

Open European Location Services

# A pan-European Core Reference Dataset

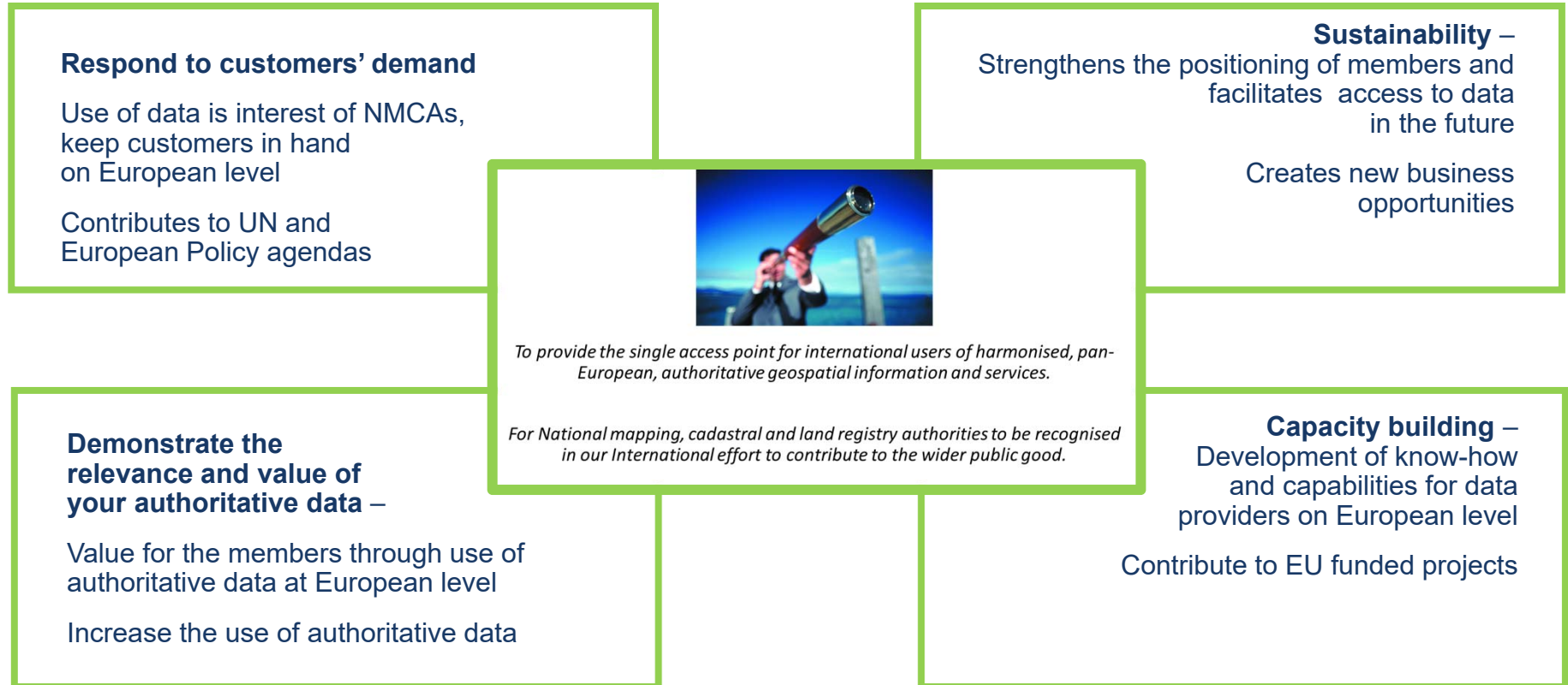
INSPIRE Conference 2018  
Parallel session: Fitness for Purpose  
21<sup>st</sup> September 2018

