

Common Vision Conference 2017–Vienna– 5-6 October 2016

UN-GGIM : Europe Core Data Themes

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Introduction



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What is UN-GGIM?

- United Nations initiative on Global Geographic Information Management
- Since 2011
- Strong implication of the **statistical** community
- Activities at :
 - Global level
 - Regional level: **Europe**, Africa, ...



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What is core data?

- Core data is priority data
 - Geographic data
 - The most useful to analyse, achieve or monitor the SDG (Sustainable Development Goals)
 - Directly or indirectly



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Sustainable Development Goals



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Objectives of the Working Group on European core data

- **Describe core data** to be produced and supplied by geographic Europe Member States
 - Common requirements => common (minimum) content
- **Define priorities** for production of new data or for improvement of existing data
 - Recommendation for politicians and data providers



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Core data is complementing INSPIRE

- INSPIRE is about harmonisation of existing data
 - Common model
 - Still heterogeneous content (no LoD, voidable attributes)
- Core data is about encouraging production of new data (or upgrade of existing data)

**INSPIRE:
STRUCTURE**

**CORE DATA:
CONTENT**



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First step

Selection of core data themes

Annex I

Coordinate Reference Systems

Geographical Grid Systems

Geographical Names

Administrative Units

Addresses

Cadastral Parcels

Transport Networks

Hydrography

Protected Sites

Annex II

Elevation

Land Cover

OrthoImagery

Geology

Annex III

Statistical units

Buildings

Soil

Land use

Human health and safety

Utility and governmental services

Environmental monitoring facilities

Production and industrial facilities

Agricultural and aquaculture facilities

Population distribution - demography

Area management/restriction/regulation

Natural risk zones

Atmospheric conditions

Meteorological geographical features

Oceanographic geographical features

Sea regions

Bio-geographical regions

Habitats and biotopes

Species distribution

Energy resources

Mineral resources

Second step: Core data theme content



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Objectives

- Work out 'Recommendations for Content' for the selected themes
- Based on
 - Existing standards: mainly INSPIRE
 - User requirements with focus on SDG related use cases



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Principles

- 2 types of recommendations:
 - **Core recommendation**: first priority, highly required, achievable => ideally, short term action
 - **Good practice**: second priority, bring added value to core data => to be encouraged
- *Considerations for future: potential trends => long term*



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Principles

- An iterative process :
 - Preparation phase (investigation, discussions, ...=> initial draft
 - Review by WG on core data => consolidated draft
 - Review by whole geo-statistic community => definitive draft



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State-of-play

Theme	State-of-play
Cadastral Parcels	Definitive draft to be written
Addresses	Review by WG on core data
Administrative Units	Review by WG on core data
Buildings	Initial preparation
Area Management	Initial preparation
Land Cover / Land Use	Initial preparation



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Theme Cadastral Parcels



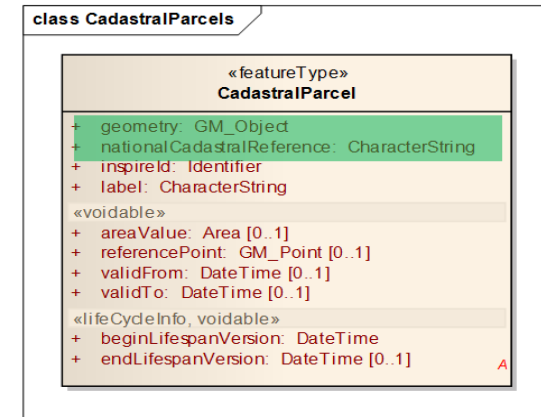
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Main recommendations

- Encourage cadastral parcels forming a partition of territory
 - Geographic extent: whole (land) territory
 - Cadastration of public domain encouraged
 - Completeness
 - Topology (no gaps or overlaps)
 - Cadastral parcels as single areas
- Encouraging efficient link with land registry
 - Model focus on national cadastral reference
 - Temporal consistency between cadastral map and land registry



