

ICEG Building Thematic Webinar #2, Meeting Report

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Attendees

Attendee Name	Affiliation
Christophe Van Loo	Digitaal Vlaanderen
Claude Hannecart	CIRB/CIBG/BRIC
Daniel Reuviaux	SPW
Fabien Krzewinski	CIRB/CIBG/BRIC
Gael Kruwialis	Nationaal Geografisch Instituut (NGI)
Geert Thijs	Digitaal Vlaanderen
Grégoire Verhulst	Belgian Buildings Agency
Hendrik van Hemelryck	Digitaal Vlaanderen
Jean-Claude Jasselette	SPW
Johan Boogaerts	Fednot
Jordan Ikalulu	Nationaal Geografisch Instituut (NGI)
Liesbet D'Hondt	FOD BOSA
Luc Leclercq	GAPD
Marc Bruyland	FOD BOSA
Martin Erpicum	CFWB
Mieke Ryckoort	Stad Kortrijk
Nathalie Mertens	FOD Financiën - Patrimoniumdocumentatie
Ralph Boswell	Perspective.brussels
Raphaël Lebrun	Proximus
Thomas Ruhl	CIRB/CIBG/BRIC
Yahsmeen Coulon	Fednot
Nathalie Delattre	Nationaal Geografisch Instituut (NGI)
Paul Van Lindt	Vlaanderen
Christophe Verschoore	National Registry
Stefan Van De Venster	National Registry
Tom Bols	National Registry
Cindy Valvekens	Stad Leuven
Joris Pasgang	National Registry
Florian Barthelemy	PwC
Christophe Bahim	PwC

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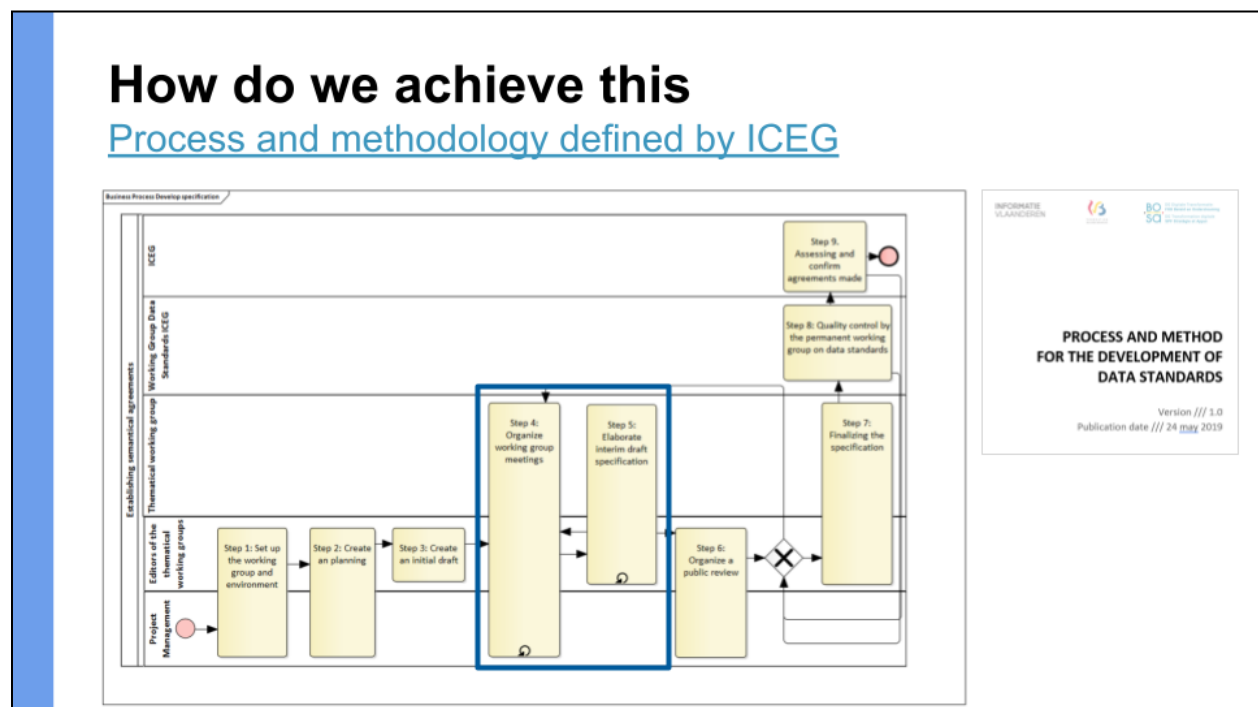
Agenda

Date: June 29, 2022 (9:00 - 12:00)

