

# Cadastral Parcels in the context of INSPIRE



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# INSPIRE directive I.

- „Directive 2007/2/EC of the European Parliament and of the Council 14 of March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)”
- INSPIRE entered into force on the 15<sup>th</sup> May 2007
- Article 1:
  - „The purpose of this Directive is to lay down general rules aimed at the establishment of the Infrastructure for Spatial Information in the European Community (hereinafter referred to as Inspire), for the purposes of Community environmental policies and policies or activities which may have an impact on the environment.”

# INSPIRE directive Annexes I

- Annex I:
  - Coordinate reference systems
  - Geographical grid systems
  - Geographical names
  - Administrative Units
  - Addresses
  - Cadastral parcels
  - Transport network
  - Hydrography
  - Protected sites

# INSPIRE directive Annexes II

## ● Annex II:

- Elevation
- Land Cover
- Orthoimagery
- Geology

# INSPIRE directive Annexes III

- Annex III: (only environmental issues)
  - Statistical units
  - Buildings
  - Soil
  - Land use
  - Environmental monitoring facilities
  - Production and industrial facilities
  - Agricultural and aquaculture facilities
  - Area management/restriction/regulation zones and reporting units
  - Natural risk zones etc. (21 different themes)

# Data harmonization and specification in EC

- 2005 – 2008:
  - common framework for data specifications
  - by DT DS (Drafting Team Data Specifications)
  
- 2008 – 2011
  - Harmonised specifications for the 34 Annexes themes
    - for Annex I themes: during 2008 -2009
    - for Annexes II and III: from 2009 to 2011

# General principles

INSPIRE must be based on existing (digital) data

Harmonisation in INSPIRE must be done only if there are user requirements:

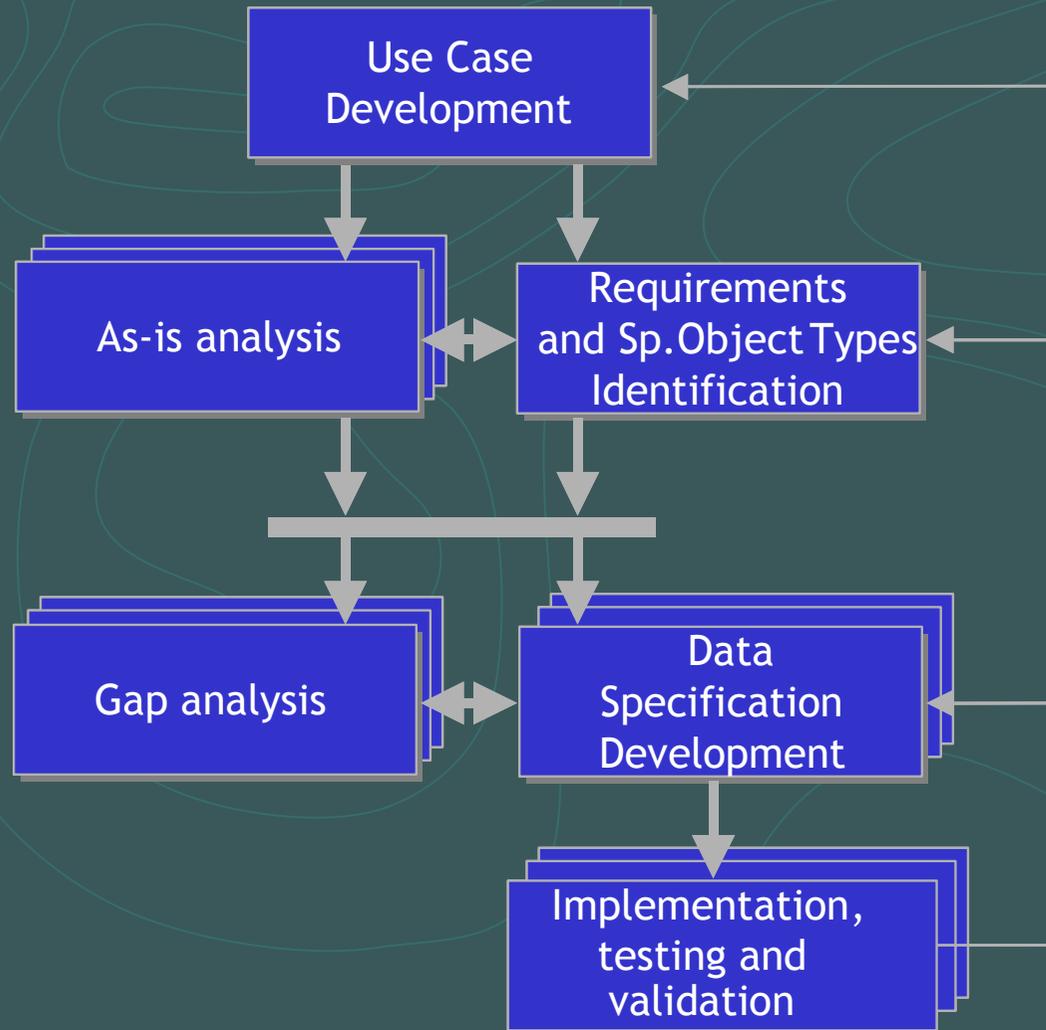
- pan-european use cases
- cross-border use cases
- linked with environment

