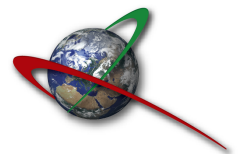# Results of the TWG on Aggregation Rules and Guidelines for Administrative Units

**GIS4EU Workshop "When European countries meet to share the geographic information" – myESIG2010
Oeiras, 10 Fevereiro 2010**

Rui Reis, Instituto Geográfico Português

AU datasets

Data provider	Data Provider level	Dataset
03_VUGK	National	Slovak Administrative Boundaries
05_ICC	Regional	BM-50M
07_FÖMI	National	52-424_t_region
08_RLIG	Regional	DBPrior10K
09_RPIE/17_CSI	Regional	CTR10.000/Census
11_CGE	Local	CTC1000/CTC2000
14_IGP	National	CAOP - Administrative Units for Portugal
16_INSIEL	Regional	DbPrior10K
20_RVEN	Regional	DBPrior10K
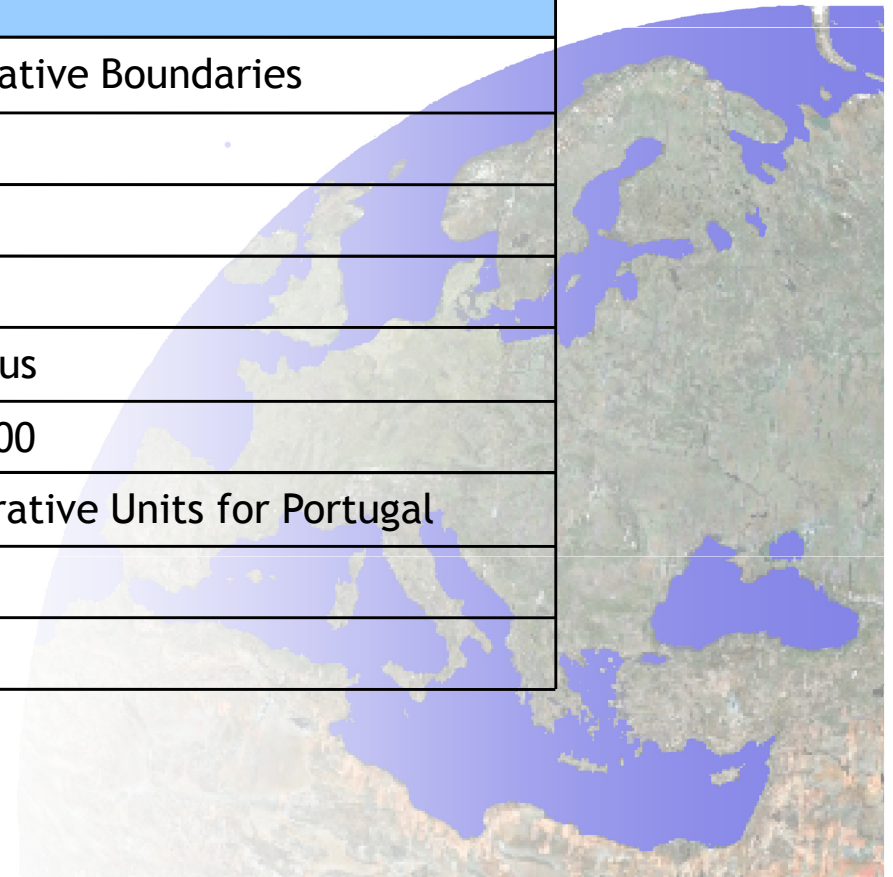
DP contribution

- ## 3 excel sheets:

  - Cross-border:

    list of datasets that touch across borders (country, region, municipality)

  - Scale and data contents:

    data contents of the datasets according to the visualization scale (European, national, regional or local)

  - Generalization needs:

    features that need to be generalized for the four reference scales and those that are not visible for a certain scale

DP contribution

Data providers	Cross-border
VUGK/FOMI	X
RVEN/INSIEL	X
RLIG/RPIE	X
RLIG/CGE	X

Data provider	Scale & data contents and Generalization needs
VUGK	X
RVEN	X
RPIE	X
RLIG	X
INSIEL	N
IGP	X
ICC	X
FOMI	X
CGE	X

