ICEG Building:

Business Working Group

Welcome!

Wednesday April 27 2022

Virtual working group – Microsoft Teams

Agenda

#1	Welcome and introduction to ICEG	09:00 to 09:30	
#2	Context and key concepts	09:30 to 10:00	
#3	Use cases	10:00 to 11:00	
#4	Break	11:00 to 11:10	
#5	Defining key concepts	11:10 to 11:50	
#6	Next steps	11:50 to 12:00	

Practicalities

Audience sound is muted by default.

Use the hand in Google Meet if you want to say something.

Questions, comments and suggestions can be communicated via the chat function. Interaction is encouraged!

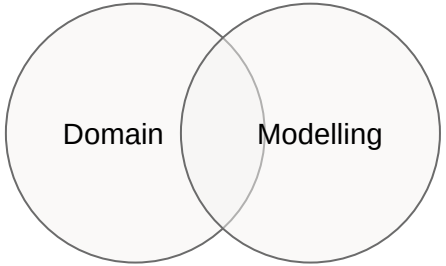
A yes/no question can be answered simply and quickly via the chat:

Agree = +1
Do not agree = - 1
Indifferent = 0

Welcome and introduction to ICEG

Virtual tour de table

Please add a post-it stating your name, affiliation and interest or experience in building (modelling)



MURAL

Go to the Mural

Introduction to ICEG

- The ICEG* review group ‘open standards’ has a permanent character and is responsible for the central coordination and follow-up of the work related to the standardisation of information.
- A cooperation agreement between the federal, regional and community governments to harmonise and align the initiatives aimed at realising an integrated e-government.
- Defining data standards
    - Exchanging data (syntax (grammar) and technical standards)
    - Define concepts in an unambiguous way (semantic)
    - Bottom-up development
- Mission aligned to the existing ICEG collaboration agreement between the federal, regional and community authorities (dd. 2013-08-26). Already modelled ICEG Public Organization & ICEG Public Service.
- Based on existing work and specifications such as OSLO (Flanders), INSPIRE Building

DIGITAAL VLAANDEREN Wallonie be be.brussels FÉDÉRATION WALLONIE-BRUXELLES BOSA DG Digitale Transformatie FOD Beleid en Ondersteuning DG Transformation digitale SPF Stratégie et Appui

4 layers of interoperability

Semantic aspect

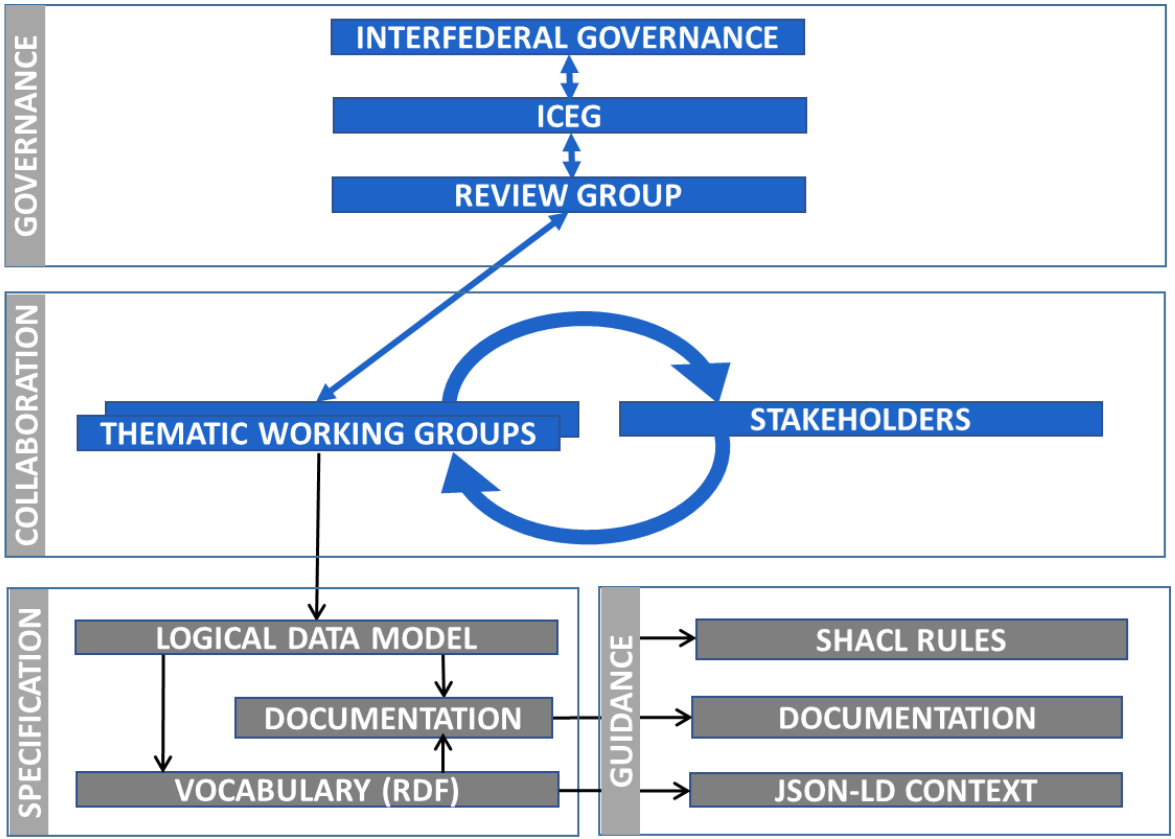
"meaning of data elements and the relationship between them. It includes developing vocabularies and schema to describe data exchanges, and ensures that data elements are understood in the same way by all communicating parties;"

Syntactic aspect

"describing the exact format of the information to be exchanged in terms of grammar and format."

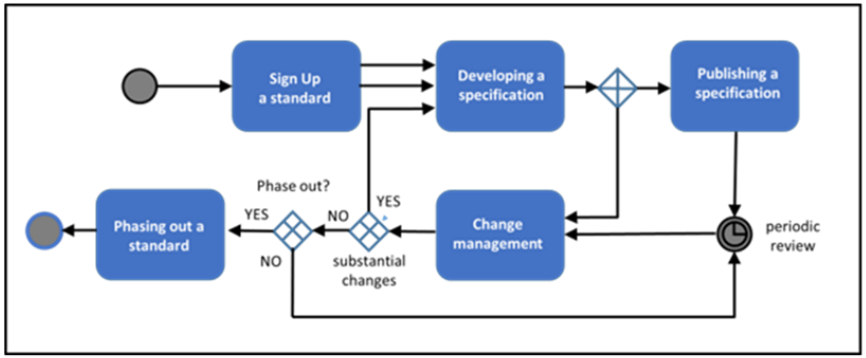
https://ec.europa.eu/isa2/sites/isa/files/eif_brochure final.pdf

Governance


GOVERNANCE
INTERFEDERAL GOVERNANCE
ICEG
REVIEW GROUP
COLLABORATION
THEMATIC WORKING GROUPS
STAKEHOLDERS
SPECIFICATION
LOGICAL DATA MODEL
DOCUMENTATION
VOCABULARY (RDF)
GUIDANCE
SHACL RULES
DOCUMENTATION
JSON-LD CONTEXT

Governance: ICEG process and method

- Scalable process for registering, developing, changing and phasing out data standards.



