

INSPIRE -TWG Buildings State of Play June 2011: towards review and testing

**PCC Conference – Budapest, Hungary
9 June 2011**

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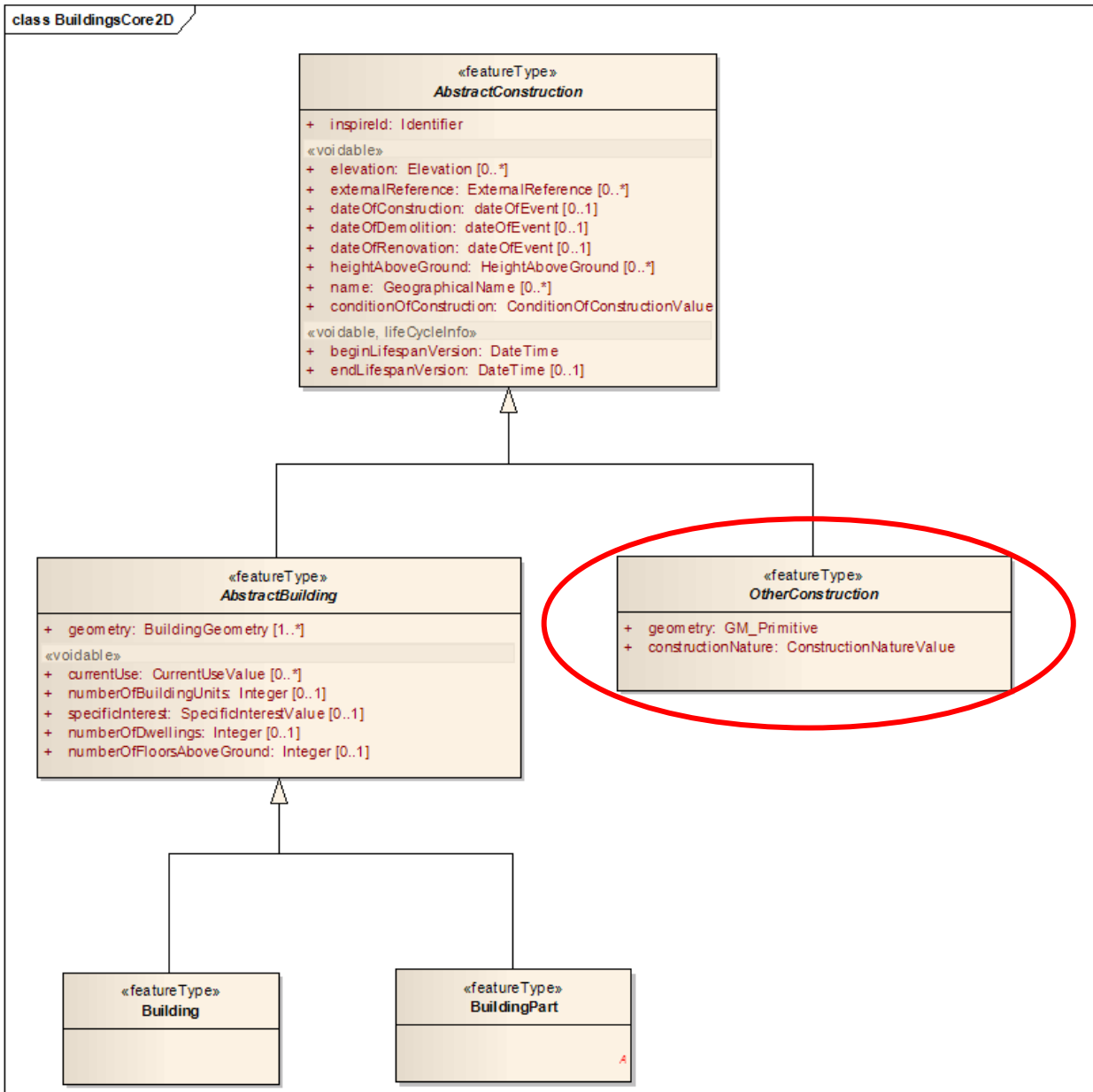
Plan of presentation

- Main content of data specification and modelling approach
- Actions and changes from v1 to v2
- Open issues

Main content - Profile approach

	Basic semantic	Rich semantic
2D geometry	Core 2D profile (normative)	Extended 2D profile (illustrative)
3D geometry	Core 3D profile (normative)	Extended 3D profile (illustrative)