Deliverable

Chapter		Responsible person(s)
1	Summary	Stefania De Zorzi
2	Document Scope	Piotr Krok
3	Background and project summary	Piotr Krok
4	Requirements for data aggregation	
4.1	Project specific requirements	Dolors Barrot
4.1.1	General requirements	Dolors Barrot
4.1.2	Theme spcific requirements	Stefania De Zorzi
4.2	INSPIRE-driven requirements	Dolors Barrot
4.2.1	General requirements	Dolors Barrot
4.2.2	Theme specific requirements	Stefania De Zorzi
5	State-of-the-art in data aggregation	
5.1	General aggregation state-of-the-art	Piotr Krok
5.2	State-of.the-art concerning the theme	Stefania De Zorzi

Deliverable

	Chapter	Responsible person(s)
6	Methodology for data aggregation	
6.1	Workflow overview	Piotr Krok
6.2	Cross scale	Piotr Krok
6.3	Cross border	Piotr Krok
7	Analysis of GIS4EU available datasets	
7.1	Theme relevant datasets	Giancarlo Biotto
8	Guidelines for cross-scale aggregation	
8.1	Common scales	Silvano De Zorzi / Rui Reis
8.2	Data visibility criteria	Silvano De Zorzi / Rui Reis
8.3	Features representation - portrayal rules	Piotr Krok
8.4	Data capabilities and needs	Silvano De Zorzi / Alessandra Amoroso

Deliverable
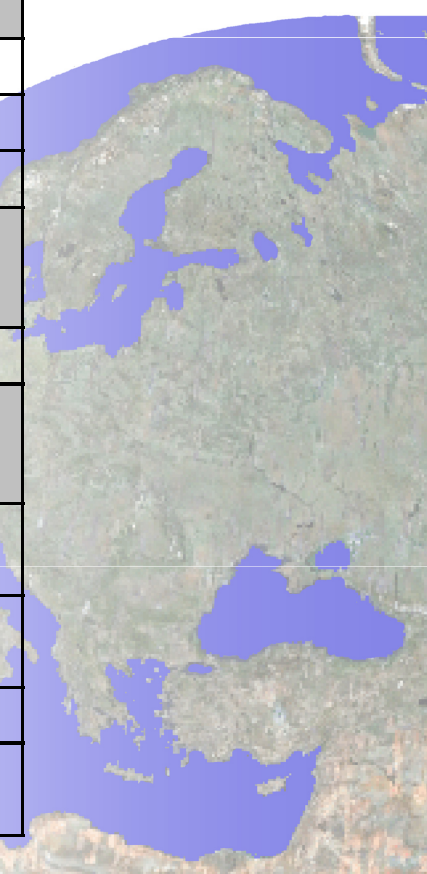
| Chapter		Responsible person(s)
9	Guidelines for cross-border aggregation	
9.1	Identification of touching datasets	Giancarlo Biotto
9.2	Analysis of touching datasets pairs	Giancarlo Biotto
10	Guidelines for cross-language aggregation	
10.1	Cross languages issues identifications	Piotr Krok
10.2	Common data model elements	Piotr Krok

Requirements

- **General requirements:**
  - Specification level
  - Metadata level
  - Data level
    - Consistency within a data set
    - Consistency between spatial objects of different themes at the same level of detail
    - Consistency between spatial objects of one theme at different levels of detail
    - Consistency of spatial objects along a boundary

Requirements

- **Project requirements:**
  - General requirements
    - On-demand harmonization
    - Merging datasets
      - Cross-border merging
      - Cross-scale merging

- **Theme specific requirements**
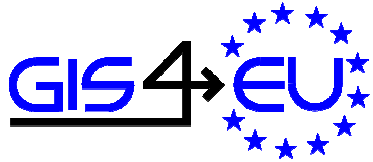 - Cross-border merging
  - Cross-scale merging