Welcome	9:00 to 9:15
Process, input and timeline	9:15 to 9:30
Current open issues	9:30 to 9:45
Presentation of the first version of the model	9:45 to 11:20
Next steps	11:20 to 11:30

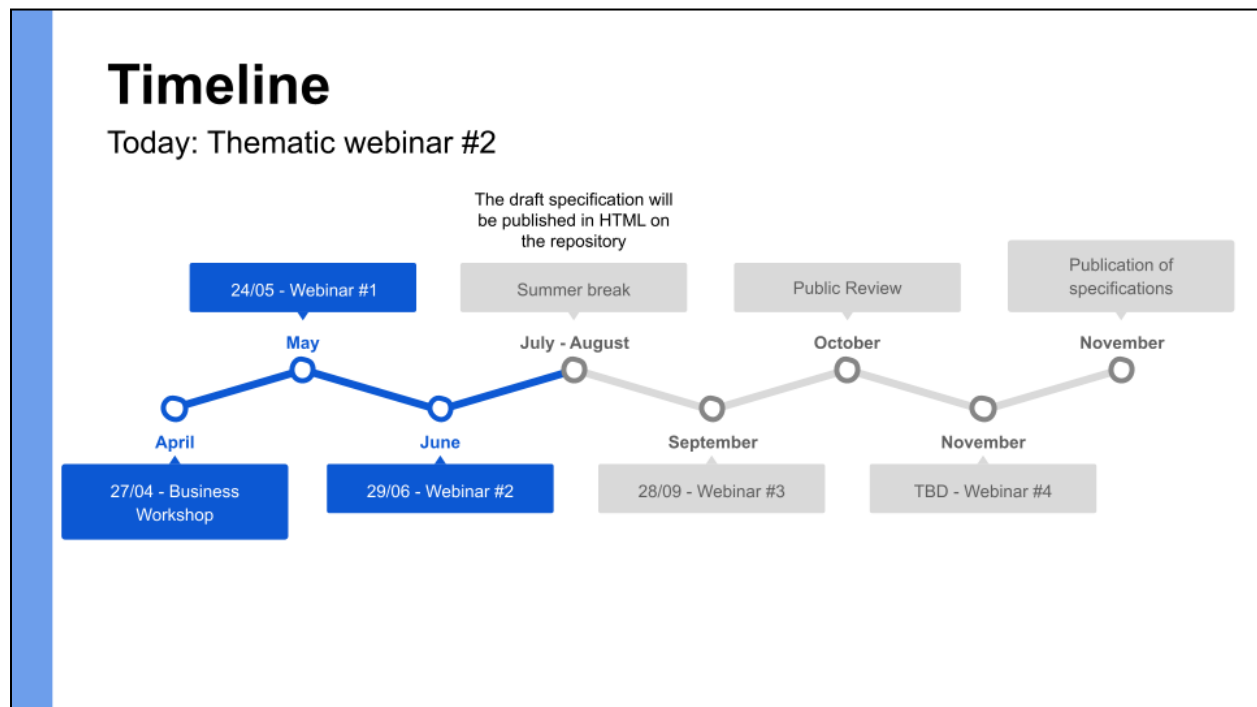
Meeting Minutes

Welcome



- Prior to the webinar, a first version of this model was developed in Enterprise Architect. This took into account the feedback from the previous webinar. Based on

this model, today's discussion was held, and next iterations will be made using this model.



- This webinar was the last webinar before the summer break. During this summer break the project team offers the possibility to have 1:1 meetings with willing group members and a draft specification will be published in HTML on the repository so the working group members can give feedback and further input on this model. More detailed information can be found in the next steps section.

Open issues

These definitions are considered final. If you still have some issues or comments on the definitions, you can log a message on the GitHub by *clicking on the blue boxes*.

Definition of Building

"An enclosed and/or covered structure, above and/or below ground, intended either for the shelter of persons, animals or things, or for the production of economic goods or the provision of services, and refers to any structure permanently constructed or erected on its site."

Definition of Building Unit

"The smallest unit within a building that is suitable and adapted for residential, commercial or recreational purposes and which is accessible through its own lockable access from the outside or from a common area. A building unit is atomic, functionally independent, and may be separately sold, rented out, inherited, etc. In addition, a building unit can also be a common part."

- It was remarked that the definition of building unit was not built for industrial constructs. As such, it was proposed to remove the description of 'purposes' to make the definition less restrictive. Additionally, the INSPIRE CurrentUseValue code list lists values such as; residential, agricultural, commercial, industrial, etc. The project team reiterated that the approach was not to reinvent the wheel and stick to INSPIRE as much as possible.
- During the previous workshop it was remarked that there are use cases where a building unit can also have an access which is not lockable. It was agreed to remove the lockable access part out of the definition. This was again confirmed during this workshop.