Harmonisation has to be feasible and cost-benefits have to be analysed.

# Thematic Working Groups (TWG)

- Contribute to the elaboration of Implementing Rules for data specifications
- TWGs have to define DPS (Data Product Specifications)
- DPS will be converted in:
  - Binding Implementing Rules
  - Non-binding guidelines
  - Testing and feasibility issues will decide which components to be mandatory

# General Methodology



# Roadmap of TWGs' work on Annex I

- Kick-off meeting: 14-15/02/08
- Evaluation of user requirements: June 2008
- As-it analysis and gap analysis: August 2008
- First draft of data product specification: September 2008
- Internal review of first draft (DT DS, CT, EIONET): October 2008
- Second draft of data product specification: November 2008
- Review by SDIC/LMO: January 2009
- Testing, revised DPS: March 2009
- Submission to the INSPIRE Committee: May 2009

# TWG on Cadastral Parcels

- Dominique Laurent (IGN France)
- André Bernath (Switzerland)
- Tarja Myllymäki (NLS – Finland)
- Amalia Velasco (Cadastre- Spain)
- Olav Jenssen (NMA - Norway)
- Peter van Oosterom (TUD/Kadaster Netherlands)
- Soren Riff Alexandersen (NMCA – Denmark)
- Wim Devos (JRC-Belgium)
- Gyula Iván (FOMI – Hungary)

Facilitator

Editor





# Cadastral parcel definition in INSPIRE

- „Area defined by cadastral registers, or equivalent”
- Different development stage from country to country
- Different interpretation of definition:
  - Legal approximation
  - „Topographic” approximation