Methodology
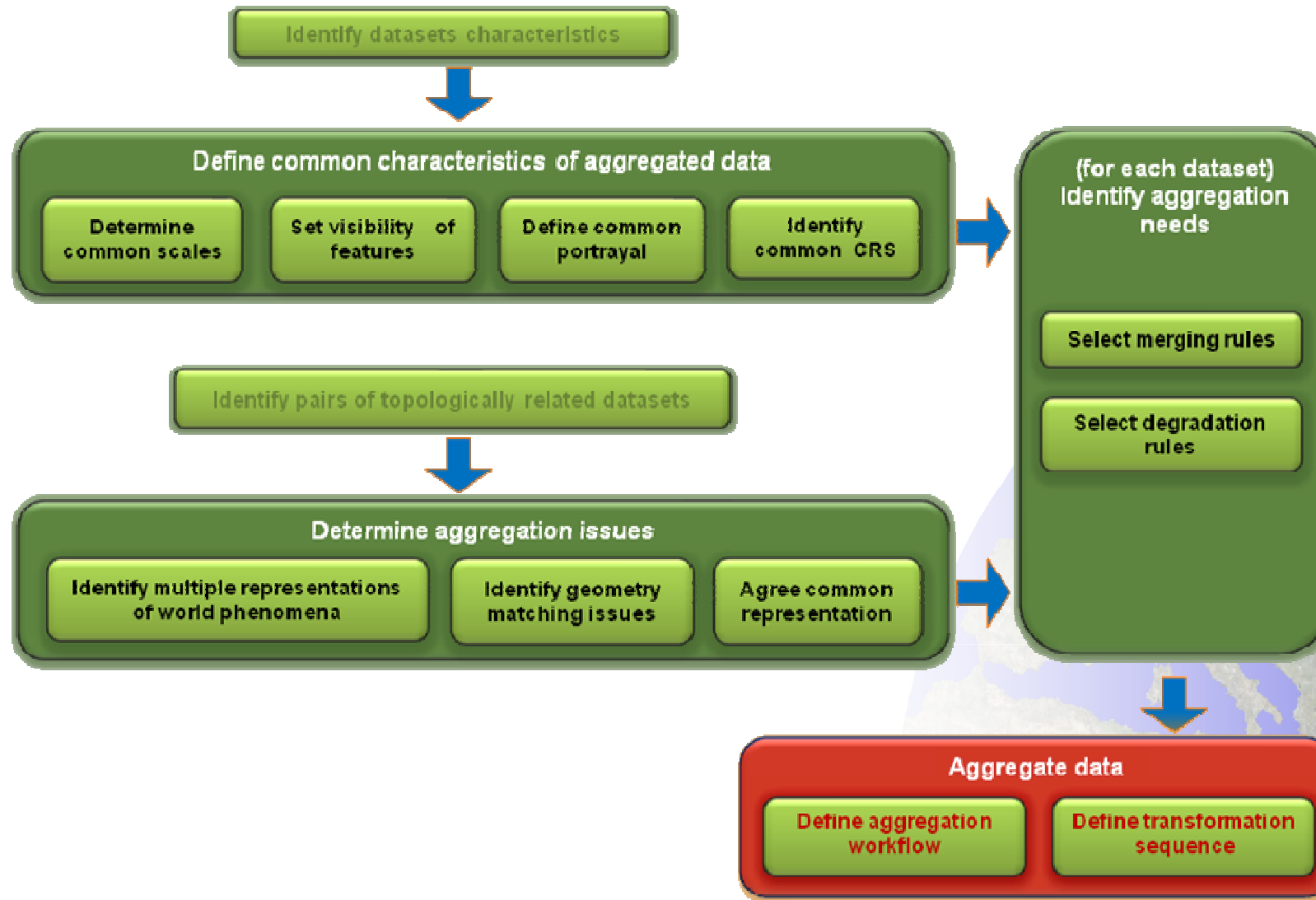
Cross scale aggregation

- Common scales

Level	Scale
European	1:40 000 000
National	1:10 000 000
Regional	1:1 000 000
Local	1:200 000

Data visibility criteria

- European (1/40 000 000)