Presentation of the first version of the model

Building

Lucas wants to know what the address is of the building he's looking at. He wants to know more about the building such as the history of the building, entrance location etc.


class ICEG-Building_AP

Building

Object

+ identifier: Identifier
+ address: Addressrepresentation [0..*]
+ buildingNature: BuildingNatureValue
+ conditionOfConstruction: ConditionOfConstructionValue
+ dateOfConstruction: EventDate [0..1]
+ dateOfDemolition: EventDate [0..1]
+ dateOfRenovation: EventDate [0..*]
+ elevation: Elevation
+ entranceLocation: EntranceLocation [1..*]
- geometry: BuildingGeometry [0..*]
+ name: Text [0..*]
+ numberOfFloorsAboveGround: Integer [0..1]
+ numberOfFloorsUnderGround: Integer [0..1]

image: Flaticon.com



USE CASES

Building units are addressable objects	✓
Create a link between a building and his quality criteria	?
Building (units) have a unique identifier and a link with both the population register and the cadaster	✓
A building / building unit has an entrance location and some indoor navigation instructions	?
A building is linked with the official registration of buildings (building register)	✓
Every building (unit) has a lifecycle	✓
Create a link between a building and urban development control and land use statistics	?
Create a link between a building and territorial resources allocation as transportation, roads, heating, sewer, electricity..	✗
Create a link between a building and its value and taxation	?
Every building (unit) has a specific function (f.e. Police station, fire station, school, ...)	?

- With regards to the identifier, the team needs to look at INSPIRE to see how groups of buildings and multi-building are identified. The audience remarked that, for instance, a hospital which is often a multi-site organization can be linked to multiple buildings. Both OSLO organisation and ICEG organization cover this aspect, i.e., can have multiple sites and buildings. The issue was eventually considered out of scope.
- The project team asked the working group what additional information about a building, i.e., “quality criteria”, could be added to the model. Out of the discussion, was the request to clarify what “quality criteria” meant. In preparation for the next meeting, the project team will further define and rename “quality criteria” to correctly reflect the intrinsic attributes of a building. At this moment, the elevation, name and number of floors above/under ground are modeled as part of the “quality criteria”. The project team will suggest additional criteria, based on INSPIRE, [on the thematic repository](#).
- It was discussed that entranceLocation should be modeled at the level of a building unit and not a building. Furthermore, the entrance of a building would correspond to the entrance of the first building unit, which could be the common space. The project team needs to further investigate whether the entrance location can be captured through the address representation (in which case there wouldn't be a need for an additional attribute). It was remarked that entrance points are already captured as part of OSLO through address representation and by extension locator designator.

- When discussing the lifecycle of a building, the audience agreed with the suggestion of adding condition of construction, date of construction, date of demolition and date of renovation. The audience remarked that there could be an additional application profile catering for the versioning of the *object* building. At the moment such an application profile doesn't exist at ICEG level, but both OSLO and INSPIRE have a "generic specification". The different entities of the model inherit from the object entity, which would allow for versioning. In conclusion the project team will model a placeholder, allowing for the use of this future application profile. Next to that, there was mentioned that the lifecycle should be linked with urban permits.
- Whether the WG wanted to see a connection between a building and territorial resources was asked. The audience shared that these territorial resources should connect to *building* and not the other way around. Whether there is a connection with territorial resources can also be derived from spatial analysis (and cadastre). Therefore, it was agreed that they shouldn't be included in the model at this stage.
- The audience requested to model the different space elements of a building, e.g., doors, position of the building units, windows, etc. The project team will further investigate how such elements are modeled as part of INSPIRE.
- Whether a building has a function or not was debated. The audience remarked that the function of a building can be derived from the building unit function (without a building unit a building doesn't have a function). Yet, as a contradictory view, a building unit can have different functions, which doesn't allow to derive the overall function of a building. At this stage, the agreement is to keep the function at building unit level and have an optional cardinality for a building unit. It is worthy to mention that it was suggested to have a building unit as a specialization of building, but the audience disagreed with this suggested approach.

Building (unit) address

Lucas wants to know what the address is of the building he's looking at. He wants to know more about the building such as the history of the building, entrance location etc.