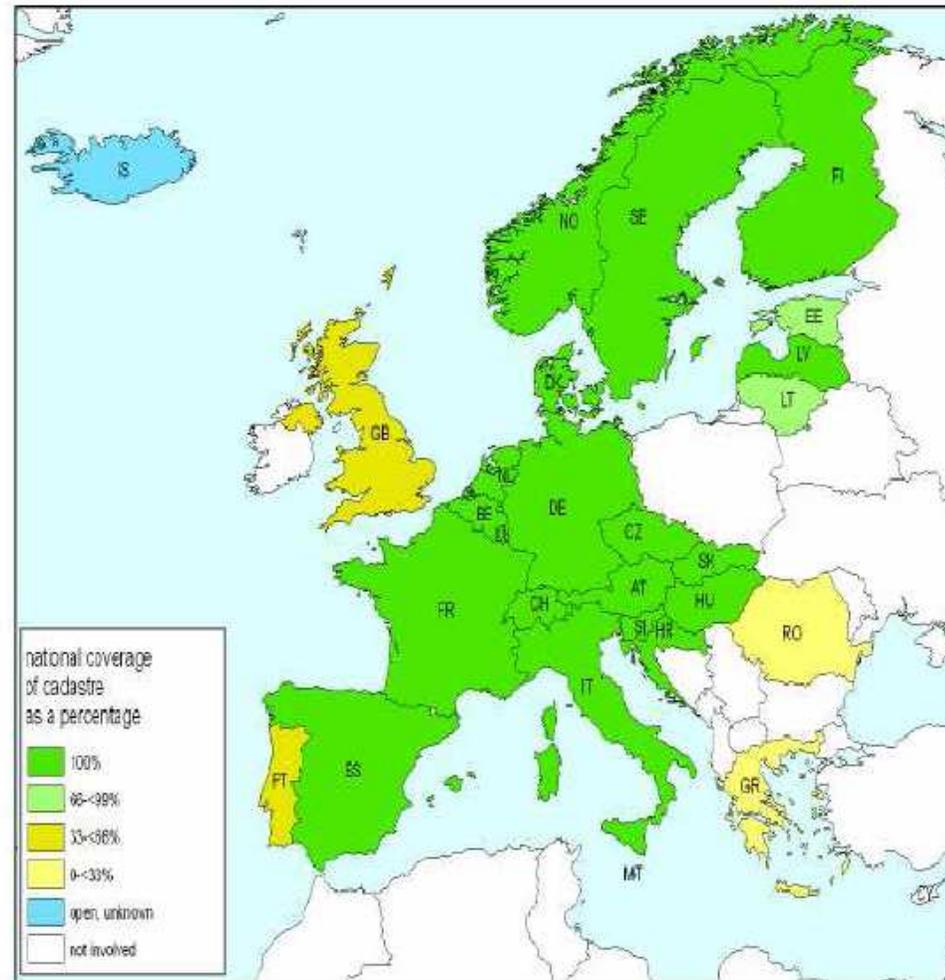
# Use case development

- Agriculture:
  - LPIS (IACS)
  - Vineyard cadasters (Spain, Hungary)
  - Ragweed monitoring (Hungary)
- Environment:
  - Soil directive of EC
- Spatial planning
  - National examples (e.g. France)
- Infrastructures, Utilities
- Public Land Management
- Public Safety
  - Flood directive
- Socio-economic analysis

# As is analysis

- Survey conducted by the EuroGeographics - PCC Expert Group about cadastral parcels in INSPIRE (and NSDI)
  - Identification of 5 key elements:
    - Identifier
    - Boundaries
    - Surface
    - Georeferencement
    - Origin/history