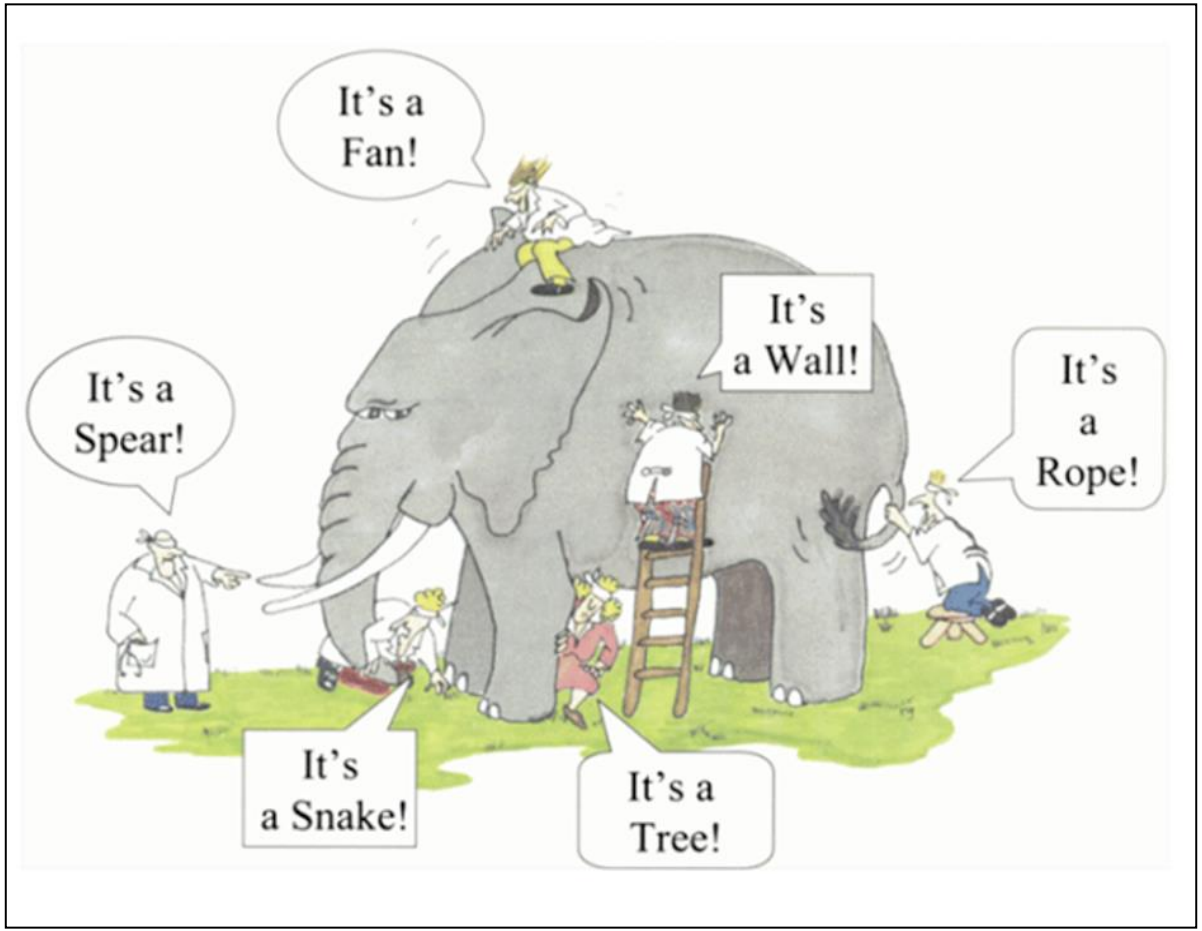

INFORMATIE VLAANDEREN

PROCESS AND METHOD FOR THE DEVELOPMENT OF DATA STANDARDS

Version /// 1.0
Publication date /// 24 may 2019

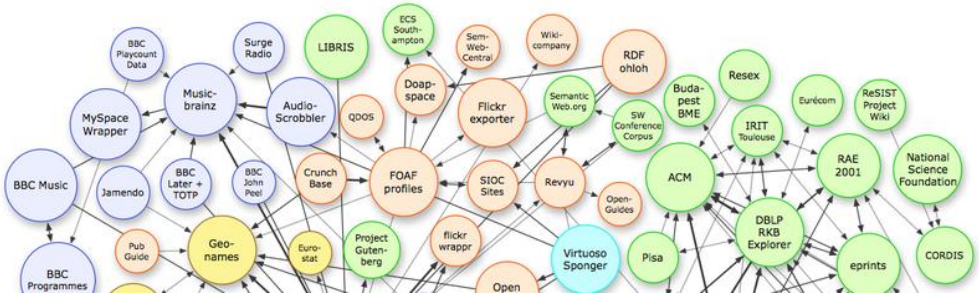
Abstract: French, Dutch
Full paper: English

W3C, IEEE, IETF, IAB en ISA, Open Stand, OSLO


It's a Fan!
It's a Spear!
It's a Wall!
It's a Rope!
It's a Snake!
It's a Tree!

Share and reuse

International Standards



EU CORE Vocabularies and INSPIRE

CORE BUSINESS VOCABULARY | CORE LOCATION VOCABULARY | CORE PERSON VOCABULARY | CORE PUBLIC SERVICE VOCABULARY | CORE CRITERION & EVIDENCE VOCABULARY | CORE PUBLIC ORGANISATION VOCABULARY

ICEG extension

VOCAB BELGIF

Interoperable Europe
Federal Government
Regional Government
Local government
Industry
Academia

The importance of harmonisation in the European context

RRF - Recovery and Resilience Facility	*“Europe fit for the digital age”*	Digitalisation efforts in all EU countries
European Strategy for Data	Creation of data spaces where: ● Data flows across countries and sectors ● Data is FAIR ● Privacy, protection and competitiveness are ensured	Cadastral and geospatial data needed across spaces
And others…	Open Data directive Data Act defining basic rules for all sectors *Revision of the INSPIRE directive* Digital Europe Programme (DEP)	Building considered as a high-value dataset New EU specifications

Context and key concepts

Context of the work

WHAT

Define the key information for describing **Building** by reusing existing standards

WHO

FOD BOSA, Digital Vlaanderen, Fédération Wallonie-Bruxelles, communities of practice, NGI/IGN, Fednot, Belgian Buildings Agency, experts for the building register, experts for addresses, experts for parcels, etc.

WHY

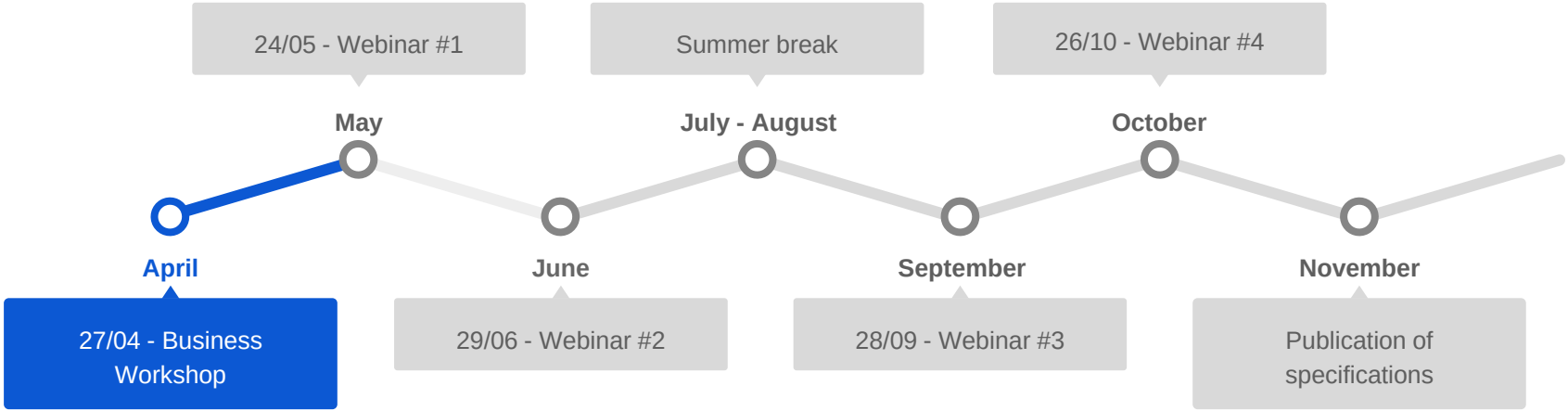
Benefits of such standards are: (i) making data accessible as **Linked Open Data**, (ii) Defining standard interfaces (**APIs**), (iii) making **collaboration** and **integration** of various services and tools easier and (iv) easily **reusable data** for all stakeholders.

HOW

Via **workshops**, **reviews** and **deliverables** we (i) define and agree on use cases, (ii) identify the information/data necessary for these use cases, (iii) model the information/data and (iv) document the model in different formats.