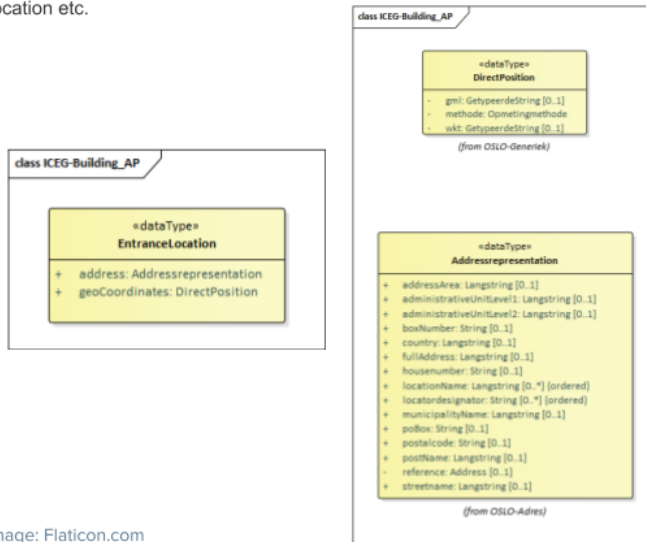


image: Flaticon.com

USE CASES

Building units are addressable objects



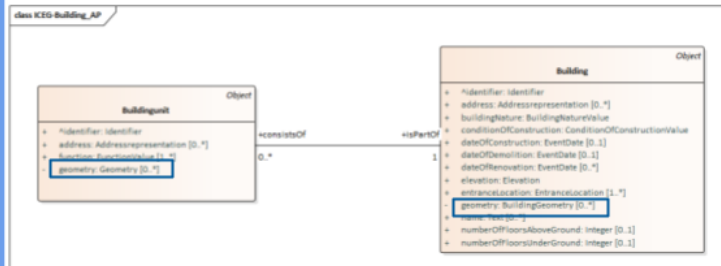
A building / building unit has an entrance location and some indoor navigation instructions



- Further to the discussion on the life cycle at building level, the audience agreed to add dateOfRenovation at building unit level. Similarly to building, building units should be versioned through the object entity. It was stated that the life cycle depends on the rules on how building units change. It was agreed that the rules themselves are out of scope. What is in scope for the object entity will be discussed during another trajectory.
- Instead of working with an actual entity for address we agreed to use addressRepresentation both for the building and building units.
- The discussion about entranceLocation can be found underneath the slide of 'Building'.

Geometry

Google wants to find and use 2D and 3D information to update their maps.



USE CASES

Buildings and building units consists of 2D and 3D information

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)

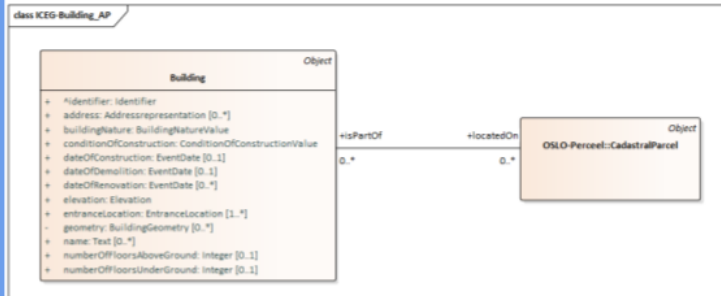
Level of detail 3 & 4

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)

- The project team presented its approach for modeling geometry for both building and building units. At first glance, one could see that the idea is to have a data type instead of an entity. Second, building units would call a geometry data type and building a building geometry data type, which is much more detailed and allows for 2D and 3D modeling. The building unit geometry data allow for geometry coordinates and positioning through GML and WKT. It was requested that 2D and 3D geometry should be defined. 2D information should be seen as the footprint of a building. 3D information, depending on the level of detail, shows the volume with facades, roof, etc.
- The project team explained the differences between the levels of details, which you can see on the screenshot above. In the model LoD1 and LoD2 will be provided and developed. LoD3 and LoD4 won't be modeled unless specifically requested. More information about the different levels of detail can be found [here](#) as well as in the [INSPIRE building documentation](#). Feedback will also be requested via GitHub.

Building and Parcel

FEDNOT wants to have to know what the cadastral parcel is on which the building is situated.



USE CASES

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



Building (units) have a unique identifier and a link with both the population register and the cadaster



- It was remarked that in Wallonia the link between a cadastral parcel and a building does not exist yet and as such, the cardinality of the relationship between a building and a cadastral parcel should remain optional. In Flanders, the link is geographically determined. It was asked whether a building unit needs a connection with parcel, to which the audience responded that there is an implicit relationship as building unit is connected to building, which in turn is connected to cadastral parcel.
- It was cited that to have a link to the population registry this can be done via Address while to have a link with the cadaster, this is an association with CadastralParcel.

Next steps

The project team presented the timeline for the next coming months. It is expected that the model will be published on [GitHub](#) (raw file & HTML specification) in the next three weeks, by mid-July at the latest. In a shorter term, the meeting report will be published next week, early July, at the latest. In parallel, the main discussion points will be transposed to GitHub for additional feedback. Working group members will be invited to contribute there. As there will be a 3-month period before the next meeting, the project team has proposed to organise 1:1 meetings with experts and in general anyone would be interested in further contributing to the development of the model.