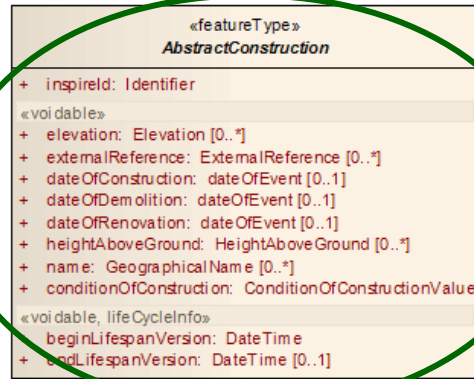
Core 2D profile



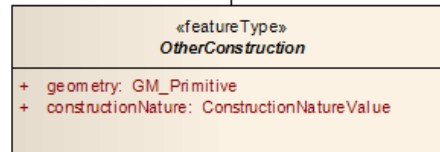
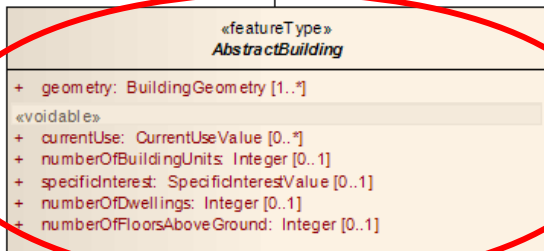
Scope of theme
Building has been enlarged to include feature type OtherConstruction
 (e.g. bridges, environmental barriers, elevated constructions)

Core 2D profile

class BuildingsCore2D



Common attributes of OtherConstruction and AbstractBuilding are grouped under feature type AbstractConstruction



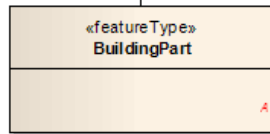
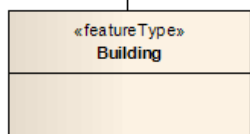
Only 3 instantiable feature types:

-Building

-BuildingPart

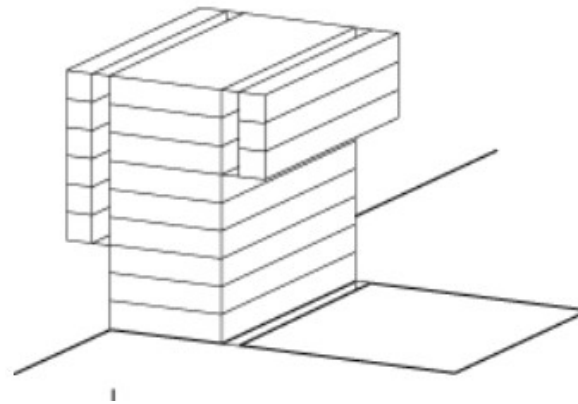
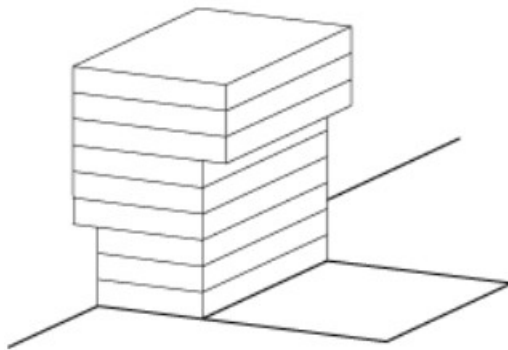
-OtherConstruction

Common attributes to feature types Building and BuildingPart in AbstractBuilding



Core 2D profile

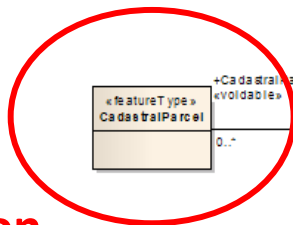
One Building with 2
BuildingParts
(with different heights)