# National Coverage of Cadastre in EU

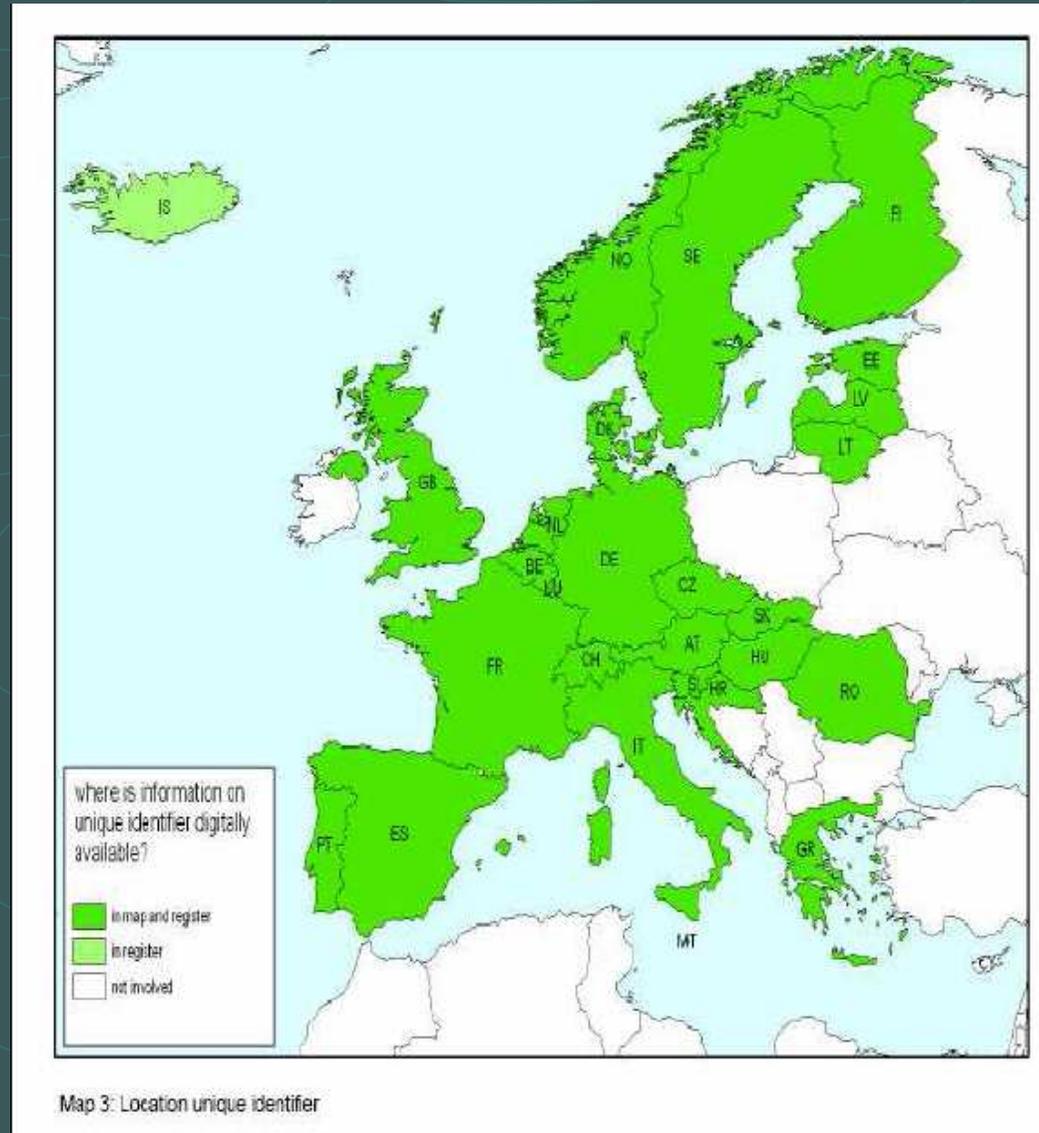


Map 1: National coverage of cadastre

Coverage Scotland: 100%

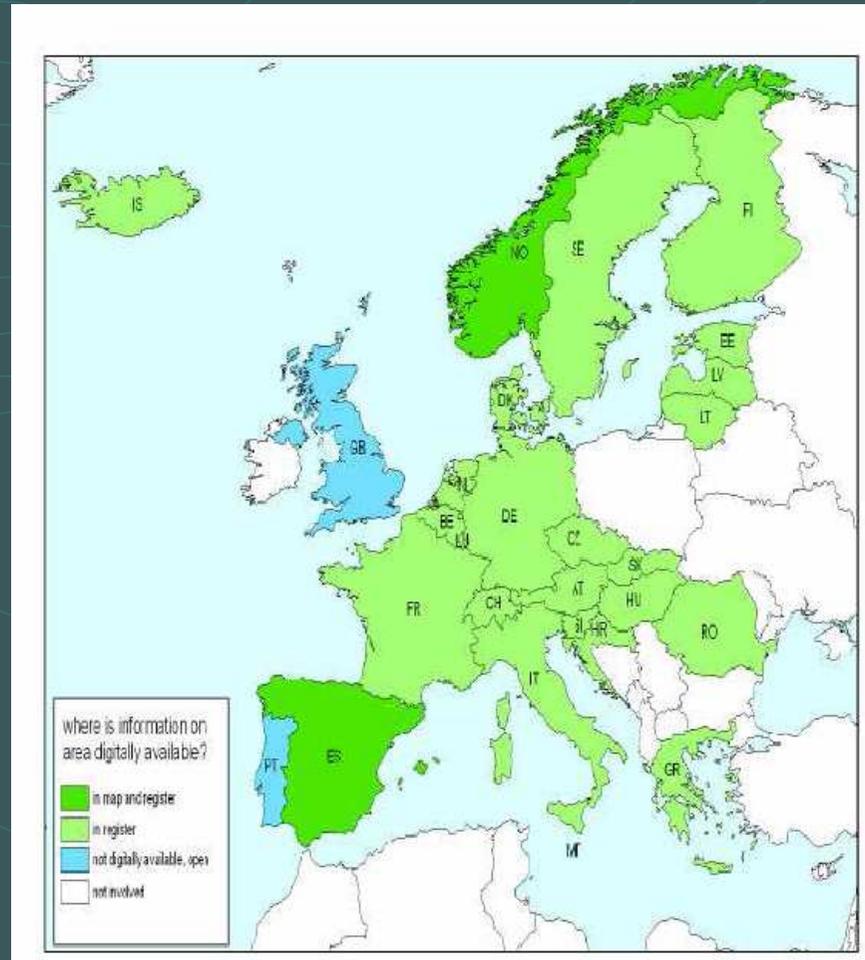
Source: The cadastral parcel in NSDI and in INSPIRE (Eurogeographics and PCC)