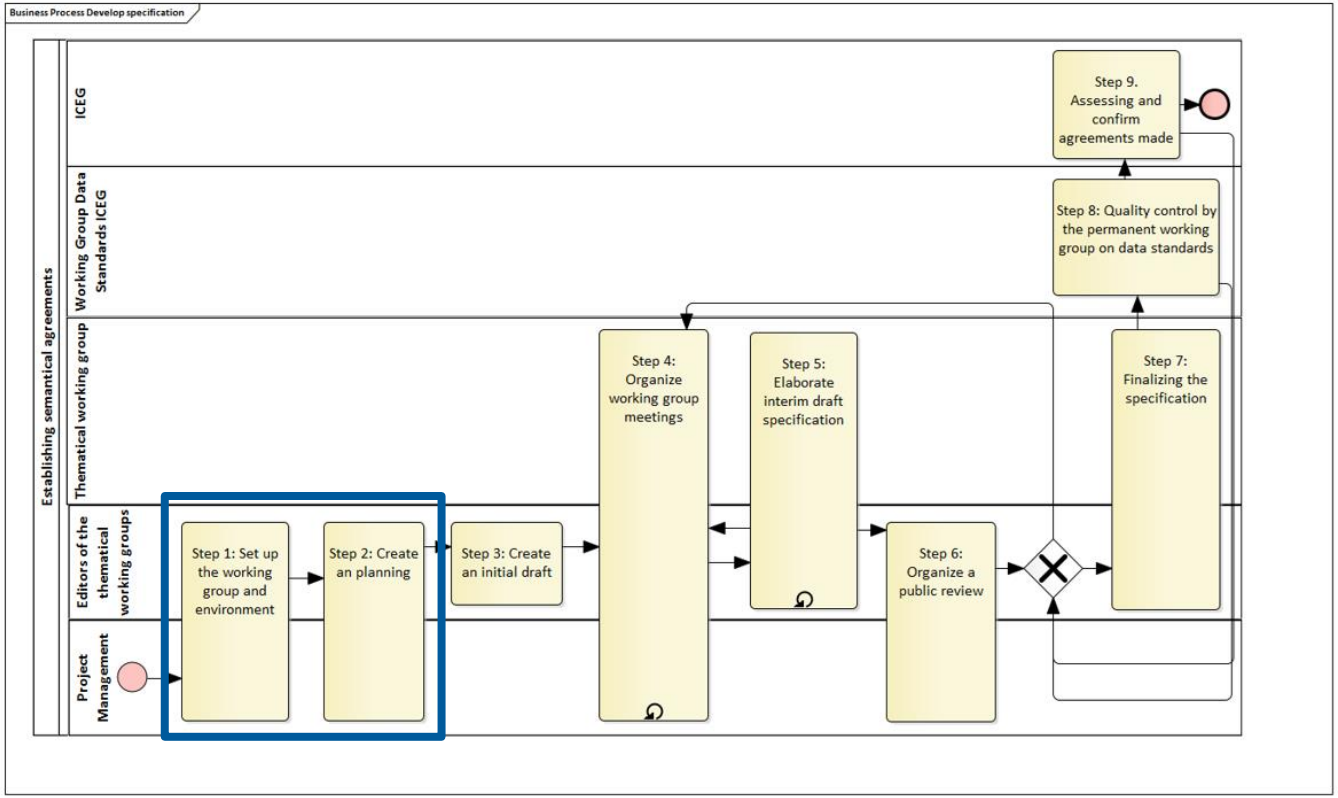
Timeline

Today: Business Workshop



How do we achieve this

Process and methodology defined by ICEG

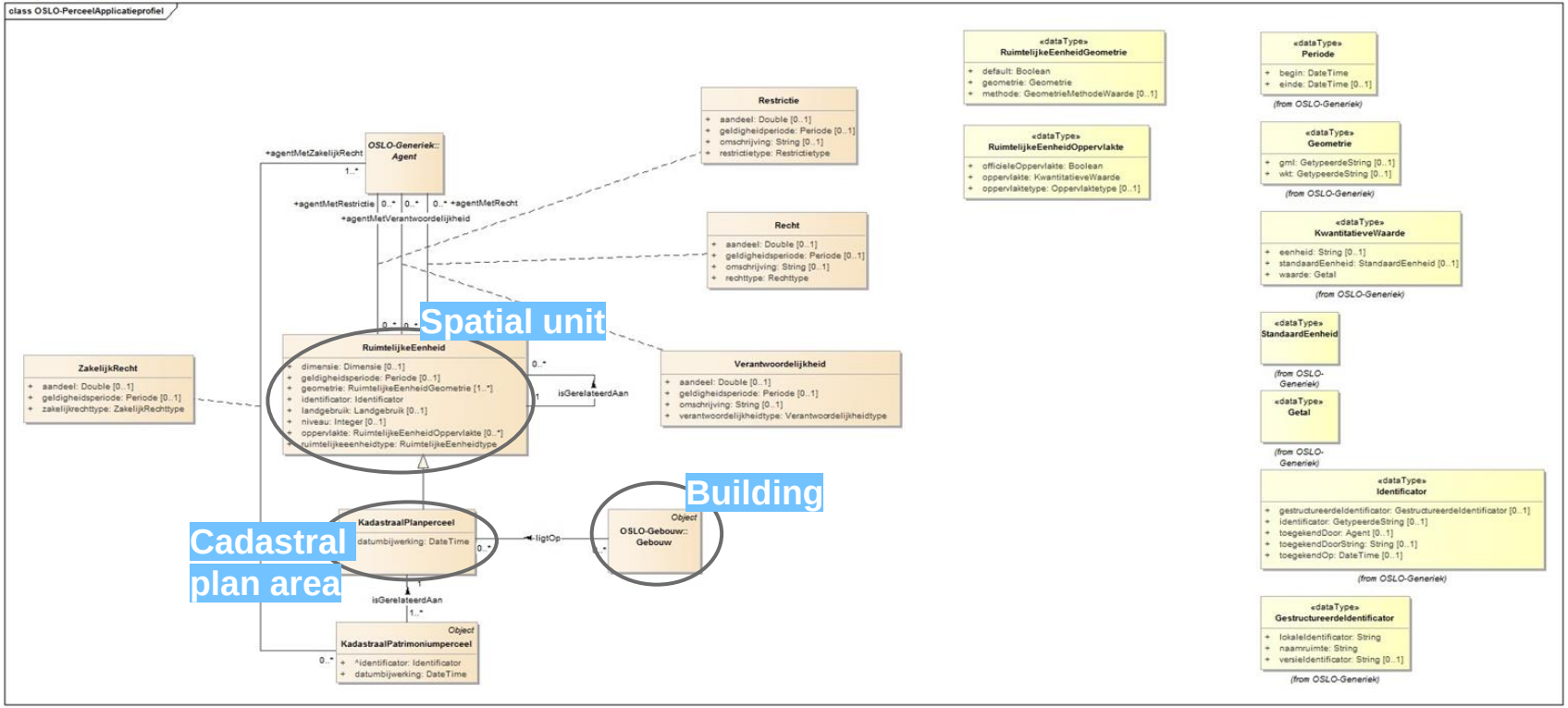


Starting point

- OSLO, Flanders
  - OSLO Parcel (Perceel)
  - OSLO Buildings Register (Gebouwenregister)
  - OSLO Register of addresses (Adresregister)
- FOD BOSA, Federal level
  - Belgian Streets and Addresses (BeST)
- INSPIRE (34 spatial data themes), European Commission
  - Addresses
  - Cadastral parcels
  - Buildings