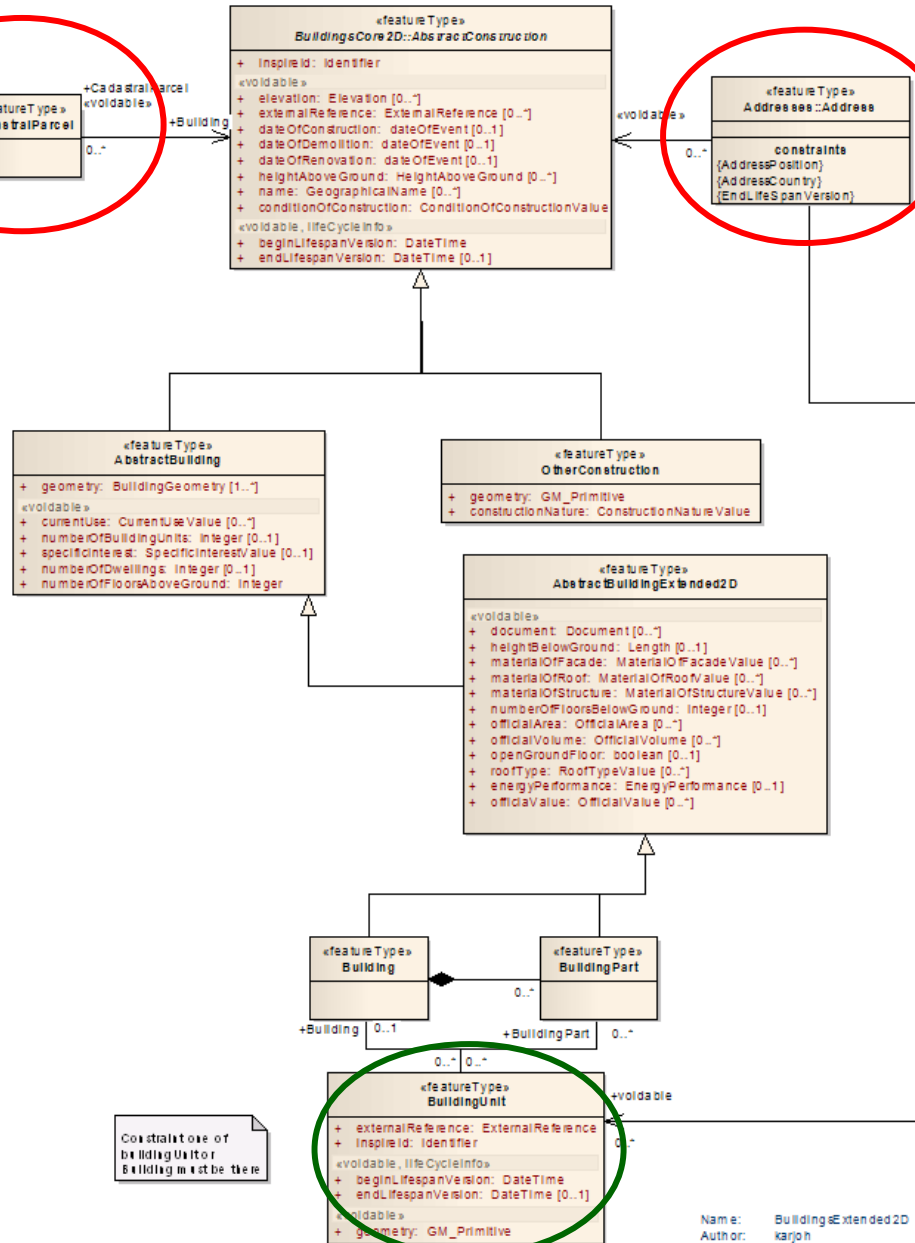
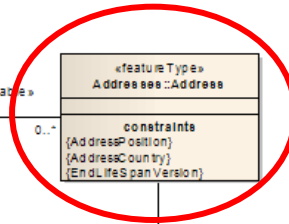
This Building may be considered as an aggregation of 3 BuildingParts.

Extended 2D profile

Association to CP



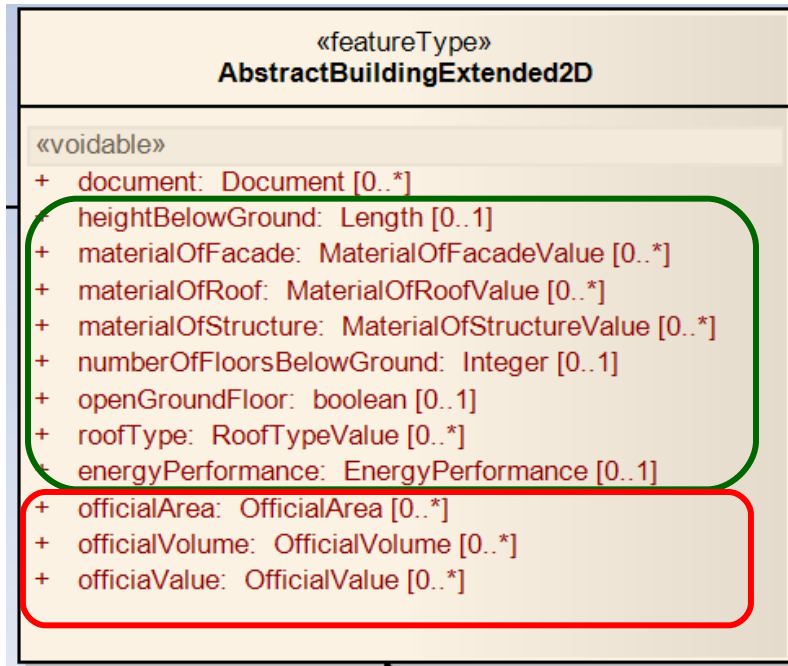
Association to AD



Constraint of buildingUnit for Building must be there

New feature type
BuildingUnit:
subdivision of
Building that is
homogeneous
related to
management
aspects