# Unique identifier



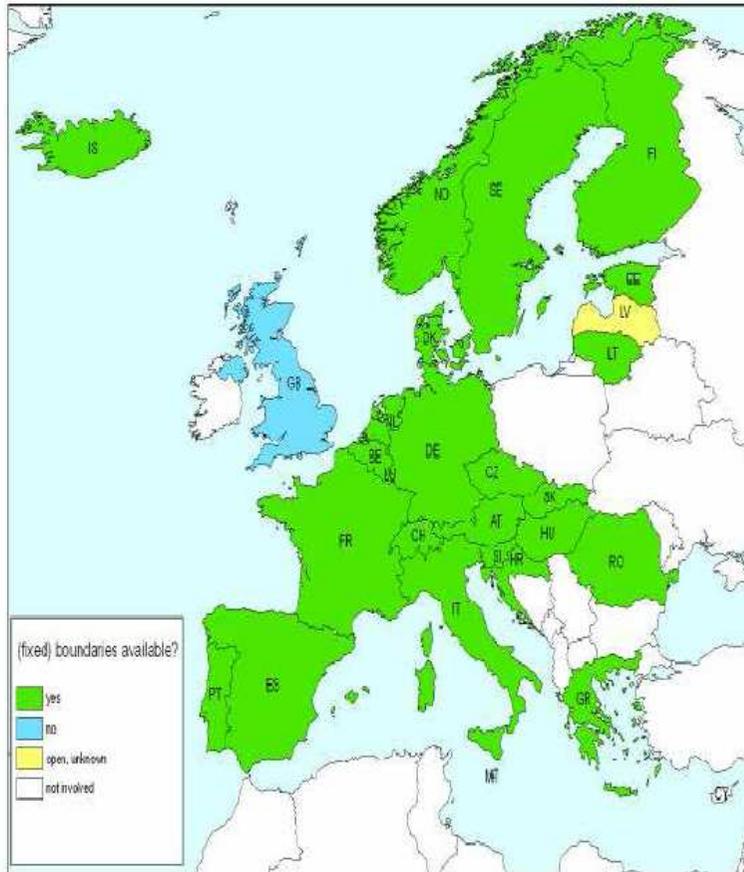
Source: The cadastral parcel in NSDI and in INSPIRE (Eurogeographics and PCC)

# Area information



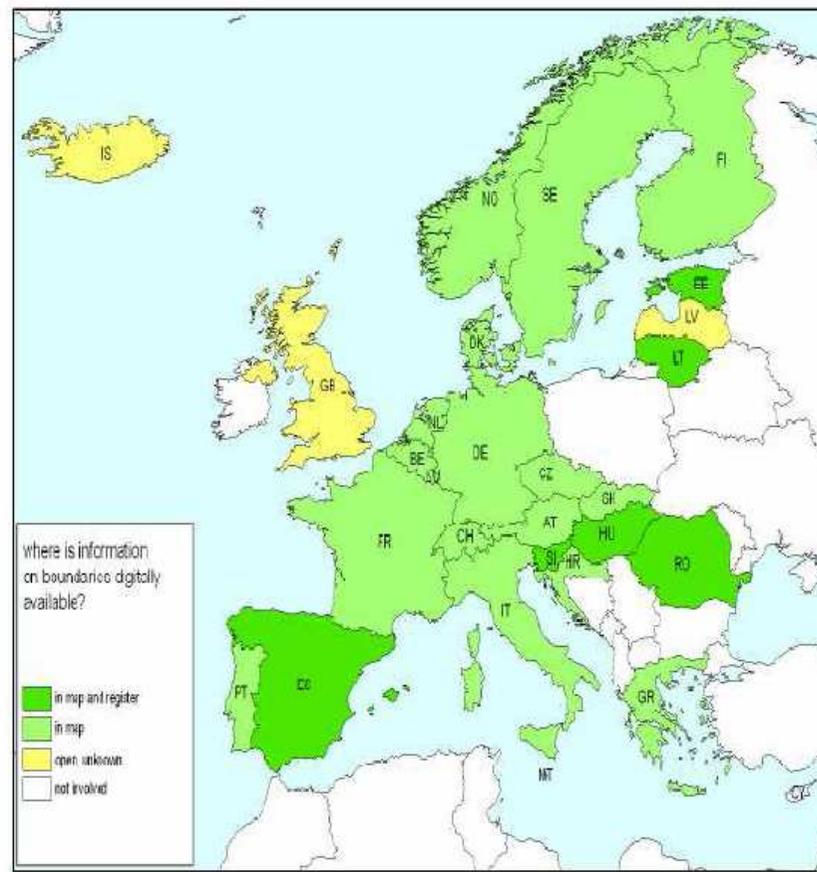
Source: The cadastral parcel in NSDI and in INSPIRE (Eurogeographics and PCC)