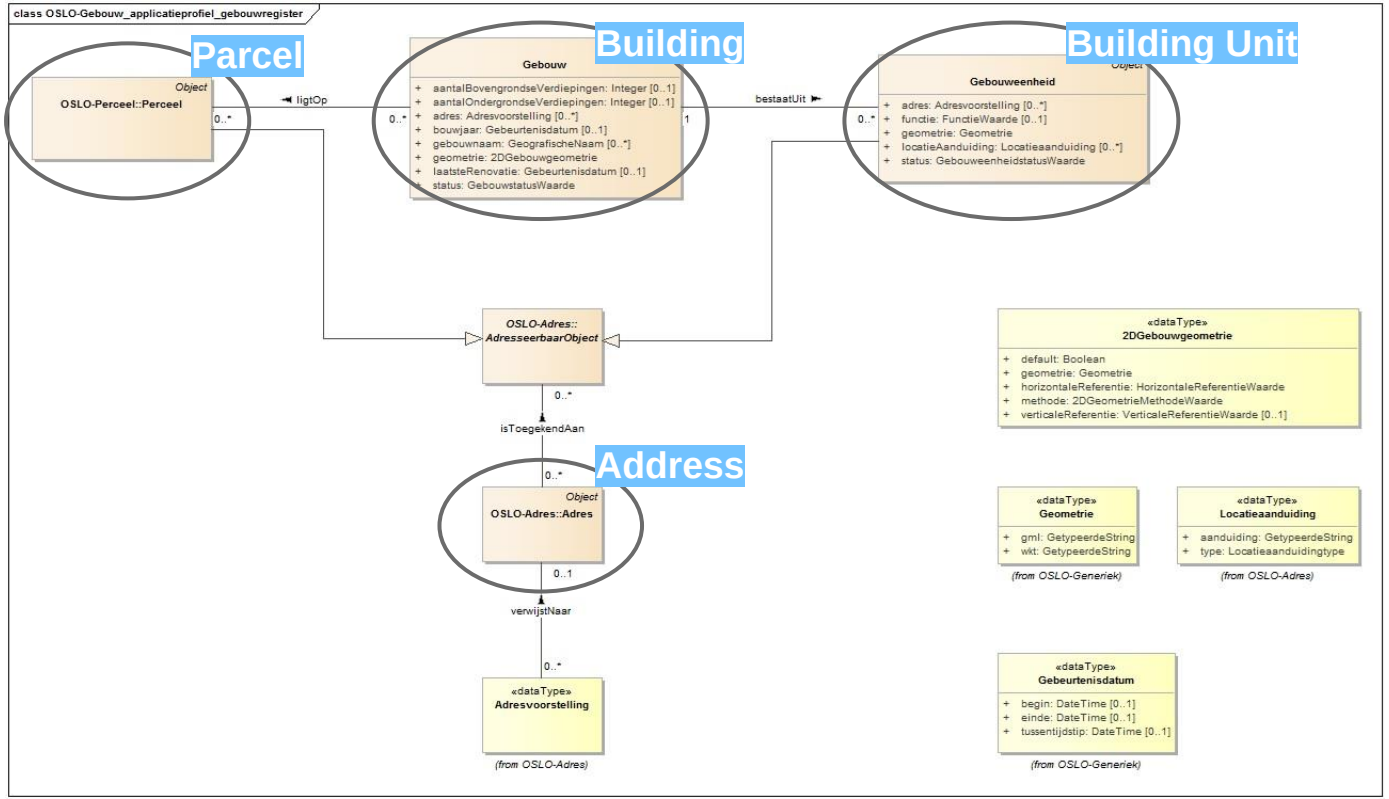
	OSLO Parcel	OSLO Buildings Register	OSLO Register of addresses	BeST	INSPIRE Addresses	INSPIRE Cadastral parcels	INSPIRE Building Base	INSPIRE Building Ext Base	INSPIRE Building2D	INSPIRE Building3D
SpatialUnit	X									
CadastralPlanArea	X									
Building	X	X	X				X		X	X
(cadastral)Parcel		X	X	X		X		X		
Building Unit		X	X	X						
Address		X	X	X	X					
CityName			X	X	X					
PostInfo			X	X	X					
Streetname			X	X	X					
CadastralZoning						X				
CadastralBoundary						X				
AddressComponent					X					
BasicPropertyUnit						X				
AddressRepresentation					X			X		
AbstractConstruction							X	X	X	X
AbstractBuilding							X		X	X
BuildingGeometry2D							X		X	X
BuildingPart							X		X	X
BuildingAndBuildingUnitInfo								X		
AbstractBuildingUnit								X		
BuildingGeometry3DLoD										X
BuildingInfo								X		

OSLO Parcel



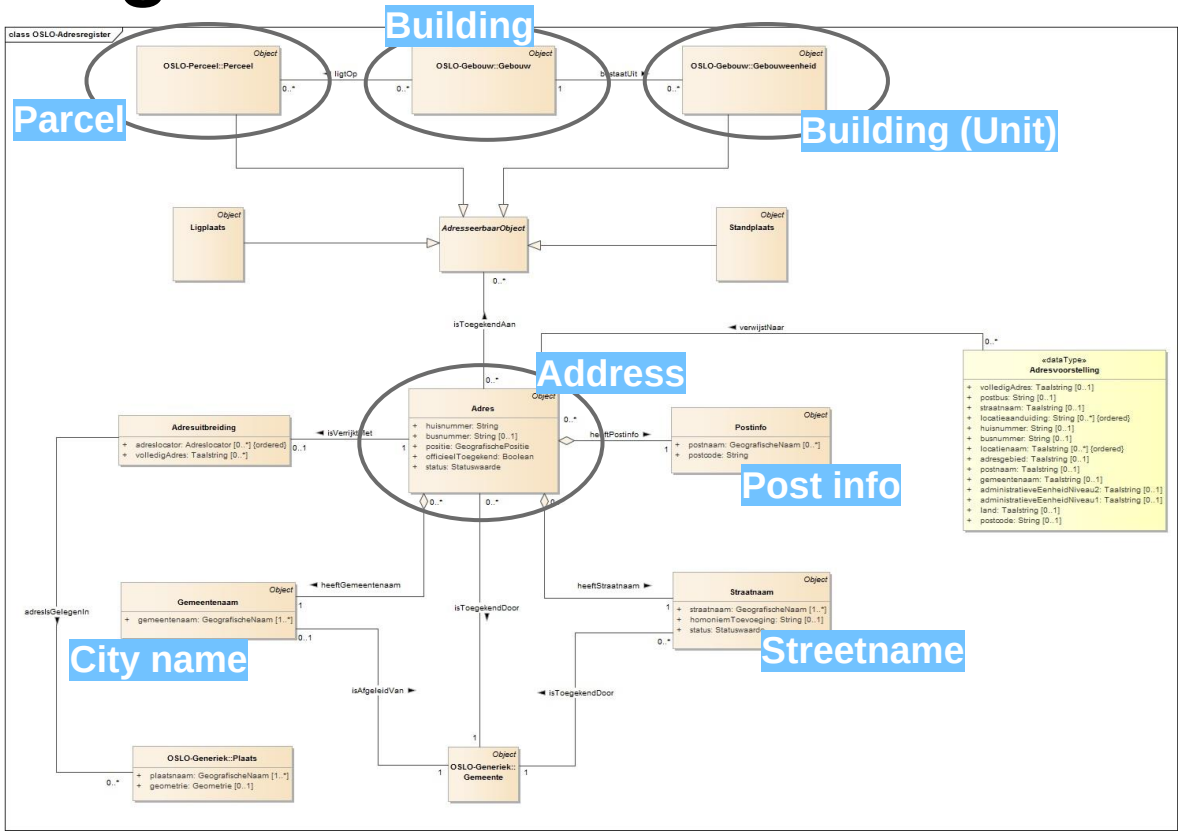
Link to the latest draft release: https://data.vlaanderen.be/doc/applicatieprofiel/perceel/

