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Progress of UN-GGIM: Europe Working Group A on Core Data

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Core data context

Background and purpose

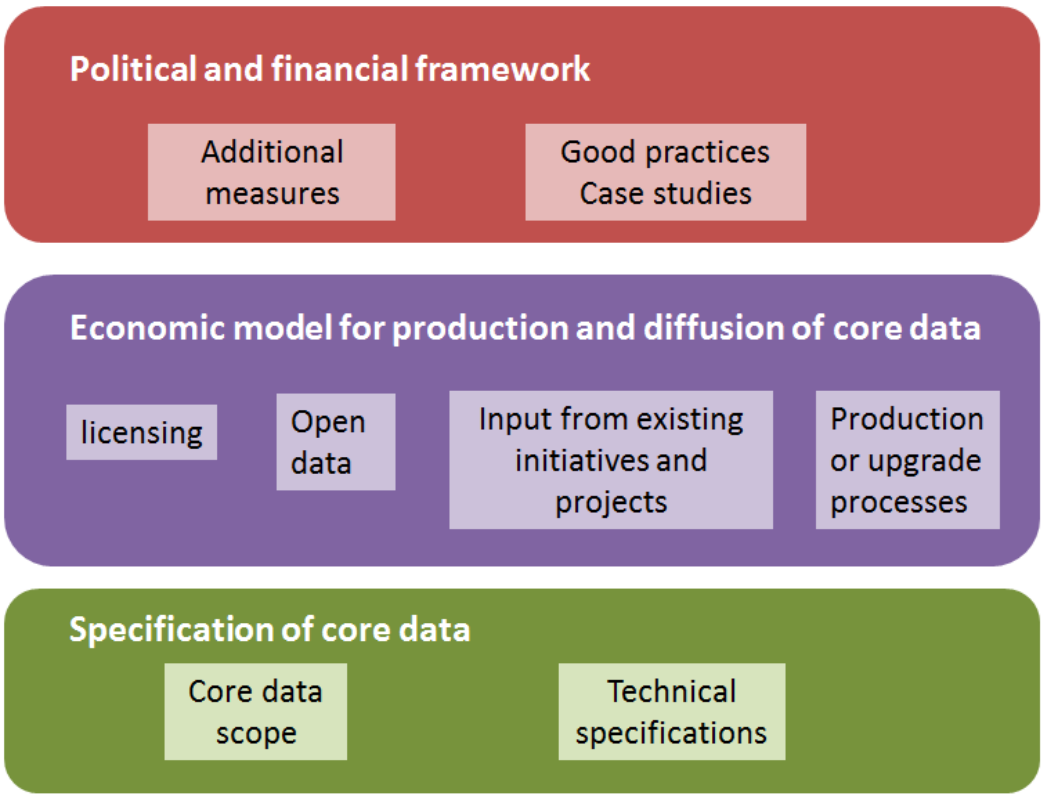
- Aim of Work Group A
  - to propose core geospatial data for Europe

- Definition of 'Core Data'
  - the minimum set of authoritative geospatial data needed to meet requirements common to member states

Organisation

- 15 European countries
  - Austria
  - Belgium
  - Finland
  - France (chair)
  - Netherland
  - Switzerland
  - Turkey
  - Germany
  - Greece
  - Poland
  - Spain
  - Sweden
  - UK
- Observers
  - JRC, EEA, EuroSDR

WG A work plan



Later activities

2016 – 2017 activities

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Core data and INSPIRE

Objectives of the Working Group on European core data

- **Specify homogeneous core data** to be supplied by geographic Europe Member States

- **Define priorities** for production of new data or for improvement of existing data
  - Specifications = recommendation for politicians and data providers