# Boundaries



Map 6: Availability of boundaries

Scotland: boundaries are available

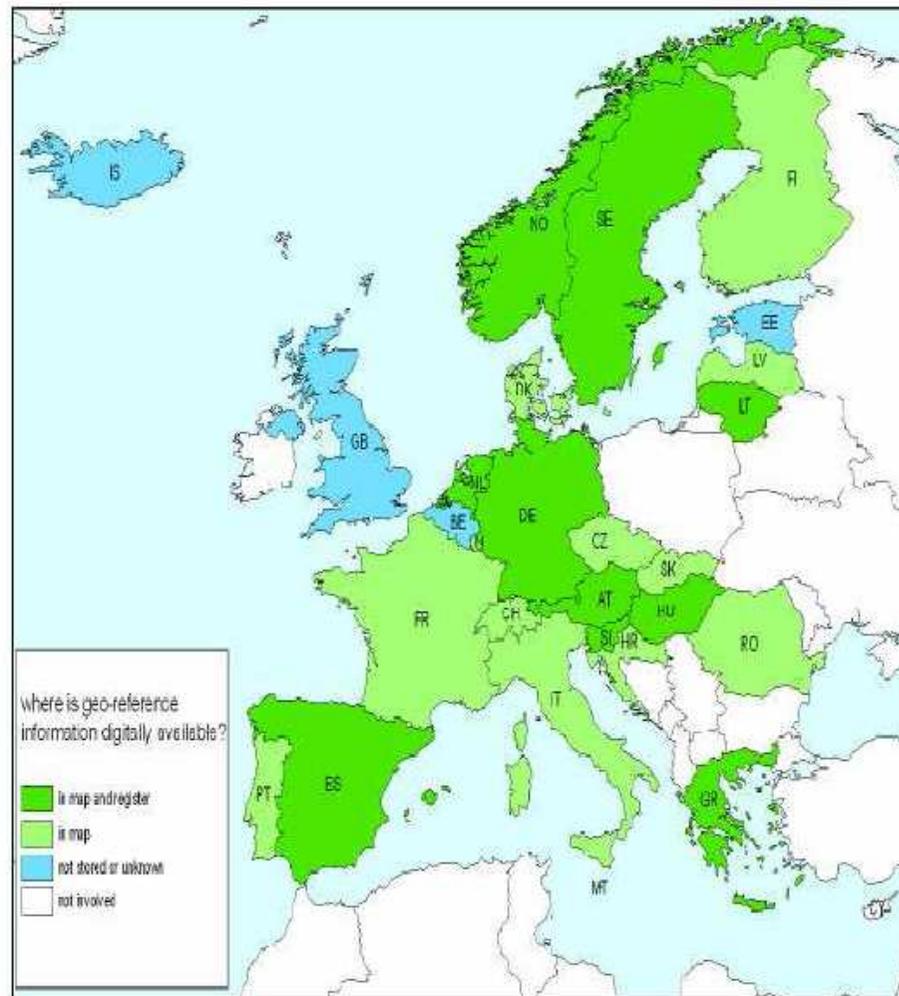


Map 7: Location boundaries

Scotland: digitally available in map

Source: The cadastral parcel in NSDI and in INSPIRE (Eurogeographics and PCC)