    - <u>Visualized</u> when it is the boundary > 6400 km2

    - <u>Transform to point</u> (centroid) if it is an area < 6400 km2
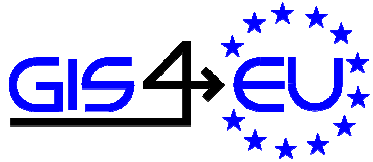
    - <u>Eliminated</u> when it is a point
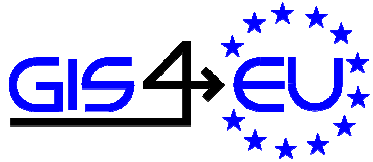
Data visibility criteria

- National (1/10 000 000)

    - <u>Visualized</u> when it is the boundary > 400 km2

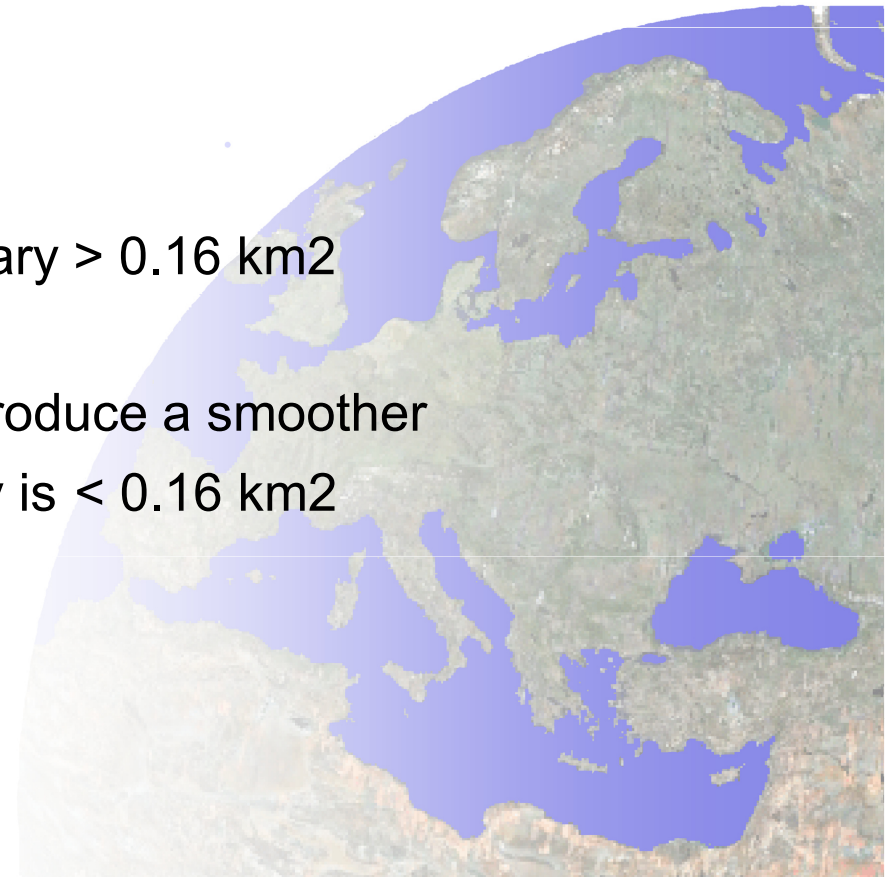   - <u>Transform to point</u> (centroid) if it is an area < 400 km2

Data visibility criteria

- Regional (1/1 000 000)

  - <u>Visualized</u> when it is the boundary > 4 km2

  - <u>Transform to point</u> (centroid) if it is an area < 4 km2

# Data visibility criteria

- Local (1/200 000)

  - <u>Visualized</u> when it is the boundary > 0.16 km2

  - Simplify eliminating detail or introduce a smoother appearance when the boundary is < 0.16 km2