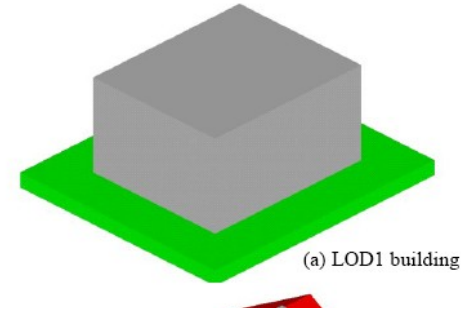
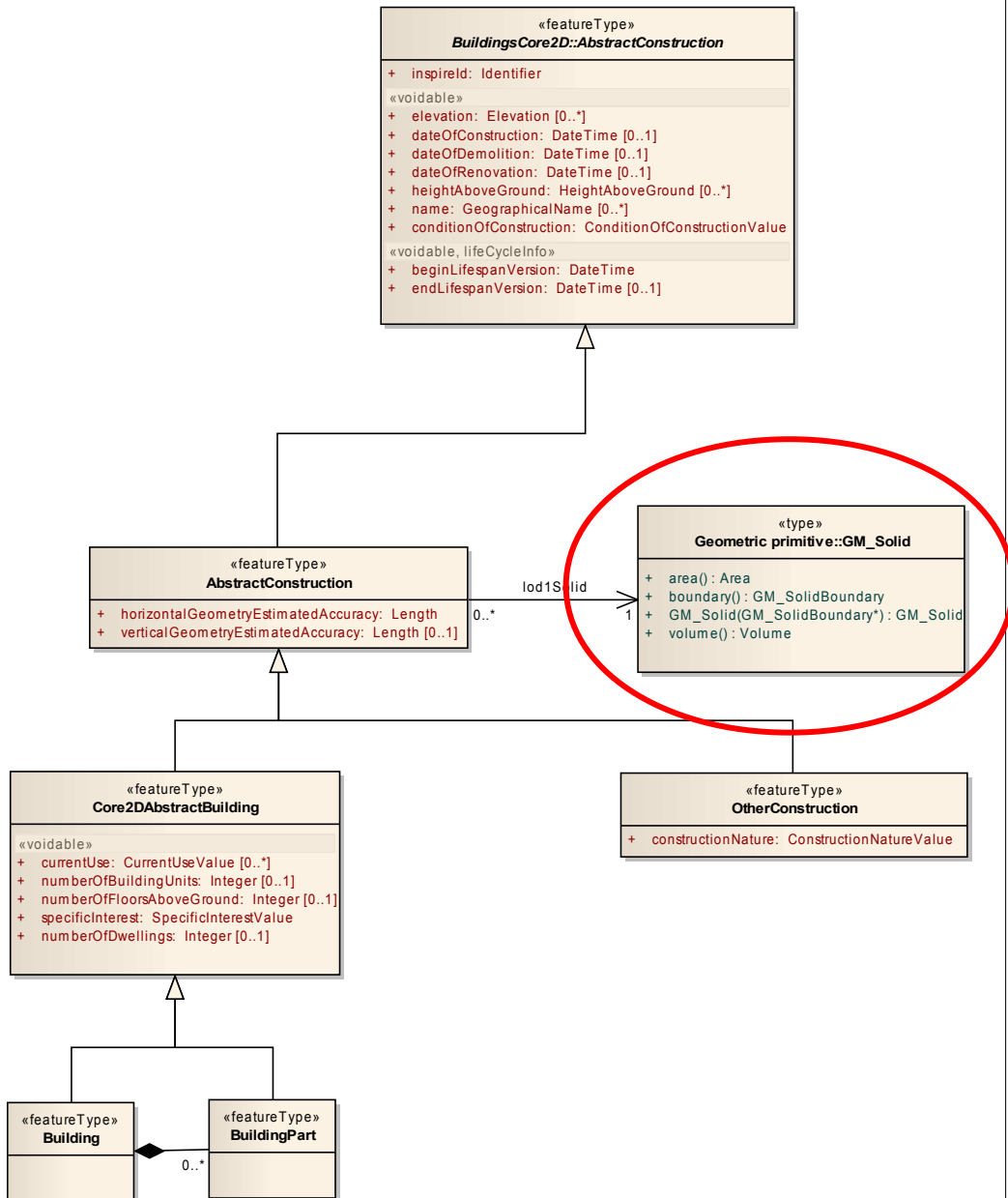
Extended 2D profile



Attributes related to the architecture of buildings

Attributes related to management of buildings (cadastral data)