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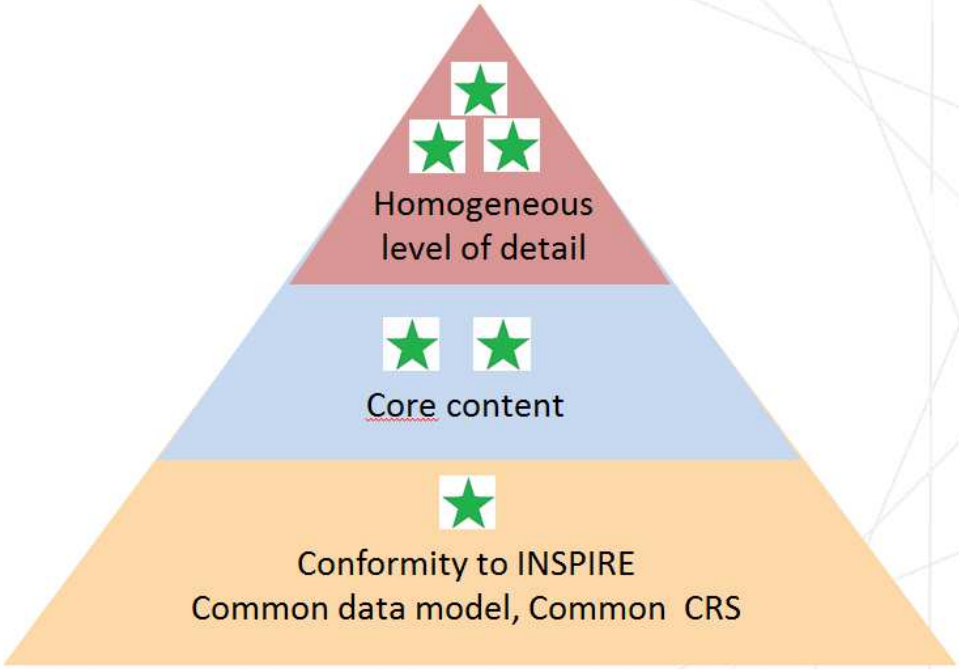
Context

- INSPIRE aims to harmonise existing data
- INSPIRE supplies first level of interoperability (common data model)
- But INSPIRE data will remain heterogeneous
  - No requirements about levels of detail
  - Most concepts are « voidable »

Objectives of the Working Group on European core data



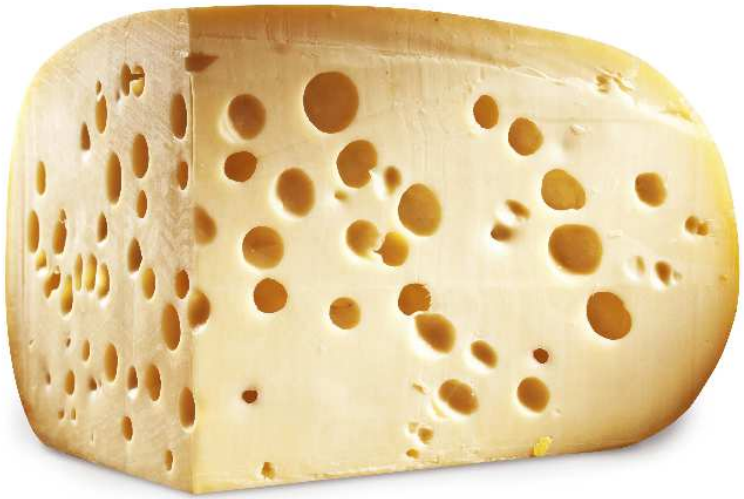
Data harmonisation degrees (ELF project)

- Target data ★ ★ ★
- Select core content from INSPIRE
- Include quality criteria to ensure homogeneous data

Comparison with INSPIRE

	INSPIRE	UN-GGIM: Europe WG core data
Driver	European Commission (DG ENV, JRC, Eurostat, EEA)	United Nations (UN-GGIM: Europe Executive Committee)
Geographic scope	European Union Politic Europe	Geographic Europe
Objective	Harmonise existing data, ensure common structure	Ensure common similar content
Expected mean	Data transformation	Data upgrade, production of new data.
Status	European Directive Legal obligation for MS	UN Recommendation Encouragement to MS

Comparison with INSPIRE



The INSPIRE big cheese
with lots of holes

Users begin to complain:
not so much to eat!

The core data cheese:
smaller but compact
and really filled

Core data theme selection (January 2016)

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Approach: user requirements

- Sustainable Development Goals

Approach: user requirements

- Selection criteria
  - Pertain to **geospatial data** (with mandatory geometric representation);
  - Be widely used: it should be the most necessary, most common, priority data required to **analyse, monitor and achieve the SDGs**, either directly or indirectly;
  - Meet requirements common to many countries.