Features representation

- ## Portrayal rules

  - ### Administrative Unit

    – polygons with dark grey (#333333) border and stroke width 1 pixel and no fill

  - ### Administrative Boundary

    –lines with color and stroke width depending of the hierarchy level. For value "1st" it's a red (#ff0000) line with a stroke width 2 pixel. For value "2nd" it's a red (#ff0000) line with a stroke width 1, 5 pixels. For value "3rd" it is a red (#ff0000) line with stroke width 1 pixel. For values 4th, 5th 6th and other it is a light red (#F08080) line with stroke width 1 pixel
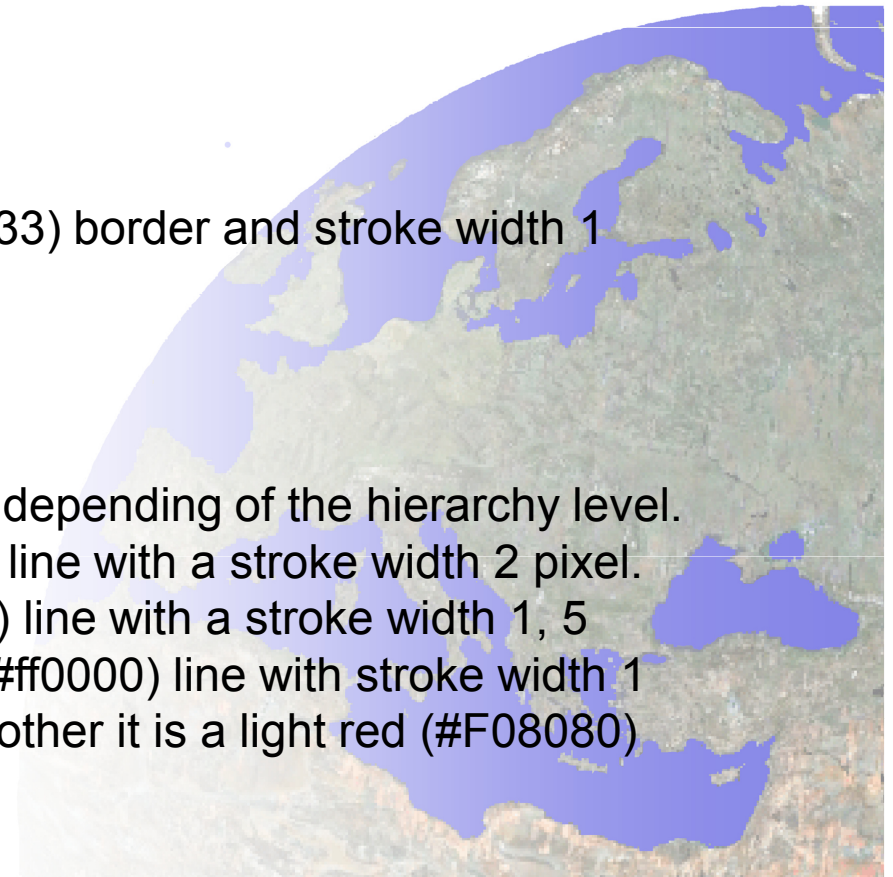
Features representation

- Portrayal rules

  - NUTS region
    - polygons with dark grey (#333333) border and stroke width 1 pixel and no fill
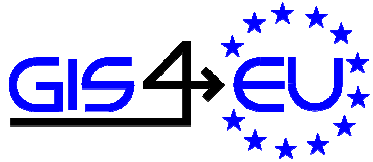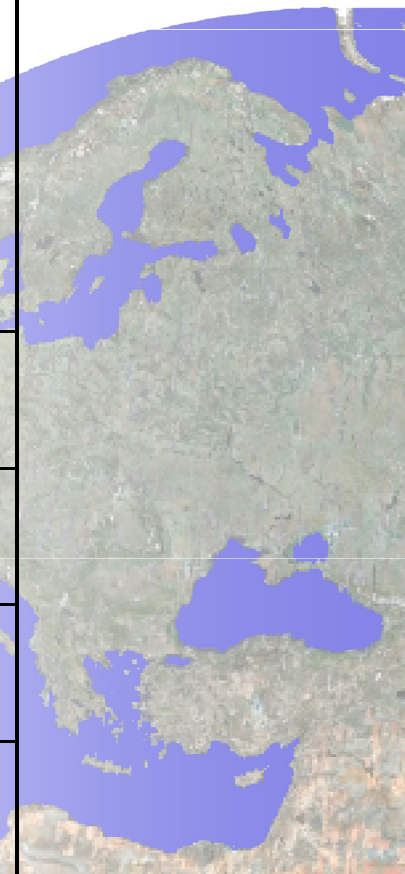
Data capabilities and needs