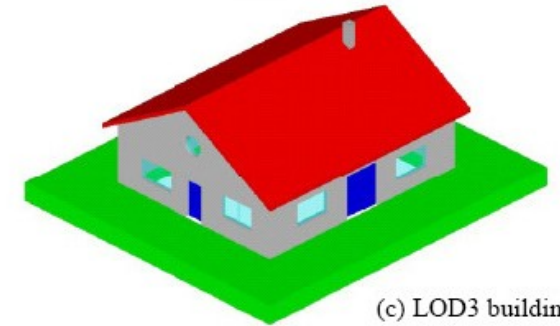
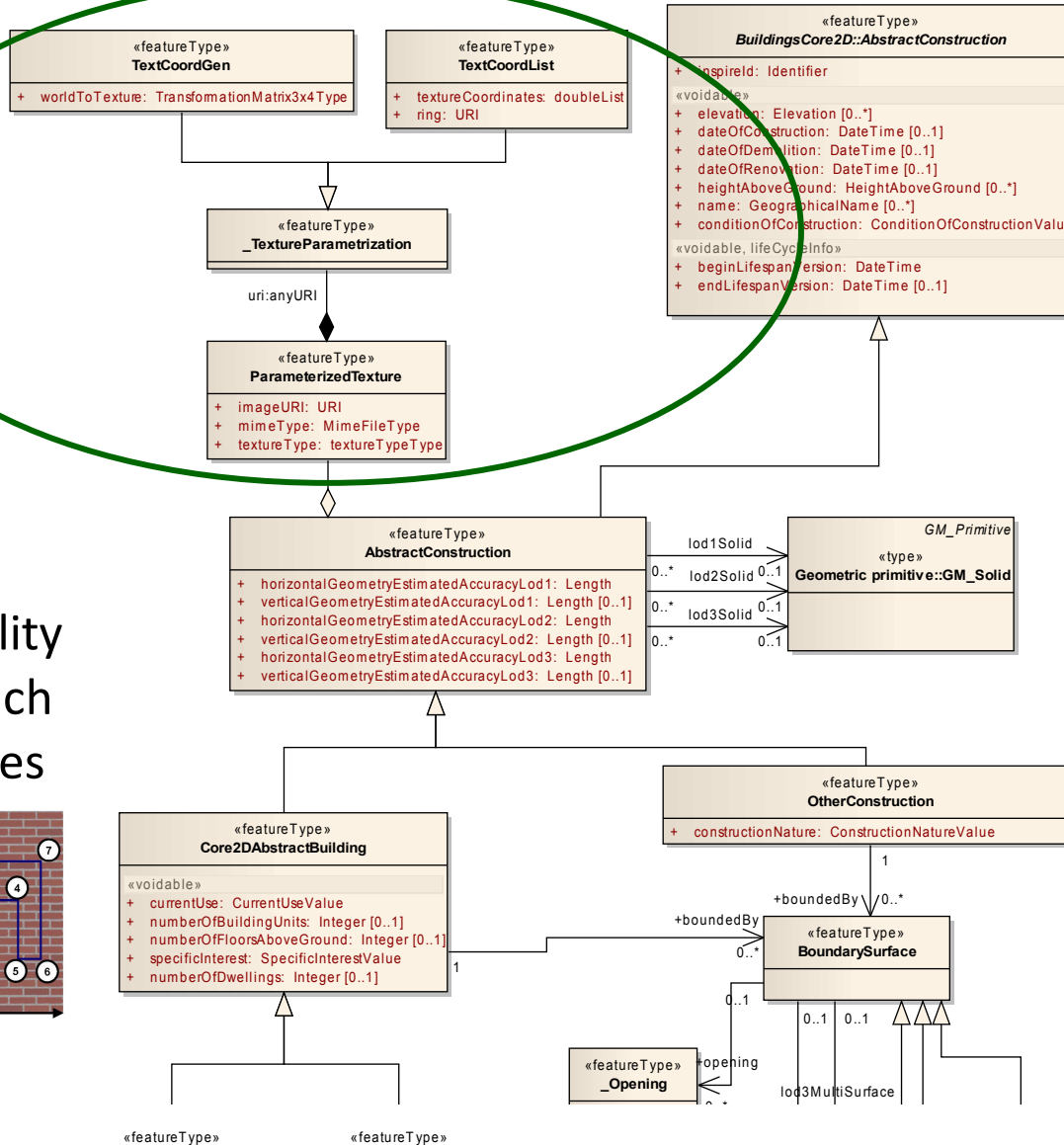
Core 3D profile



Based on:

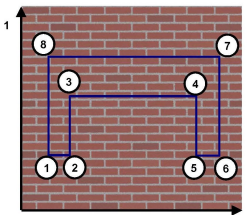
- LoD 1 of CityGML (the simplest one)
- Basic semantic of core 2D profile

Extended 3D profile



(c) LOD3 building

Possibility to attach textures



Based on LoD 3 of CityGML:

- Description of walls, roof, ground
- Description of openings (door, window)

From v1 to v2

- Progress on use cases and user requirements
- Address missing clauses of data specification (quality, metadata, portrayal ...)
- Comment resolution

Use cases – User requirements



- Main actions
 - Contact with key European users
 - Check-lists from Eurostat
 - Joint meeting with EEA (European Environmental Agency)

 - Some new use cases (check-lists) were collected
 - Wind farms, Earth pollution, Insurance, Forest fires, Public patrimony, Habitat,
 - See annex B for detailed description of use cases

 - Analysis of user requirements

Use cases – User requirements

- New use cases => few changes in the UML models
 - New attributes
 - number of dwellings (normative profile)
 - energy performance (illustrative profile)

• Eurostat classification
partly adopted for attribute
Current Use (for residential
use)