OSLO Buildings register



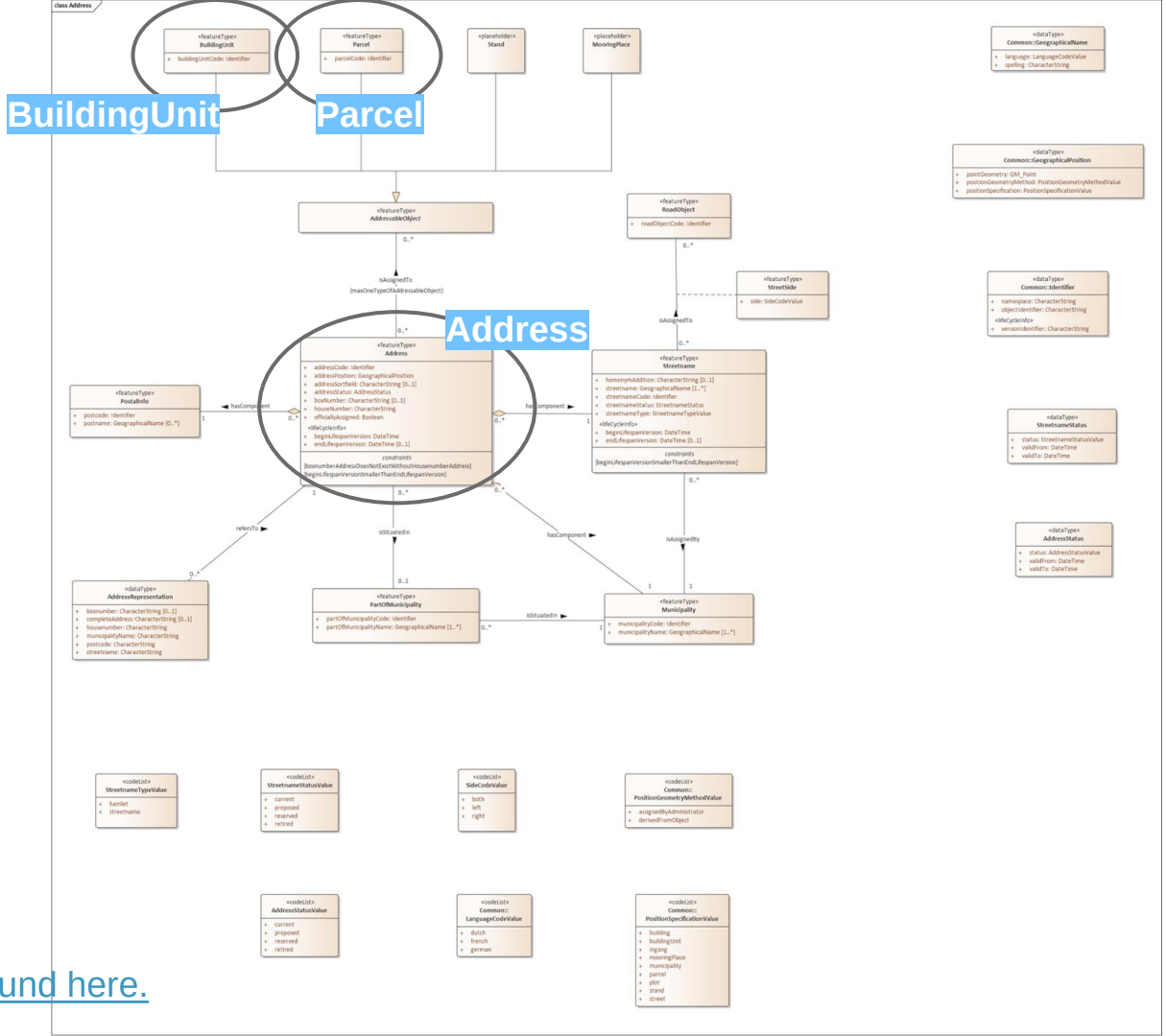
Link to the latest draft release: https://test.data.vlaanderen.be/doc/applicatieprofiel/gebouwenregister/

OSLO Register of addresses



Link to the latest draft release: https://data.vlaanderen.be/doc/applicatieprofiel/adresregister/

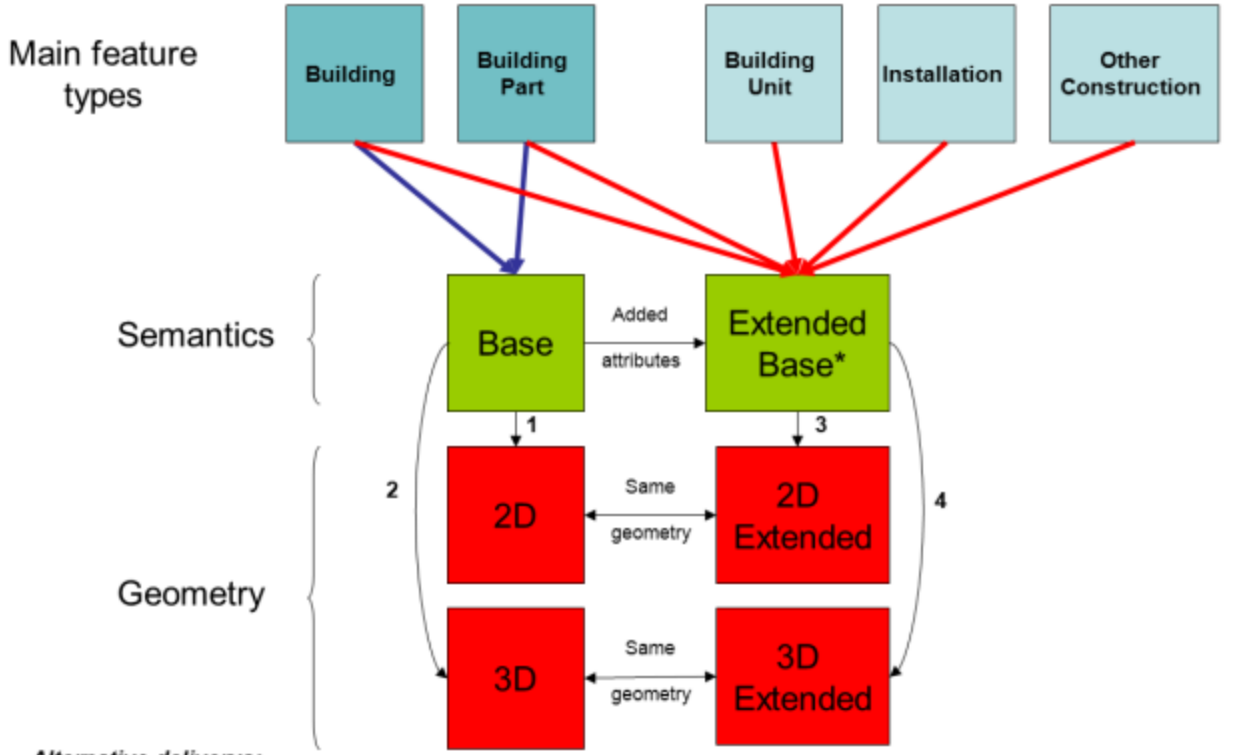
BeST



[More information can be found here.]

INSPIRE data specifications

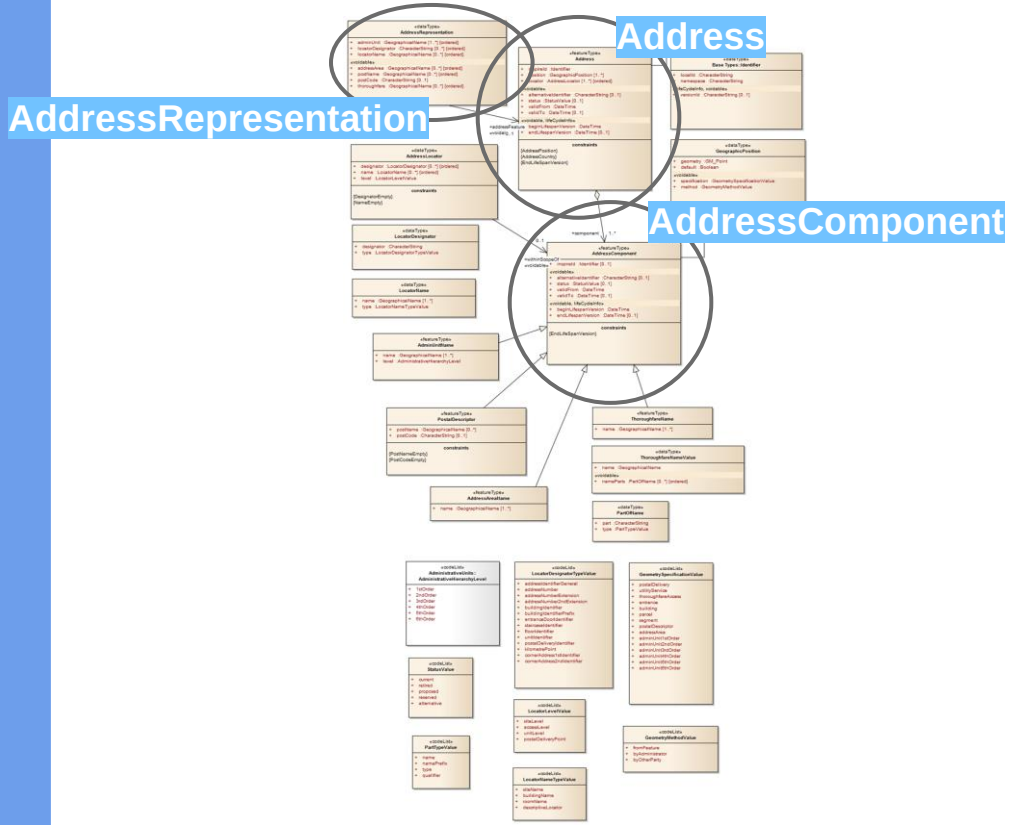
- Addresses
  - UML model
- Cadastral parcels
  - UML model
- Buildings
  - Building Base - UML model
    - Base information about a building
  - Building 2D - UML model
    - Use for information about the footprint of a building
  - Building 3D - UML model
    - How does a building look in 3D?
  - Extensions of Base, 2D and 3D
    - Extra depth for the base models