Final list of selected 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

Core data specifications

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Calendar

- On-going work

- 3 themes to be specified before end 2016
  - Cadastral Parcels
  - Geographical Names
  - Addresses

- All themes to be specified before end 2017

Principles

- Use INSPIRE specification and SDG user requirements as starting points
- Define priorities, extract core data:
  - From data model
  - From theme scope
- Decide on levels of detail, quality criteria

Principles

- Replace "Data specification" by "Core spatial data theme XX – Recommendation for content"
  - Make short document easy to read (deciders - politicians)
  - Technical details in separate annexes

Principles

- The core data specifications will be mainly used to enrich and upgrade existing products.
- Core data to be delivered:
  - through these improved products
  - Through improved INSPIRE data
  - (a priori) no need to derive specific core data product(s)

Principles

- 3 types of recommendations:
  - **Core recommendation**: highly required, achievable => ideally, short term action
  - Good practice: bring added value to core data => to be encouraged
  - *Further considerations: data for innovative applications => long term*

Theme Addresses

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Scope - Addressable objects

INSPIRE

- Land parcels
- Buildings
- Flats
- Street furniture
- Water pumping stations
- Parking lots
- Agricultural barns
- Mooring places

Core data

- Buildings to be occupied by people
- Postal addresses

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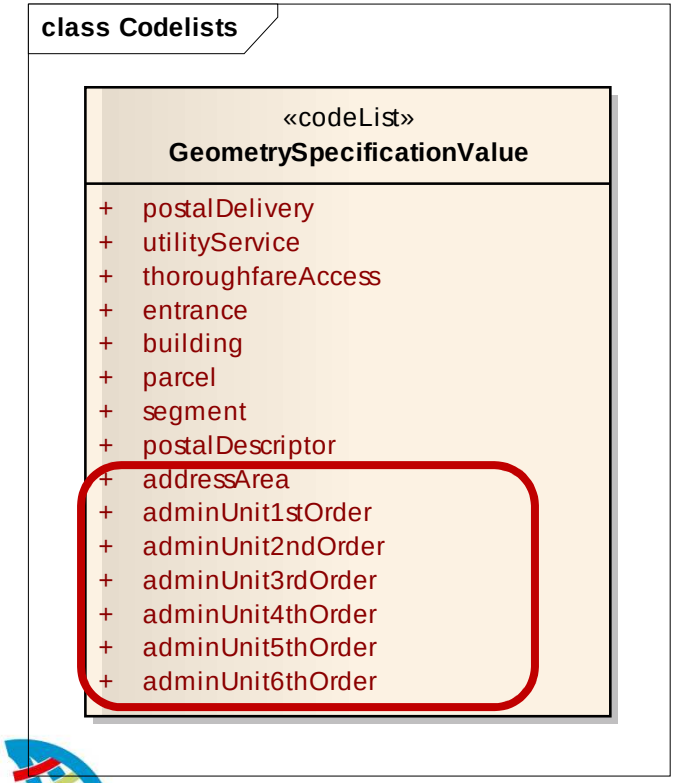
Address position

- INSPIRE allows very approximate position of address



Addresses may be located only at address area level (e.g. village) ore even at administrative unit level

In practice, this occurs mainly in rural areas (villages without street names + house numbers)

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Address position

- (Potential) good practice: recommend creation of "true" addresses everywhere
  - Street name + house number
  - House name