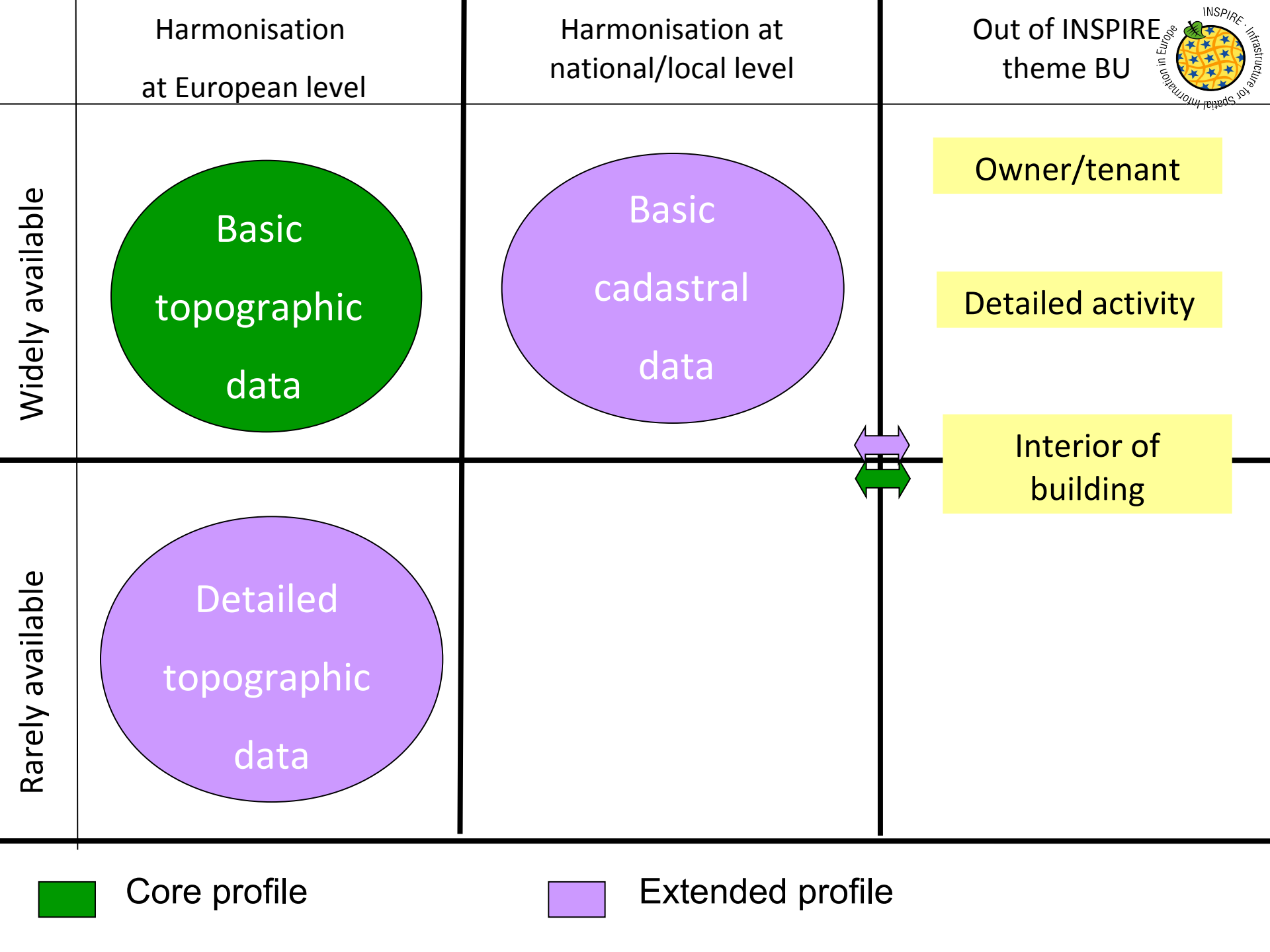
1	BUILDINGS		
11	Residential buildings		
111		One-dwelling buildings	
	1110	One-dwelling buildings	
112		Two- and more dwelling buildings	
	1121	Two-dwelling buildings	
	1122	Three- and more dwelling buildings	
113		Residences for communities	
	1130	Residences for communities	
12	Non-residential buildings		
121		Hotels and similar buildings	
	1211	Hotel buildings	
	1212	Other short-stay accommodation buildings	
122		Office buildings	
	1220	Office buildings	

User requirements analysis

- Weighting of user requirements, taking into account
 - If strongly or widely required
 - If widely available
 - If harmonisation required at European level
 - Cost benefits aspects



	Harmonisation of interest for European user(s)			Harmonisation of interest national/local user(s)	
	INSPIRE Directive/GCM	International use cases	European Directives/initiatives	European Directives/initiatives	Local use cases
Widely available	Building/BuildingPart		OtherConstruction		
	inspireId	heightAboveGround		BuildingUnit	In v1, this was in core profile Association to AD
			numberOfFloors		
			currentUse		
	beginLifespanVersion	elevation	dateOfConstruction	Association to CP	
	endLifespanVersion		dateOfRenovation		officialArea
	externalReference		conditionOfConstruction		officialValue
			dateOfDemolition		
		specificInterest	numberOfDwellings		
		name	constructionNature	numberOfBuildingUnits	
Rarely available			heightBelowGround		
			numberOfFloorsBelowGround		
			materialOfStructure		document
			materialOfRoof		
			materialOfFacade		
			roofType		
			openGroundFloor		
		energyPerformance			



 Core profile

 Extended profile

Missing clauses in v1

- Quality: various user requirements
 - Building required: according to use cases
 - All
 - Those hosting human activity (for management)
 - Specific ones (for mapping)
 - Several levels of detail are relevant, e.g.
 - BU represented as points
 - BU represented as 2D polygons
 - Generalised geometry
 - Detailed geometry
 - BU represented as 3D features

⇒ **No recommendation about quality**

Missing clauses in v1

- Metadata

- Set of metadata elements common to all or most INSPIRE themes
- Template for additional information (annex D)

Selection criteria:

Building (and BuildingPart, if any)

Explain which buildings are captured for INSPIRE and which are not.