Alternative deliverys:
1 = simple semantics + 2D geometry
2 = simple semantics + 3D geometry
3 = extended semantics + 2D geometry
4 = extended semantics + 3D geometry + additional 3D feature types

Figure 3: Content and structure of application schemas for theme Buildings

INSPIRE Addresses



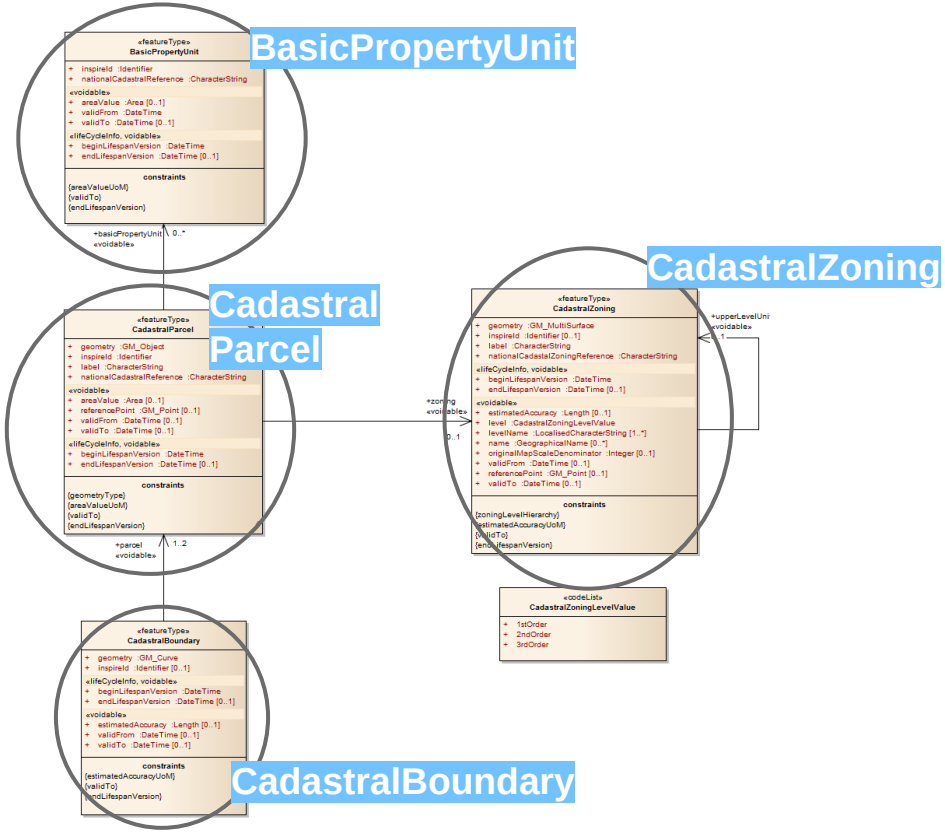
Address
An identification of the fixed location of property by means of a structured composition of geographic names and identifiers.

CadastralParcel
Identifier or geographic name of a specific geographic area, location, or other spatial object which defines the scope of an address.

AddressRepresentation
Representation of an address spatial object for use in external application schemas that need to include the basic, address information in a readable way.

Link to the latest draft release: https://inspire.ec.europa.eu/Themes/79/2892

INSPIRE Cadastral Parcels



BasicPropertyUnit
The basic unit of ownership that is recorded in the land books, land registers or equivalent. It is defined by unique ownership and homogeneous real property rights, and may consist of one or more adjacent or geographically separate parcels.

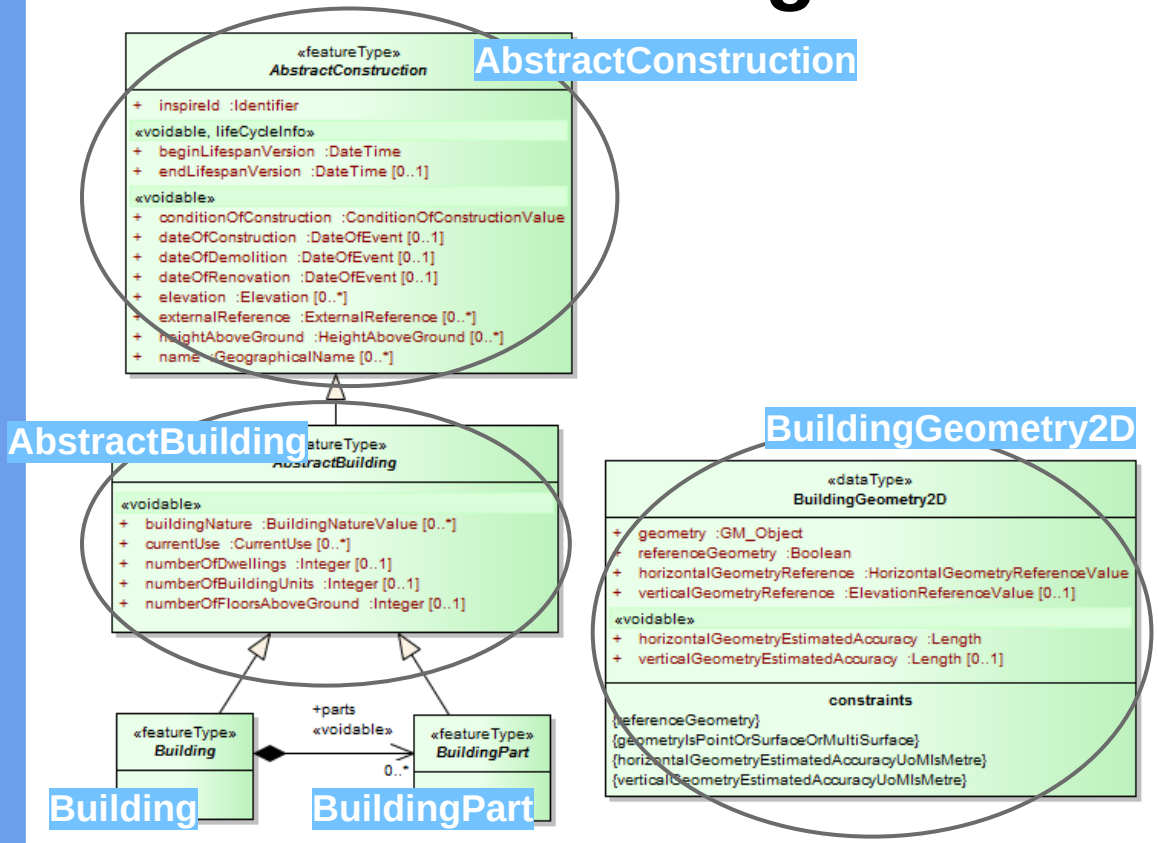
CadastralParcel
Areas defined by cadastral registers or equivalent.

CadastralBoundary
Part of the outline of a cadastral parcel. One cadastral boundary may be shared by two neighbouring cadastral parcels.

CadastralZoning
Intermediary areas used in order to divide national territory into cadastral parcels.

Link to the latest draft release: https://inspire.ec.europa.eu/Themes/122/2892

INSPIRE Building base



AbstractConstruction
Abstract spatial object type grouping the semantic properties of buildings, building parts and of some optional spatial object types that may be added in order to provide more information about the theme Buildings.