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Theme Buildings

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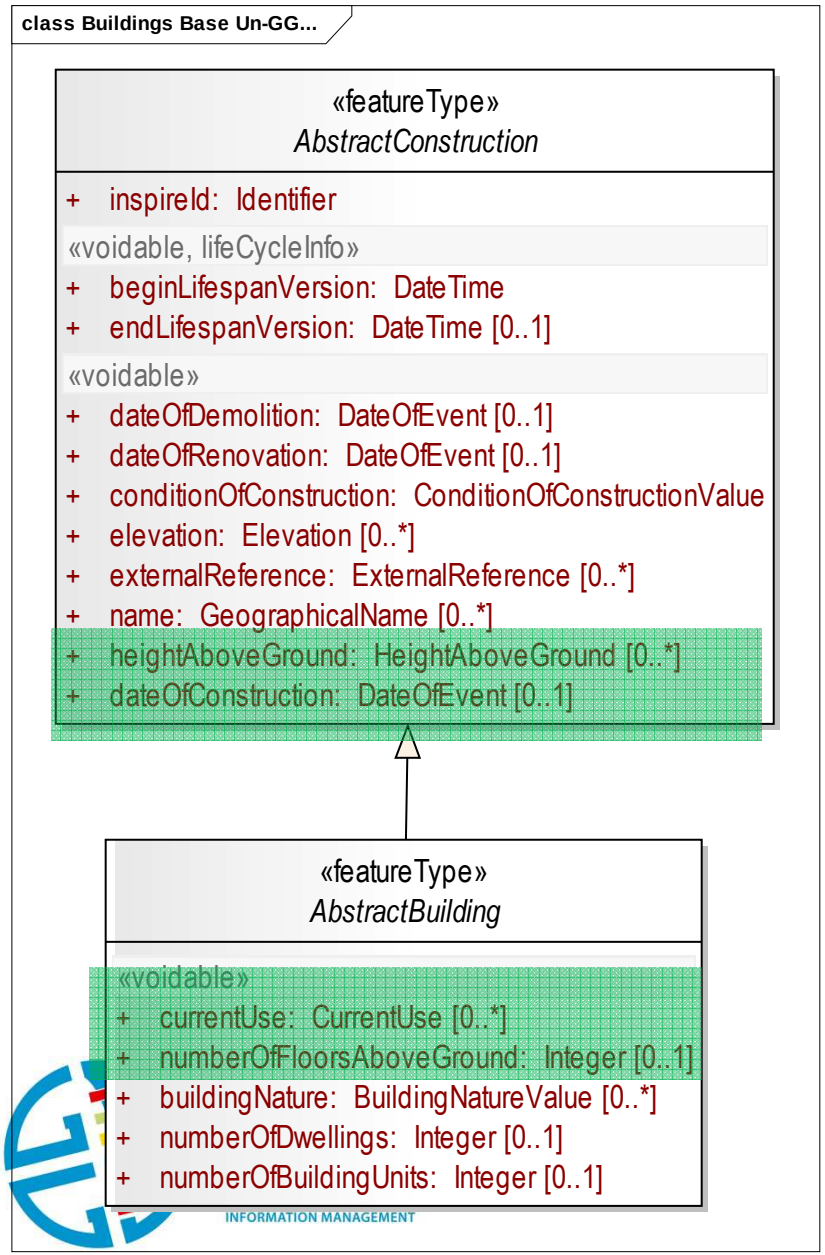
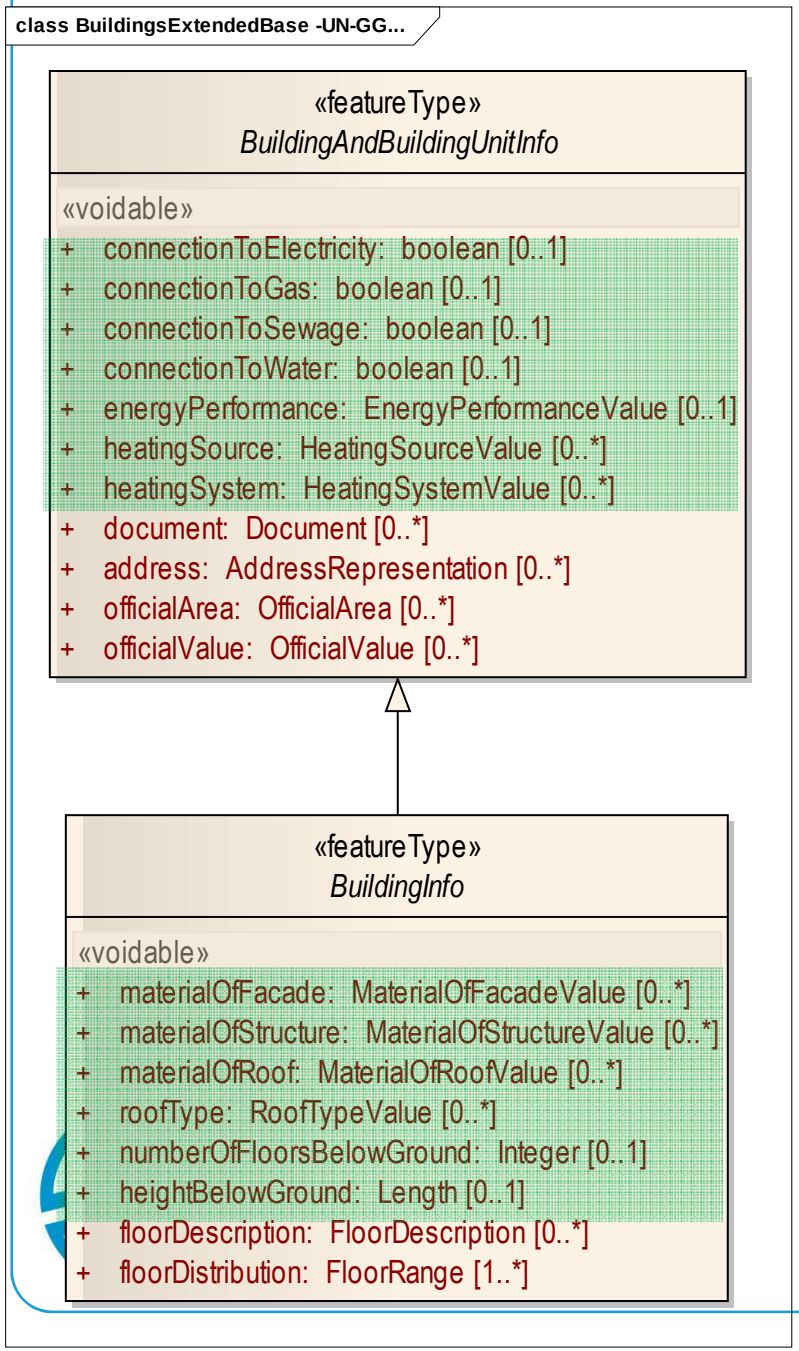