- ## For each dataset:

    - define the information to be visualized in the GIS4EU geoportal aggregating each feature type in terms of degradation or generalization, and how to operate at European, national, regional and local level
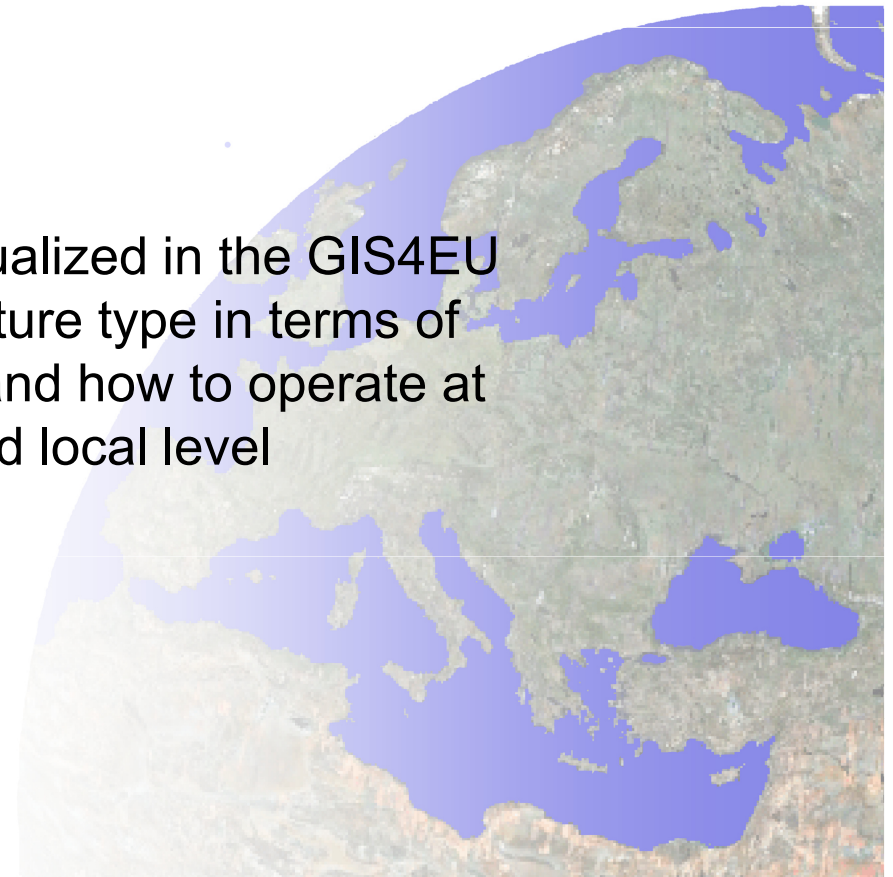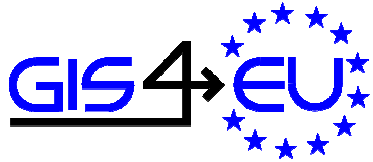
Cross-border aggregation

- Cross-border inconsistencies

Inconsistency Rule D3.6	Elements outside the administrative area	Topology						Different identifier	Different names
		Overlap and gap surfaces	Overlap curve and surface	Gap curves and surface	Overlap curves	Gap curves	Inconsistency because different scale		
RVEN-INSIEL		X							
RLIG-CGE			X	X			X		X
RLIG-RPIE		X							
VUGK-FOMI		X							

Cross-language aggregation

- Issues:

  - Common data model elements (feature's catalogues, features attributes catalogues)

  - Data sets' alphanumerical attributes free text values

  - Metadata elements

  - GIS4EU Geoportal human interface