AbstractBuilding
Abstract spatial object type grouping the common semantic properties of the spatial object types Building and BuildingPart.

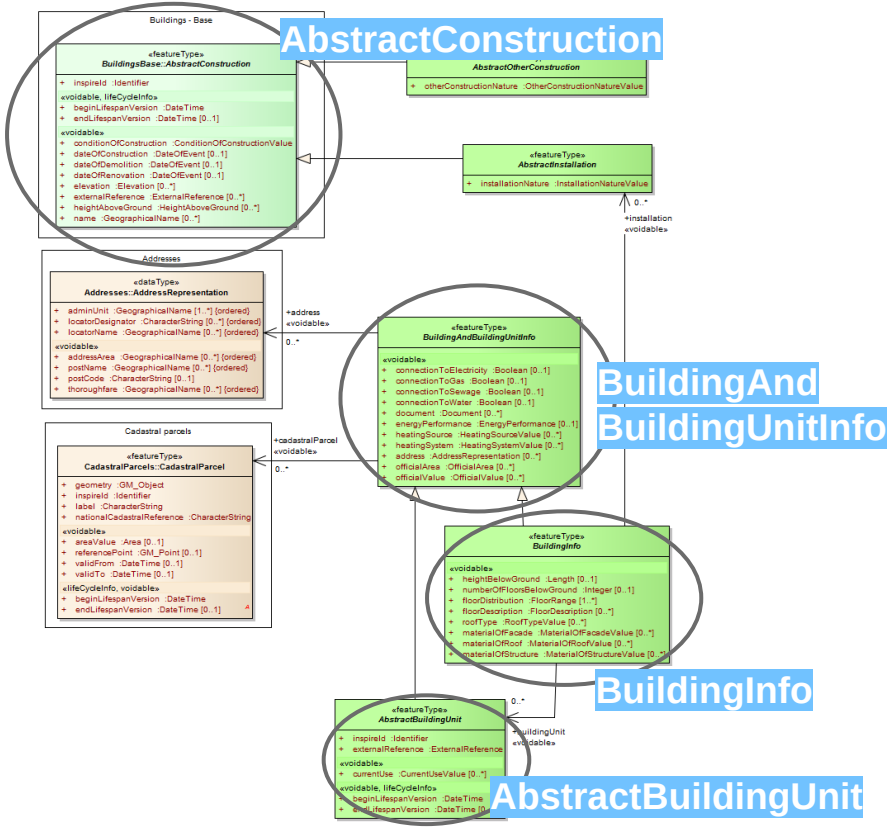
BuildingGeometry2D
This data types includes the geometry of the building and metadata information about which element of the building was captured and how.

Building
The building parts composing the building.

BuildingPart
A BuildingPart is a sub-division of a Building that might be considered itself as a building.

Link to the latest draft release: https://inspire.ec.europa.eu/Themes/126/2892

INSPIRE Building extended base



BuildingInfo
Abstract spatial object type grouping the additional specific properties of Building and Building Part.

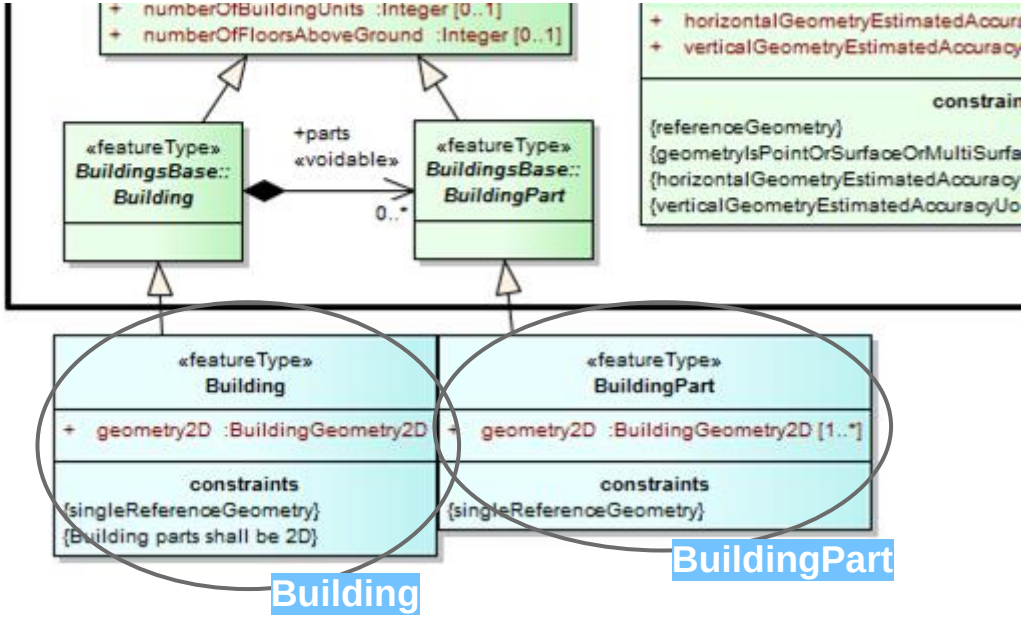
AbstractBuildingUnit
Abstract spatial object type grouping the semantic properties of building units.

A BuildingUnit is a subdivision of Building with its own lockable access from the outside or from a common area (i.e. not from another BuildingUnit), which is atomic, functionally independent, and may be separately sold, rented out, inherited, etc.

BuildingAndBuildingUnitInfo
Abstract spatial object type grouping the additional properties that are common to Building , Building Part and BuildingUnit.

Link to the latest draft release: https://inspire.ec.europa.eu/data-model/approved/r4618/html/

INSPIRE Building2D



Building

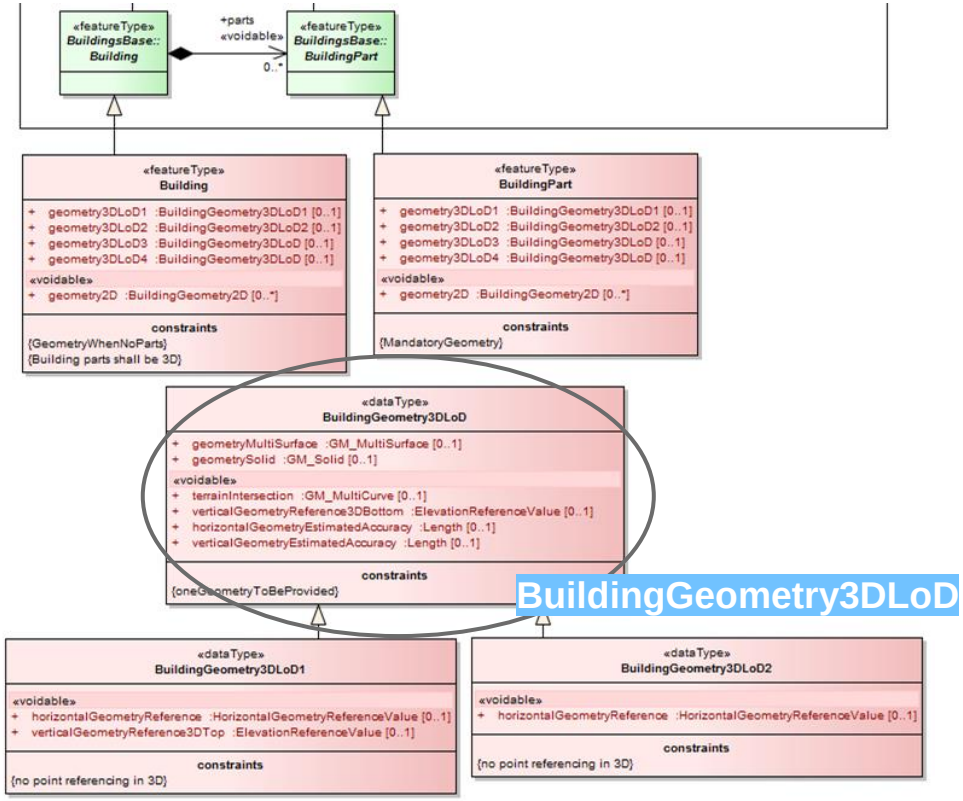
A Building is an enclosed construction above and/or underground, used or intended for the shelter of humans, animals or things or for the production of economic goods. A building refers to any structure permanently constructed or erected on its site.
→ **geometry2D**: 2D or 2.5D geometric representation of the building.