For instance, is there a minimum size for data capture? Are there some categories of buildings that are not captured?

If the definition is significantly different from the one used by INSPIRE, provide it.

OtherConstruction (if any)

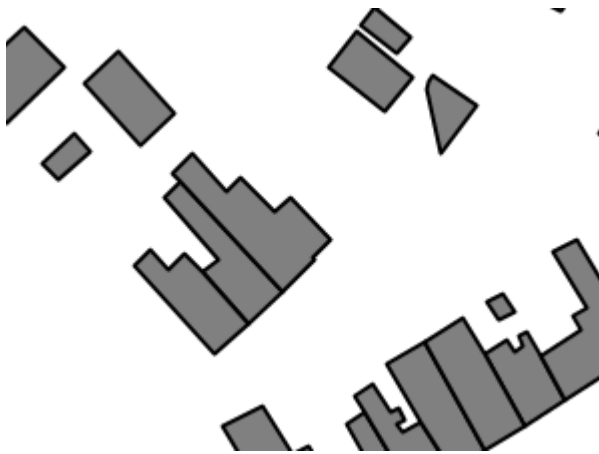
Explain which OtherConstructions are captured and which are not.

BuildingUnit (if any)

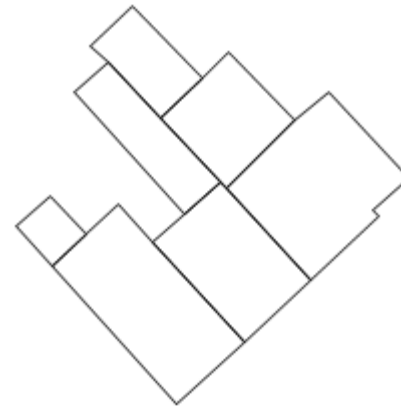
Explain what is considered as a BuildingUnit .

Missing clauses in v1

- Portrayal: simple styles



Feature type Building

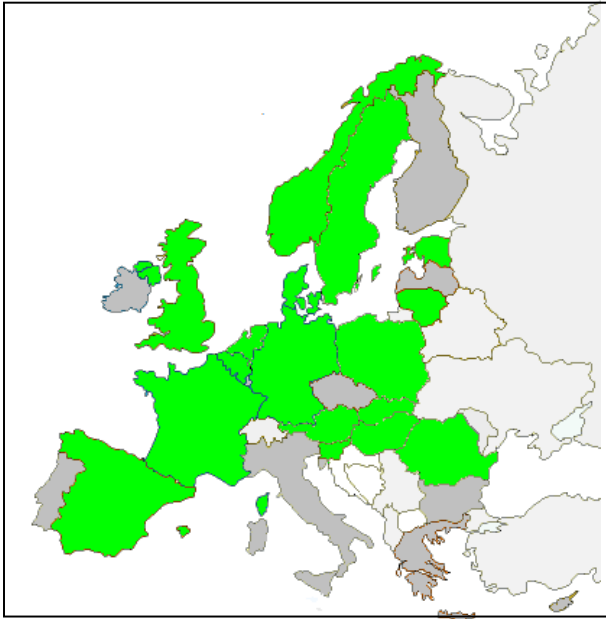


Feature type BuildingPart

Comment resolution

- With comments from 1st review
 - Review of profile approach and content
 - Refinement of code lists, definitions added
 - Refinement of UML model
 - For spatial and temporal aspects
 - From simple attributes to more elaborated data types
 - Allow data producers to provide what they have
 - Ask them to document it

Open issue 1: Feasibility



 Detailed information available

- TWG BU has only limited knowledge about existing data
 - At national level
 - Topographical view
 - Cadastral view
 - At local level
 - Lack of overview
 - Existence of 3D data
- Feasibility issues are likely



Detailed review and transformation testing expected to check them

Open issue 2: Extension of scope



- INSPIRE Directive
 - Geographical location of buildings → does not provide any definition of buildings
- D2.3 Definition of Annex Themes and Scope
 - A building is a covered facility, usable for the protection of humans, animals, things or the production of economic goods. A building refers to any structure permanently constructed or erected on its site.
- Use cases
 - Need for buildings
 - Need for constructions (bridges, environmental barriers, elevated constructions, ...)