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Results from general review

- Very positive feed-back

I am happy to see that you closely followed the INSPIRE proposals - Martin Salzman - Netherlands

We support all the recommendations of this deliverable - Robert Ballanche - Switzerland

We support the Core recommendations and Good practices and either they are implemented or are useful to be implemented in the future - Bronislovas Mikūta - Lithuania

I truly hope for a general acceptance for your proposals among member states - Jerker Moström - Sweden (GEOSTAT)

The specs are from my perspective very good, I mainly think that many of your good practices should be recommendations. - Ekkehart Petri - Eurostat

Results from general review

- And some significant comments
 - Coordinate Reference System: ETRS89 based CRS
 - Initial proposal: data to be captured
 - Comments: data to be delivered
 - Resolution: data to be stored and managed
 - Rationale:
 - Make easier integration of measures from modern tools
 - Data base on well-maintained CRS
 - Make easier transformation to INSPIRE

Results from general review

- Some significant comments
 - Eurostat proposals
 - CP on whole land territory:
 - Comment : from Good Practice to Core Recommendation
 - (draft) Resolution:
 - » Keep it as good practice
 - » Insist on use cases and user requirements
 - Temporal management:
 - Comment: from Good Practice to Core Recommendation
 - Resolution (under discussion): Keep it as good practice

Theme Addresses



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Scope - Addressable objects

INSPIRE

Land parcels

Buildings

Flats

Street
furniture

Water
pumping
stations

Parking lots

Agricultural
barns



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Mooring
places

Core data

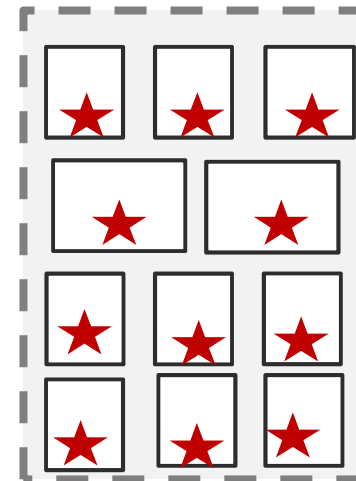
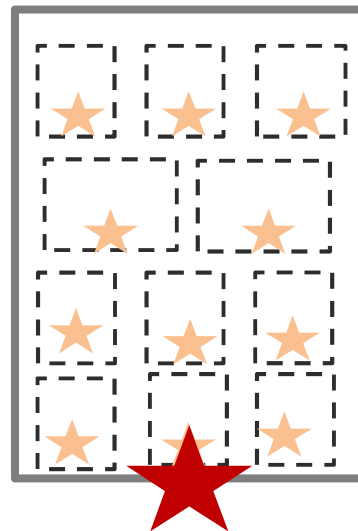
Places where
there are
(living) people

Scope – core addresses

- Key question: should addresses at building unit level (e.g. apartment) be core?
- In practice, 2 cases according to countries

Address is at
building level
=> it is core

There may be
sub-addresses at
building unit level
=> not core,
optional



Address is at
building unit
level => it is
core

Address position

- Production of true addresses
 - AD mainly used for geocoding
 - An AD should enable to find the related building
 - But in rural areas, the AD may be limited to the village name
 - Good practice : **create "true" AD (e.g. with street name + house number everywhere)**

«codeList» GeometrySpecificationValue	
+	postalDelivery
+	utilityService
+	thoroughfareAccess
+	entrance
+	building
+	parcel
+	segment
+	postalDescriptor
	addressArea
+	adminUnit1stOrder
+	adminUnit2ndOrder
+	adminUnit3rdOrder
+	adminUnit4thOrder
+	adminUnit5thOrder
+	adminUnit6thOrder