# Georeference

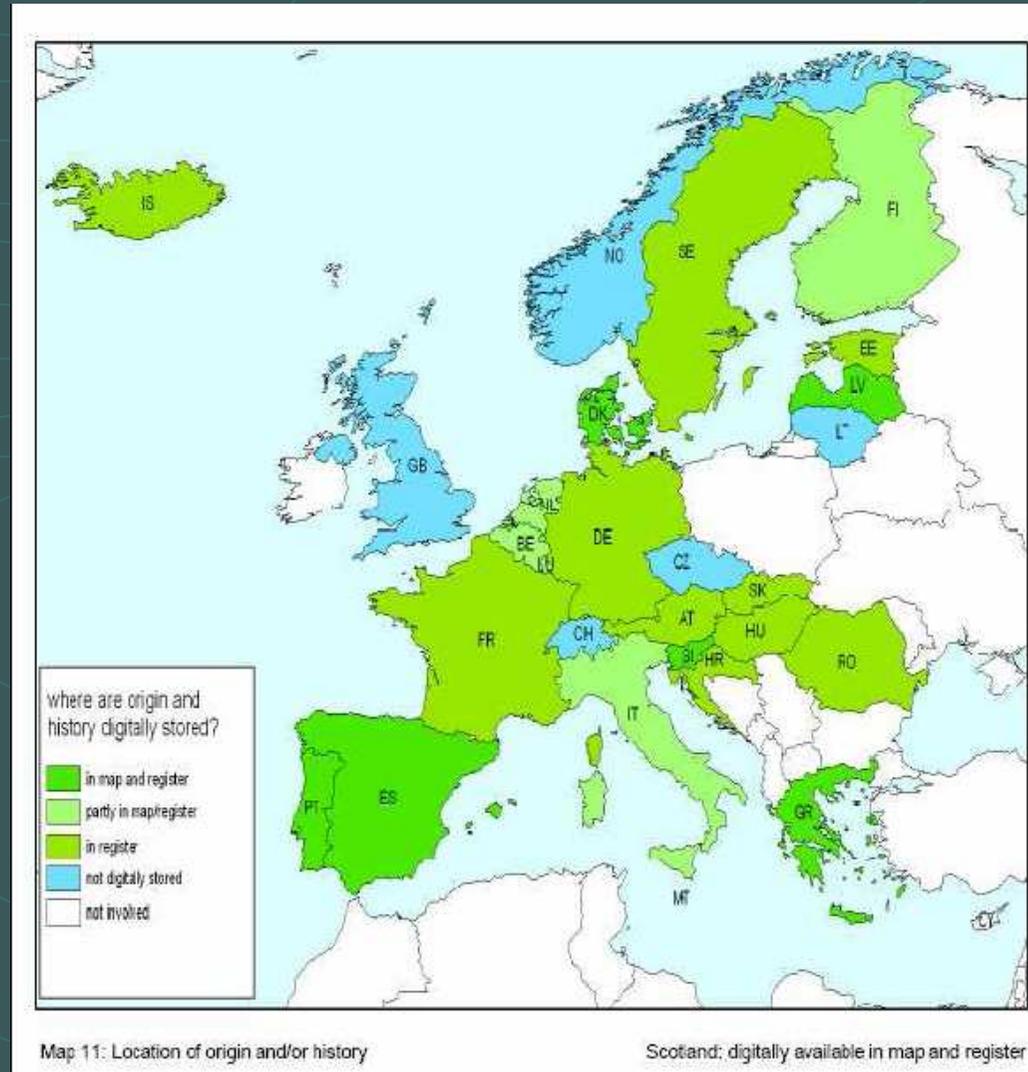


Map 9: Location geo-reference information

Scotland: digitally available in map

Source: The cadastral parcel in NSDI and in INSPIRE (Eurogeographics and PCC)

# Origin & History



Source: The cadastral parcel in NSDI and in INSPIRE (Eurogeographics and PCC)

# TWG's own investigation

- In Countries represented in TWG:
  - On 5 key elements
  - Data quality
  - Metadata
  - Data transfer
- Questionnaire on raster data
  - Some countries have only raster data
  - INSPIRE does not support data producing