Data model

- "obvious" core attributes
  - (2D) Geometry
  - Height and/or number of floors above ground
  - Current use
  - Date of construction



Data model

- More INSPIRE attributes also quite useful

Data management

- Building data may be in a single database or in various databases
  - Cadastre
  - Statistics
  - Dwelling
  - Topographic
  - Local
  - …
- How to provide the additional attributes?
  - By integrating them to core data
  - By linking core data to other databases
    - Official identifiers (e.g. cadastral reference)
    - Other means (address)

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Theme Cadastral Parcels

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Geographic extent

- **Core recommendation**: have core CP (vector) data on whole territory, according to national law

- Potential impact:
  - Encourage achievement of cadastre under elaboration (Romania …)
  - Encourage vectorisation of remaining raster CP (France …)

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Geographic extent

- **Good practice** : have CP data on whole land territory, including public domain

- Potential impact:
  - Possible change in national legislation
  - Need to survey missing parts

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Geographic extent

- **Further consideration**: have marine cadastre

- Present in few countries
- Not yet mature (e.g. what has to be surveyed?)

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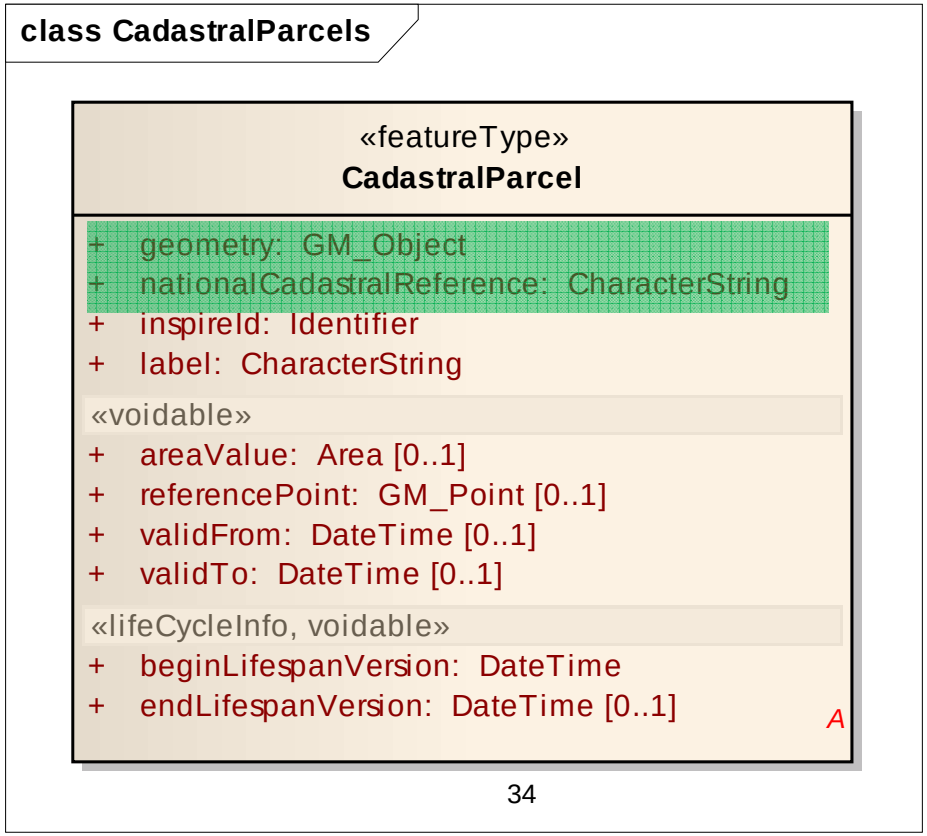
Data model