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Theme Buildings

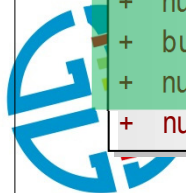
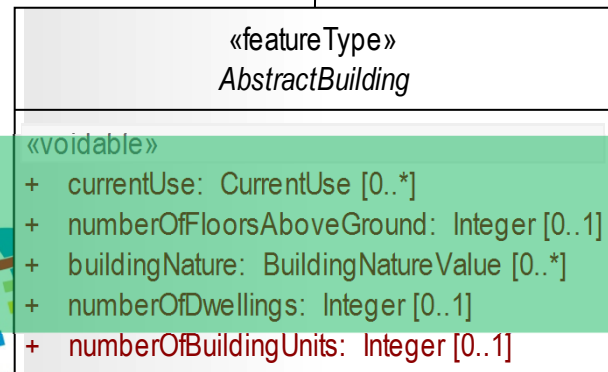
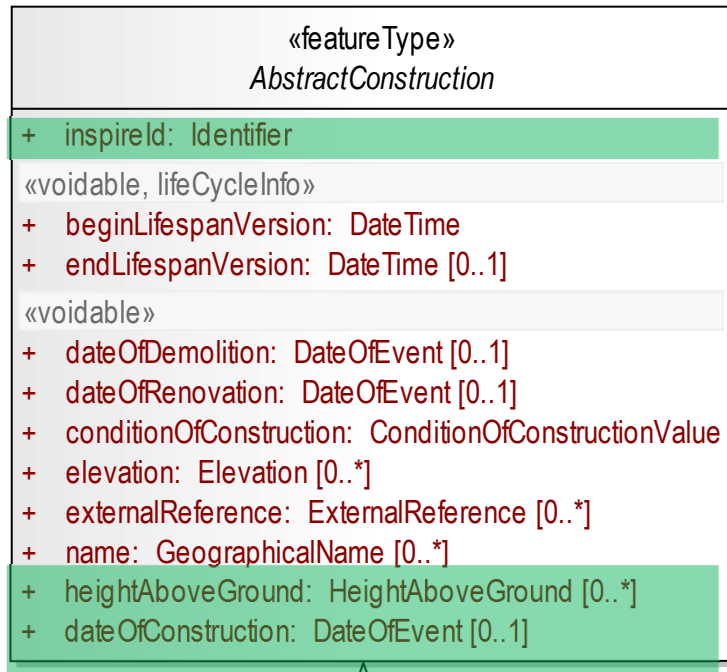


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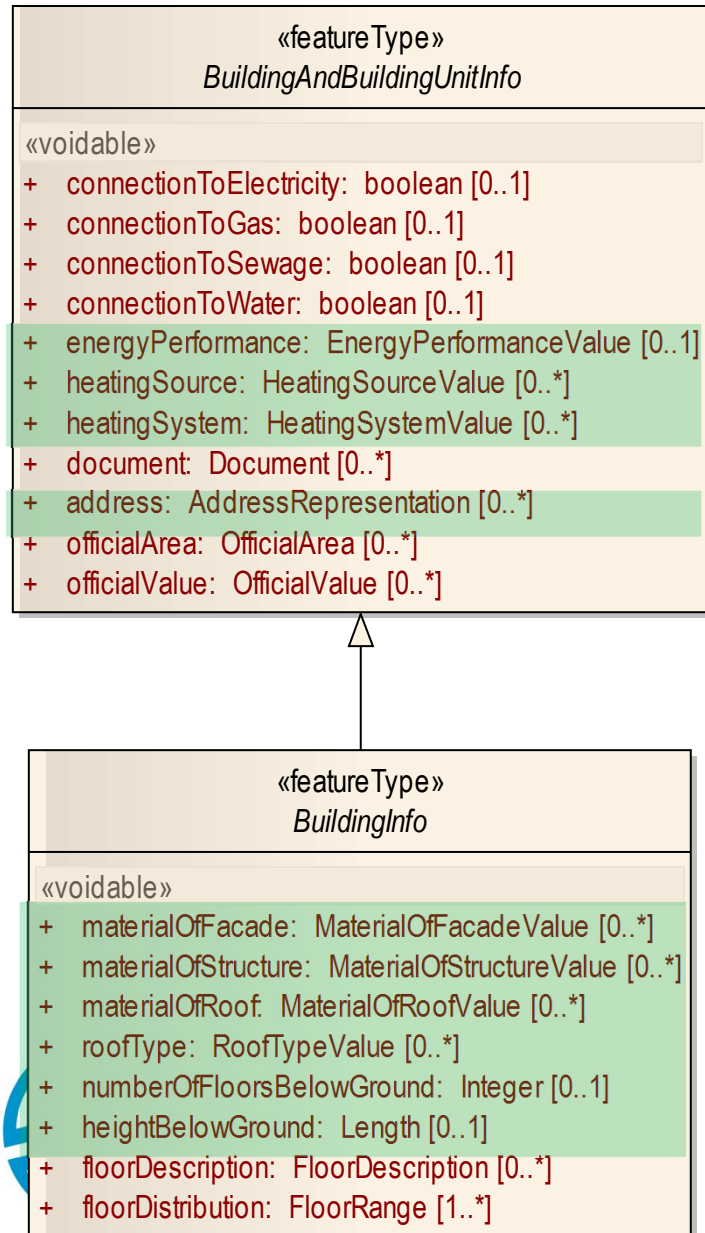
class Buildings Base Un-GG...