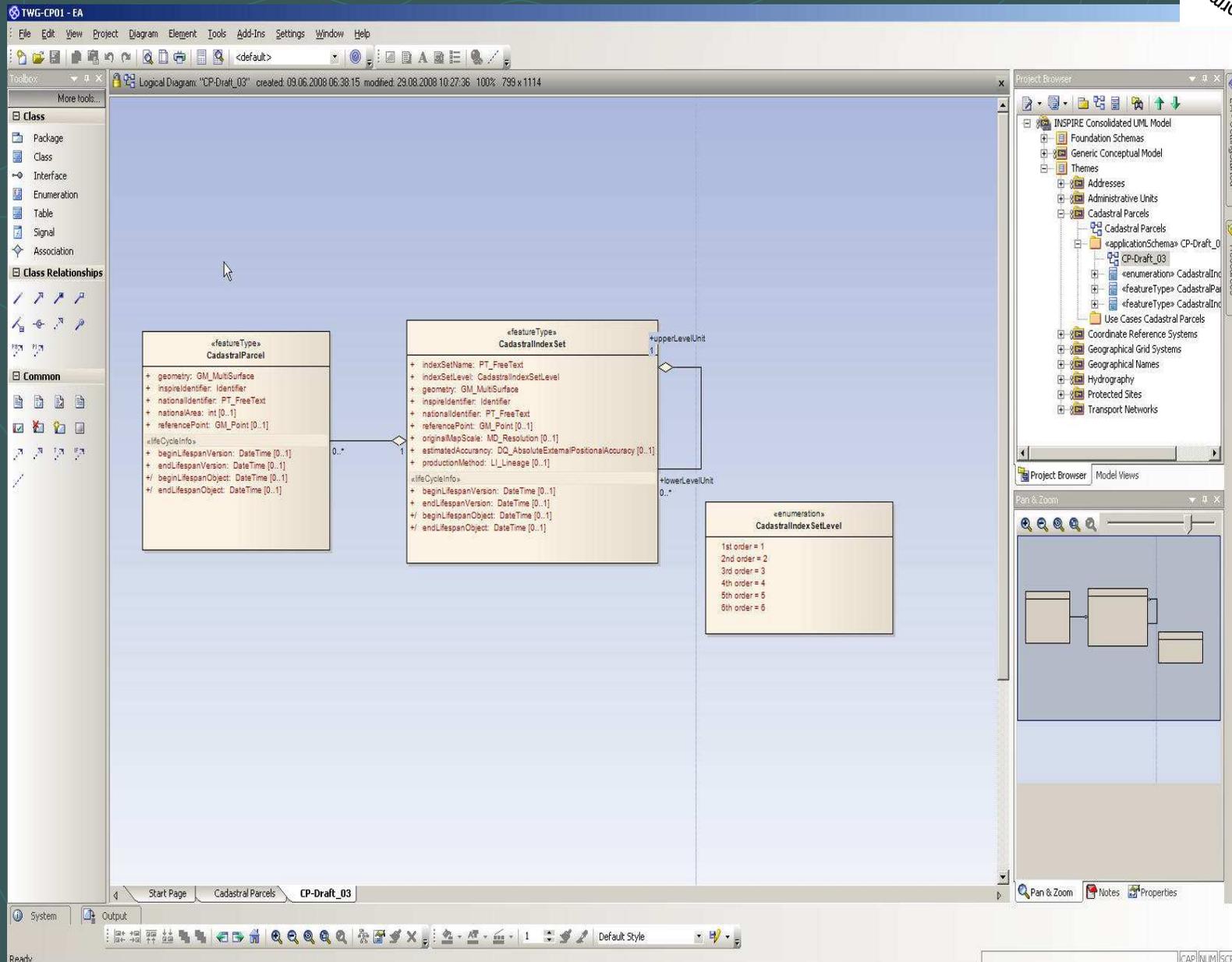
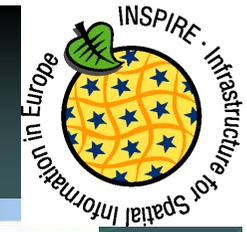
# Raster issue

- Full vector data availability now or before 2016: Italy, England, Czech Republic, Malta, Cyprus, Poland, Portugal,
- Vectorisation in progress but may be still raster data in 2016: France, Croatia, Bulgaria, Slovakia
- No other information : Ireland
- 2016 is the deadline to comply implementation rule on Annex I themes
- Commission Decision:
  - MS (with raster data) do not have to vectorize before 2016
- TWG CP has decided to require only vector data

# Land Administration Domain Model

- LADM is a very important issue from TWG CP aspect
- Hard discussions on the usage of LADM in INSPIRE
- Joint meeting with ISO LADM Working Team (next week) for possible solutions between INSPIRE CP and LADM

# Conceptual Schema in UML (first draft)



# Next steps

- First draft of data product specification :  
end September 2008
- Second draft of data product specification :  
November 2008 (review by SDIC/LMO)

Thank you for your attention



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