Open issue 2: Extension of scope



- Data specification BU
 - The scope of theme BU has been extended to fulfil user requirements
 - New description:
 - Considered as under scope of the theme Buildings are constructions above and/or underground which are **intended or used** for the shelter of humans, animals, things, the production of economic goods or **the delivery of services** and that refer to any structure permanently constructed or erected on its site.
 - Main differences
 - There may be no roof/cover (e.g. stadium, amphitheatre, ...)
 - “intended or used” (e.g. buildings under project, construction or disused)
 - “delivery of services” (e.g. communication, tourism, environmental barriers)

Open issue 2: Extension of scope



- Feature type : OtherConstruction
 - No definition in the INSPIRE Directive
 - It is up to the community of SDIC/LMO to decide if extension is relevant or not
- 3 possible scenario for v3
 - Extension of scope is not considered as good idea => Feature type OtherConstruction is deleted
 - Extension of scope is considered as good idea
 - Feature type OtherConstruction is kept as it is
 - Feature type OtherConstruction is merged with Buildings

⇒ Give your advice

- Does extension of scope brings feasibility issues? Benefits?
- Which scenario looks more appropriate?

Open issue 3: Status of cadastral data

- Cadastral data
 - building units
 - link to AD and CP
 - official area
 - official value
- } in extended profile for v2
- Benefits: give flexibility at MS to adapt INSPIRE profile to national context and regulation
 - Risk: no effort (no fund) is spent to make cadastral data conformant to a non-normative profile

⇒ **If possible, test extended profile**

⇒ **Feedback expected about cadastral data in core or extended profile → No consensus within TWG BU**

Open issue 4: Articulation with Facilities

- Current approach by TWG BU

Note:

CurrentUse Hierarchical CodeList

- Residential
- Individual
- Collective
- TwoDwellings
- MorethanTwoDwelling
- ResidenceForCommunities
- Agriculture
- Industrial
- CommerceAndServices
- Office
- Retail
- PublicServices

} From Eurostat classification

} To be completed by AF

} To be completed by PF

} To be completed by US

⇒ **No information about schools, hospitals, museum, ... in theme BU**

Open issue 4: Articulation with Facilities



- Current approach by TWG BU:
 - Benefits
 - Simple list easy to be matched by most data providers
 - Consistent with the structure of themes given by the INSPIRE Directive
 - Costs
 - In existing cadastral data, information about facilities is generally carried by theme BU
 - Need for data producers to spread this information under several themes (mainly BU and US)
- No consensus within TWG BU about this approach
 - Some members would be in favour of a more exhaustive code list for attribute current use

Open issue 4: Articulation with Facilities



- Political issue

- Responsibilities within MS may be defined by NSDI (National Spatial Data Infrastructure)
 - Which data provider(s) for theme BU?
 - Which data provider(s) for theme US (and facilities themes)?

⇒ **Review also data specifications of facilities themes (mainly Governmental Services)**

⇒ **Give your point of view on this issue**

⇒ **Provide available information about responsibilities at MS level (if already defined)**

Planning review and testing

Detailed Implementing Rule Development Timetable for Annex II and III

Milestone date	Description
29-Apr-2011	Draft Data Specification v1.9 for internal revision
23 - 25 May 2011	Cross-Thematic Working Group(TWG) meeting
15-Jun-2011	Data Specifications v2.0
20-Jun-2011	Publication of Data Specification v2.0 for consultation and testing
22 June 2011	Kick-off web meeting for Testing Annex II & III
20-Jun-2011 to 21-October-2011	Consultation and testing
24-Oct-2011 to 02-Dec-2011	Comment resolution 1st phase including TWGs meetings with invited experts
05-Dec-2011 to 07-Dec-2011	Comment resolution workshop
08-Dec-2011 to 27-Jan-2012	Comment resolution phase 2
20-Apr-2012	Data Specification v3.0
11-May-2012	Implementing Rules v1.0
08-June-2012	Review of Implementing Rule v1.0 by Member States
29-Jun-2012	Implementing Rule v2.0
02-Jul-2012 to 27-Jul-2012	Review Implementing Rule v2.0 by Inter Service Consultation
21-Sep-2012	Final draft Implementing Rule
15-Oct-2012	INSPIRE COMMITTEE Meeting

Thank you for your attention!



<http://inspire-forum.jrc.ec.europa.eu/pg/groups/26374/buildings-theme-data-specification/>

The screenshot shows the INSPIRE Forum interface. On the left is a sidebar with navigation links: "Buildings theme data specification", "Subscribe to feed", "Bookmark this", "Report this", "Leave group", "Group discussion", "Group files", "Group bookmarks", "Group pages", "Group calendar", "Group albums", "Group news", and "Group members". The main content area has a header "Buildings theme data specification" and a description: "This group is related to the buildings theme data specification. You may subscribe to this group if you want to: • keep informed on the activities of the group,". A large red overlay box is positioned in the foreground, containing text about feedback on open issues and contact information for Amalia Velasco and Frederic Mortier.

INSPIRE FORUM

Group “Buildings theme data specification”

More information:

Feedback on open issues:

Status of cadastral data in core profile or not + arguments

More exhaustive code lists or not + arguments

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✉ frederic.mortier@minfin.fed.be