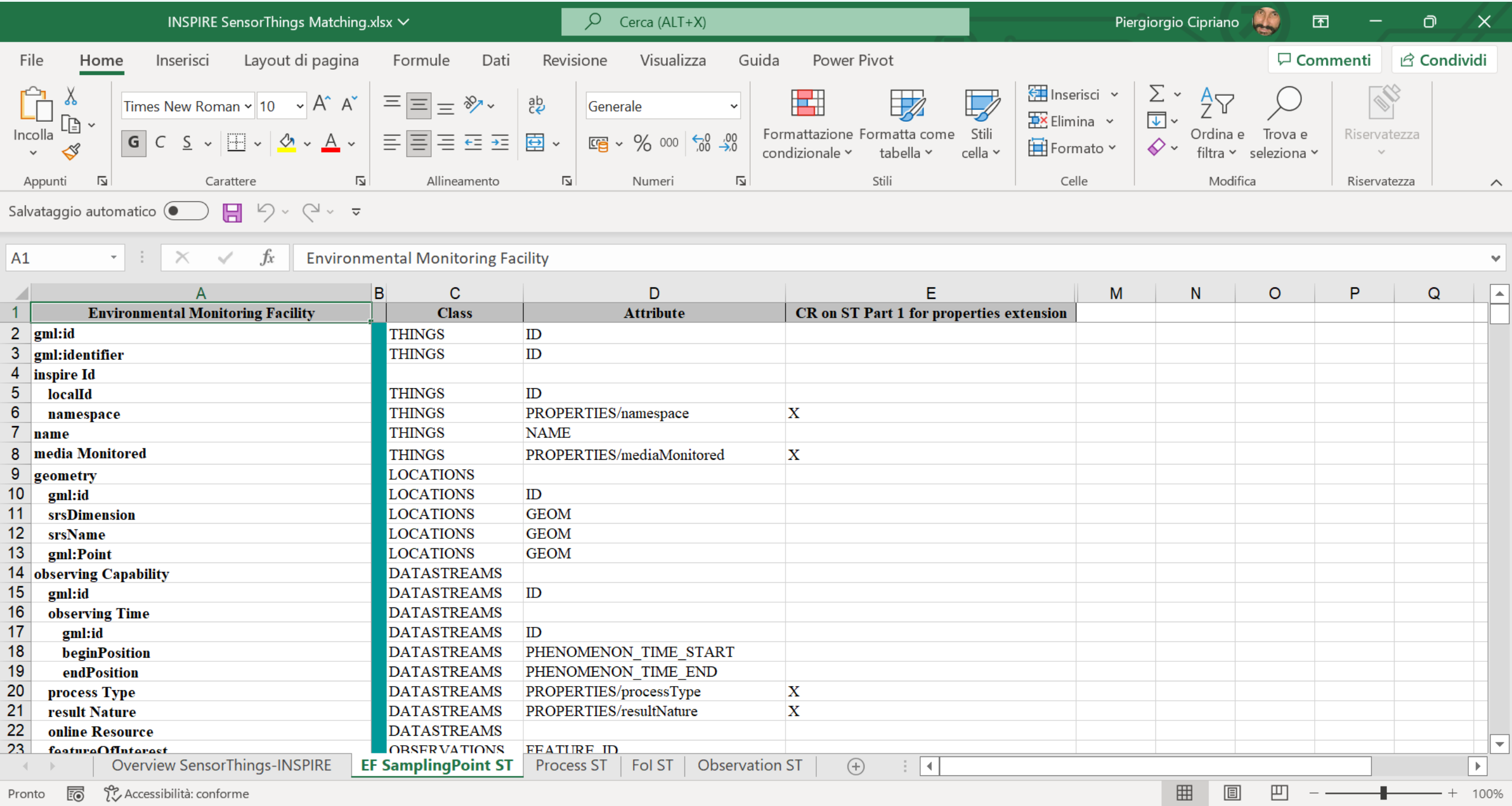

	A	C	D	E
1	**Environmental Monitoring Facility**	**Class**	**Attribute**	**CR on ST Part 1 for properties extension**
2	**gml:id**	THINGS	ID	
3	**gml:identifier**	THINGS	ID	
4	**inspire Id**			
5	**localId**	THINGS	ID	
6	**namespace**	THINGS	PROPERTIES/namespace	X
7	**name**	THINGS	NAME	
8	**media Monitored**	THINGS	PROPERTIES/mediaMonitored	X
9	**geometry**	LOCATIONS		
10	**gml:id**	LOCATIONS	ID	
11	**srsDimension**	LOCATIONS	GEOM	
12	**srsName**	LOCATIONS	GEOM	
13	**gml:Point**	LOCATIONS	GEOM	
14	**observing Capability**	DATASTREAMS		
15	**gml:id**	DATASTREAMS	ID	
16	**observing Time**	DATASTREAMS		
17	**gml:id**	DATASTREAMS	ID	
18	**beginPosition**	DATASTREAMS	PHENOMENON_TIME_START	
19	**endPosition**	DATASTREAMS	PHENOMENON_TIME_END	
20	**process Type**	DATASTREAMS	PROPERTIES/processType	X
21	**result Nature**	DATASTREAMS	PROPERTIES/resultNature	X
22	**online Resource**	DATASTREAMS		
23	**featureOfInterest**	OBSERVATIONS	FEATURE_ID	

Thanks for your patience and attention

… any questions?

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