BuildingPart

A BuildingPart is a sub-division of a Building that might be considered itself as a building.
→ **geometry2D**: 2D or 2.5D geometric representation of the building.

Link to the latest draft release: https://inspire.ec.europa.eu/Themes/126/2892

INSPIRE Building3D



3D geometric representation at different levels of detail.

Level of detail 1

Consisting of the generalized representation of the outer boundary by vertical lateral surfaces and horizontal base polygons.

Level of detail 2

Consisting of the generalized representation of the outer boundary by vertical lateral surfaces and a prototypical roof shape or cover (from a defined list of roof shapes)

Level of detail 3 & 4

Consisting of the detailed representation of the outer boundary (including protrusions, facade elements and window recesses) as well as the roof shape (including dormers, chimneys)

Building

A Building is an enclosed construction above and/or underground, used or intended for the shelter of humans, animals or things or for the production of economic goods. A building refers to any structure permanently constructed or erected on its site.

Link to the latest draft release: https://inspire.ec.europa.eu/Themes/126/2892

Use cases

(1) Use case – Building units are addressable objects

Scope

Building units are addressable objects, meaning that they can have an address attached to them. As the labels attached to an address can change due to administrative changes (merger of municipalities, rename of a street name, renumbering of house numbers in a street, renumbering of box numbers in a building with apartments, …), an historic address chain can be constructed based on the addresses linked to building units.

Added value

By publishing and making their information machine readable, administrations can:

- improve the searchability of buildings,
- …

(2) Use case – Create a link between the following registers: parcels, buildings, building units, addresses

Scope

Create a link between the following registers: parcels, buildings, building units, addresses

Added value

- An overview is possible of the links between parcels, buildings, building units and addresses

(3) Use case – Creating a link between a building and his quality criteria

Scope

Create a link between a building and his quality criteria (surfaces, volumes, functions, energetic performances etc). Buildings can have different functions (offices, housing, school, etc…). Energetic performances (EPC) is another attribute that can also be associated to it.

Added value

An overview of the different quality criteria of a building

(4) Use case – Create a link between a building and urban development control and land use statistics

Scope

Create a link between a building and urban development control and land use statistics. A building has an impact on its environment.

Added value

An overview of the link between a building and urban development control and land use statistics

(5) Use case – Create a link between a building and territorial resources allocation as transportation, roads, heating, sewer, electricity, etc…

Scope

Create a link between a building and territorial resources allocation as transportation, roads, heating, sewer, electricity, etc…

Added value

An overview of the links between a building and the territorial resources allocation as transportation, roads, heating, sewer, electricity, etc.

(6) Use case – Create a link between a building and its value and taxation

Scope

Create a link between a building and its value and taxation (property tax, taxation of unoccupied buildings, second residence, etc…). Each building has a real estate value which evolves regularly. Taxation is also specific to each building.

Added value

- An overview of the the linked value and taxation of a building

Which other use cases are applicable to these concepts?

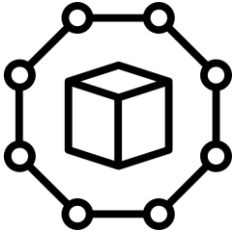
Go to the Mural


Break

Defining key concepts

Following items are in scope

Building



Building unit

Parcel

Address

…

Key concepts

Go to the Mural

Next steps

Useful sources

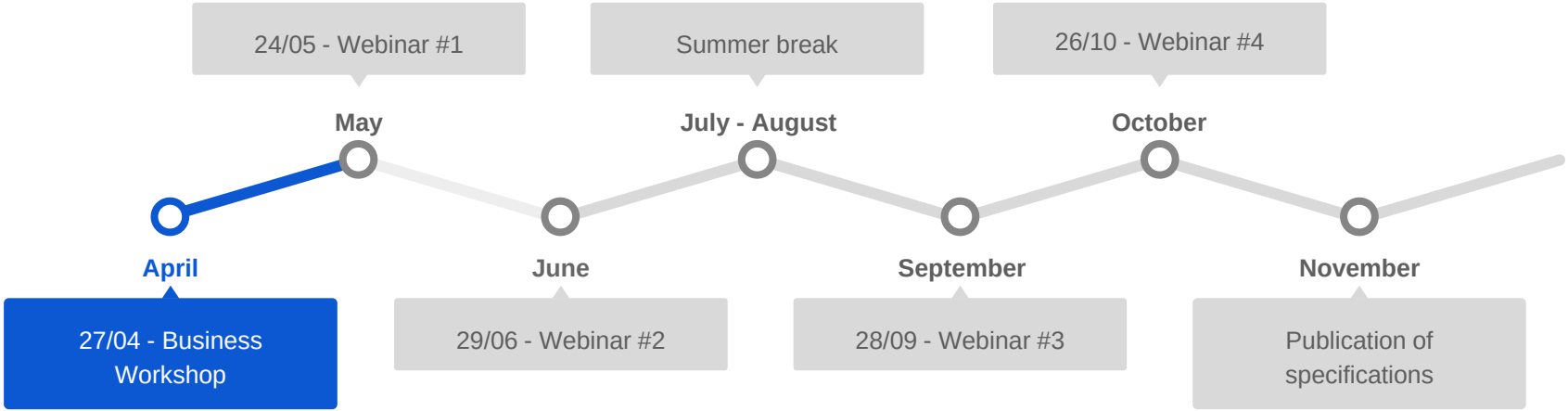
Do you think of any other useful sources that could help us further with this topic?

Do you have other sources?
Please indicate it in the Mural with a link to the documentation (where possible)

Go to the Mural

Next steps

Webinar on the 24th of May (time 09:00 CET)



Next steps – In the meanwhile...

Onboard domain experts from the relevant public administrations in the Working Group

Process the input from the brainstorming exercise

Circulate the main findings/report of this workshop. Feedback is appreciated!

Further research and prepare the first thematic workshop, e.g. by mapping the information identified with the sources

Capture further input through GitHub!

Feedback & collaboration

Feedback can be provided by email to the following people:

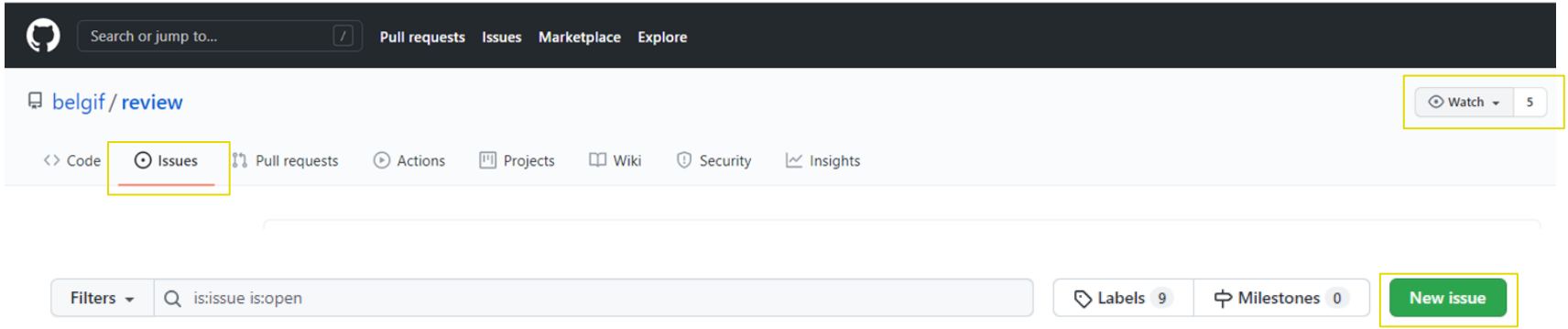
- christophe.bahim@pwc.com
- yaron.dassonneville@pwc.com

GitHub

Feedback/input can be provided through GitHub: https://github.com/belgif/thematic/issues

Don’t hesitate to watch the activities!

How to watch GitHub issues log?



Are there any questions left?

Thanks!