Core recommendation: Cadastral Parcel with its geometry and national cadastral reference



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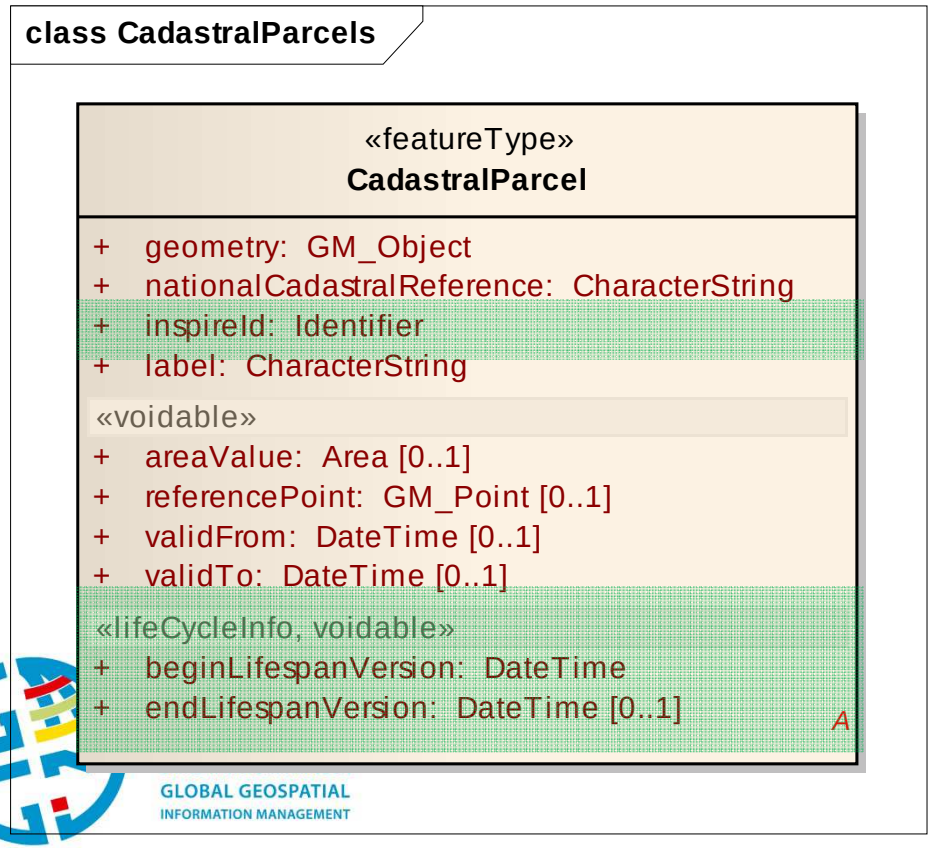
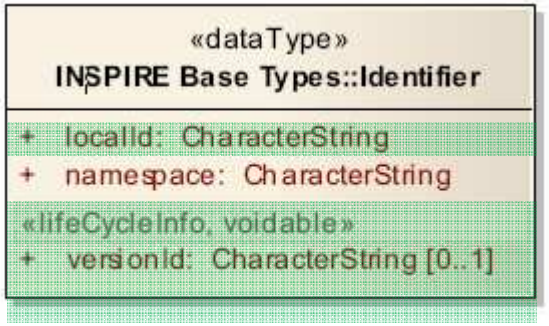
Data model

Good practice: encourage temporal management according to INSPIRE mechanism (versioning + life-cycle attributes)





areaValue, validFrom/To more related to the legal parcel (Land Registry) than to the spatial parcel (cadastral map).

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Data model

Good practice: heterogeneous accuracy to be documented using INSPIRE feature types Cadastral Boundary or Cadastral Zoning

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Quality rules

- **Core recommendations**
  - completeness
  - continuous update (weekly or better)
  - accuracy : keep INSPIRE as general target (1m in urban - 2,5 m in rural) + recommend more accurate data for new surveys (50 cm or better)
  - Topological consistency

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- To know more:
  - Selection of core data themes
  - Next data content recommendations

http://un-ggim-europe.org/content/wg-a-core-data

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