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Semantic content

- Core attributes
 - Unique and persistent identifier
 - Height and/or number of floors above ground
 - Current use
 - Nature
 - Date of construction
 - Number of dwellings



Semantic content

- Good practice attributes
 - Linking mechanism
(address, external reference)
 - Physical description of building
 - Material(s)
 - Underground
 - Energy information

Geometry

- A key issue: the geometry

Geometry	Proposal	Comment
2D (or 2,5D)	Core recommendation	
3D – LoD2 of City GML	Good practice	<i>Everywhere or at least in cities?</i>
3D –LoD4 of City GML (building interior)	Considerations for future	<i>City GML or alternative solutions</i> <i>Only for specific buildings</i>

Data management

- Building data may be in a single database or in various databases
- Proposal: offer a centralised service to provide (at least) core content
 - => coordination between data producers
 - => research (how to link different views on a building)

Theme Administrative Units

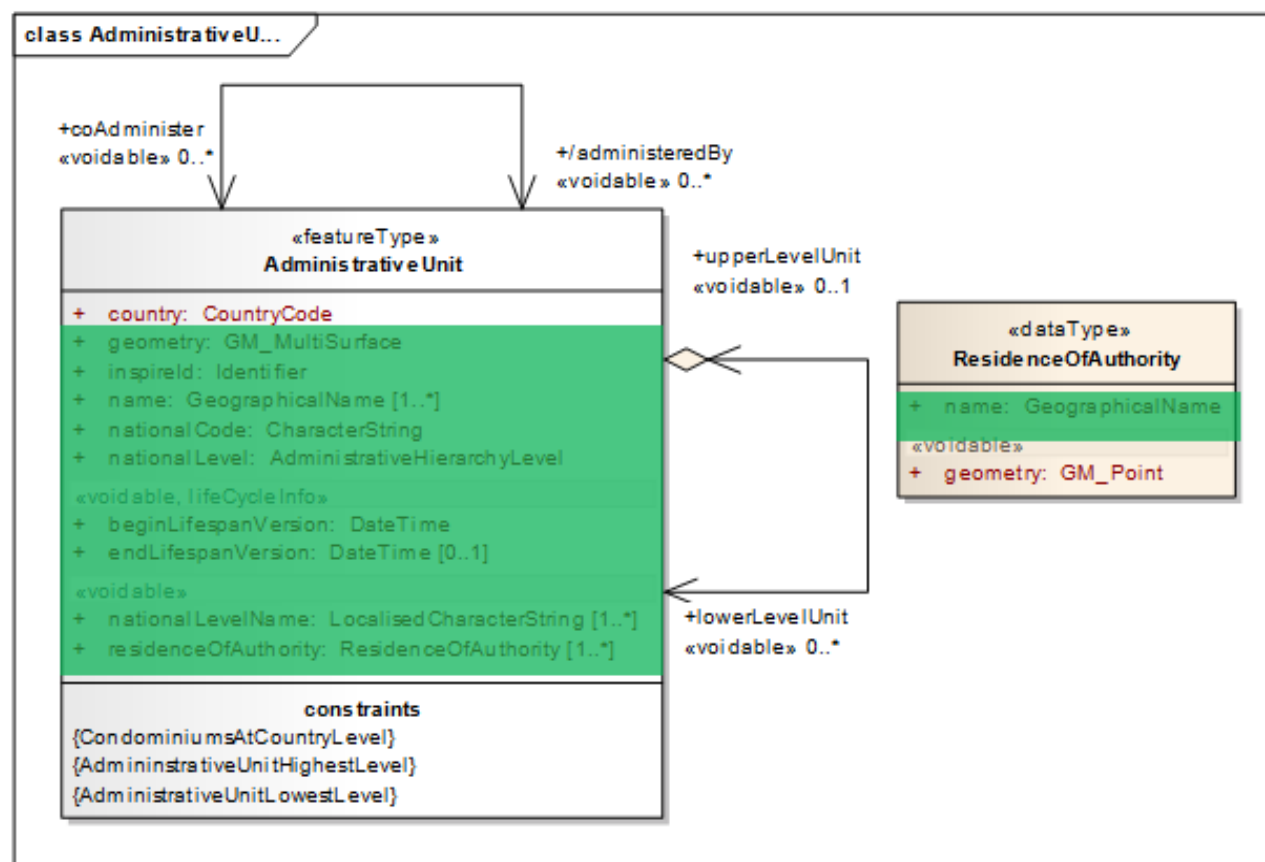


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Land Administrative Units : semantic content



Land Administrative Units : quality

- User requirements:
 - Consistency with cadastral parcels
 - Consistency with topographic features
- In practice, may be difficult to achieve both
- Various points of view about priority within WG on core data

Maritime Units: semantic content

- Core recommendation: close to INSPIRE
- Good practice: future standard S121 from IHO

- Geometry described with more details

- Points used for base line
- Distinction between limit and boundary

- Use of LADM principles to describe the RRR



applying to different kinds of Maritime Units

class Enumerations and Code...

«codeList»

MaritimeZoneTypeValue

- + contiguousZone
- + continentalShelf
- + exclusiveEconomicZone
- + internalWaters
- + territorialSea

Theme Area management/restriction/regulation



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General trends

- Extend INSPIRE scope
 - Not only environment related AM (Area Management)
 - But also the AM related to economy and society (other SDG components)
- Focus on specific areas
 - Generic areas (e.g. applying to all rivers or all buildings) not first priority
- Add attribute to inform if geometry has legal value or not
- Manage regulation texts and responsible authorities in other databases



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General trends

- Remaining issue: levels of detail
 - Should AM be always on top on CP?
 - For X-border areas, might be better to be at Regional level, based on edge-matched data
- Modelling of regulation text content
 - Consideration for future
 - Potential interest of LADM and cadastral experience



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Themes Land Cover/ Land Use



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Related events

- Workshop : “Land use/land cover products: challenges and opportunities “

- 15/11/2017 in Brussels
- Organised by INSPIRE KEN, EEA, EuroSDR, INSPIRE Thematic Cluster LC/LU

Open
events

- “Copernicus day”

- 16/11/2017 in Brussels
- Organised by DG GROW

- Discuss specifications of CLC + (new Corine Land Cover)



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Conclusions



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What is expected from you

- Provide your feed-back on next themes
 - Questions and comments during or after meeting
 - Review our next deliverables
- Share your experiences on the topics identified in our deliverables
 - Mainly good practice –considerations for future
 - E.g. Agenda of next CLCKEN workshops
- Consider our recommendations (once definitive)
 - Communicate to relevant stakeholders (e.g. to your Ministry)
 - Implement e.g. by upgrading current data if needed