#OpenELS



Co-financed by the European Union  
Connecting Europe Facility

# European Location Services (ELS) – the way to implement INSPIRE by NMCAs



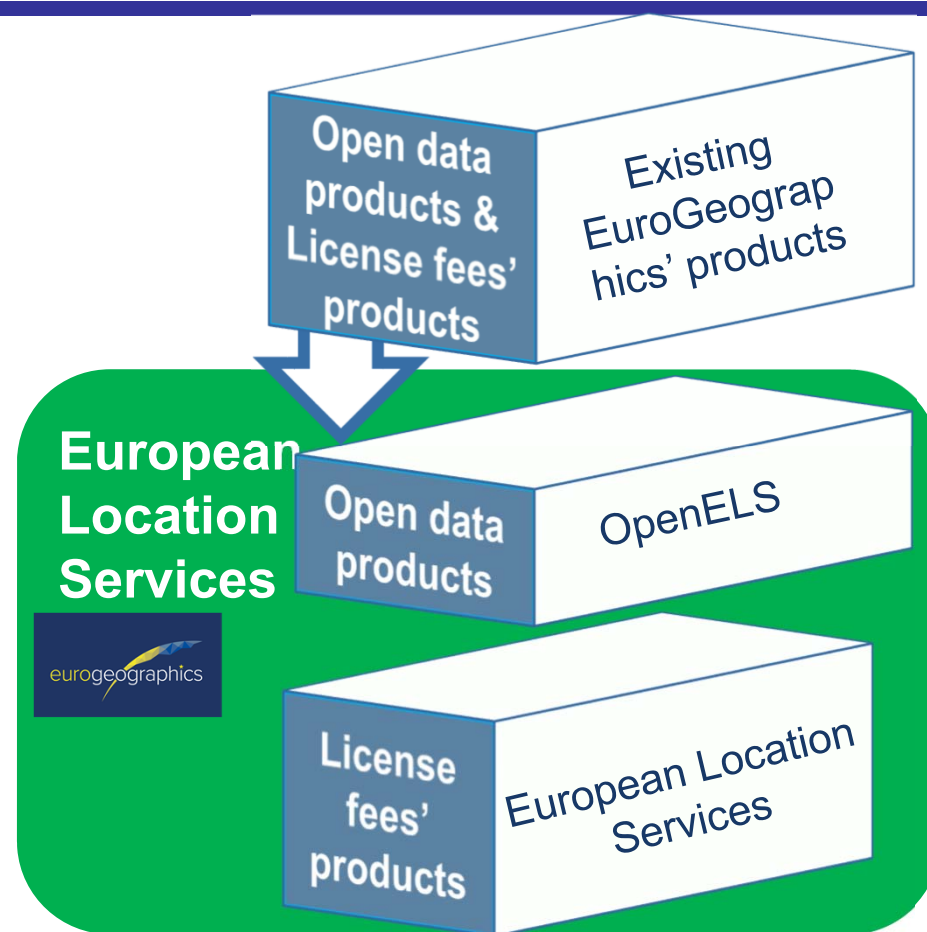
# Open European Location Services (Open ELS) project

## Open ELS

- Strong user demand for “open and free” services
- Continuation of our approach to provide access to authoritative data – open and not open
- Developing a strategy and positioning of open data and the relationship with ELS and existing products

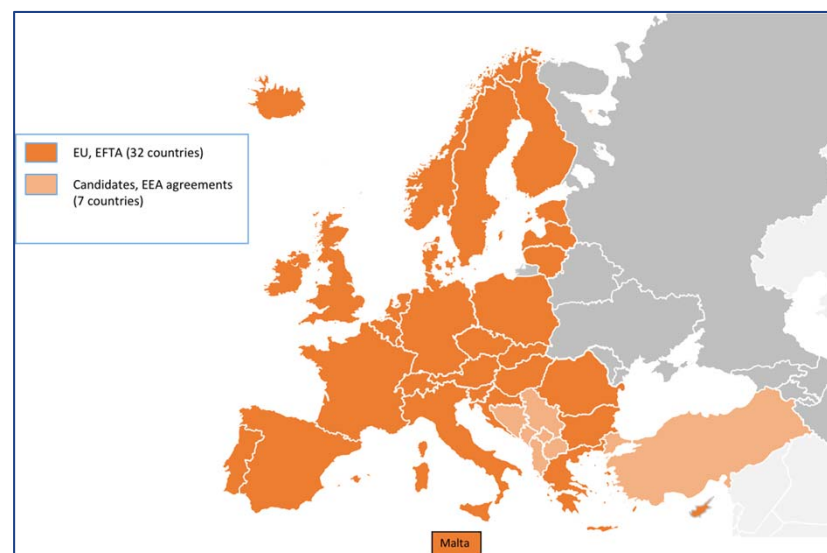
## European Location Services

- Uniqueness in harmonising and licensing pan-European data
- Developing objectives and pricing strategy for each individual product proposition



# How to simplify a use of INSPIRE compliant data

- European stakeholders demands
  - Datasets instead of web-services
  - Simplified INSPIRE specification
  - Harmonised pan-E coverage
  - Definitive location of “Core” features
- EuroGeographics initiated a compilation of Core Reference Dataset (CRD)
  - Themes: Transport Networks (Road, Rail), Hydrography
  - Harvest authoritative data used for INSPIRE web-services
  - Based on INSPIRE requirements but adjusted to an easier structure
  - Seamless and consistent across borders
  - Consistent between themes, so that different themes can be used together
  - Up-to-date, maintained and quality ensured



# Core Reference Dataset (CRD) – Prototype

## Themes

- **Hydrography:** Watercourse, StandingWater, LandWaterBoundary
- **Transport Network:** Road Network, Railway Network including RailwayStationNode

## Scale, positional accuracy

- **Multiscale approach:** data from 1:10.000 to 1:50.000 will be accepted
- **Positional accuracy:** about 5-15m (or better)

## Coverage

- Priority 1: EU28
- Priority 2: other EEA 39
- Priority 3: other European countries

# Core Reference Dataset (CRD) – flattening INSPIRE structure

## INSPIRE properties defined as data type

### For CRD:

- Data types are resolved into a list of attributes
  - geographicalNames
  - width
- Data types are concatenated into a single attribute delimited by hash (#)
  - inspireId (namespace#localId)
  - hydroid (namespace#localId#ClassificationScheme)

## INSPIRE transport networks consist of Links, LinkSequences and LinkSets as linear feature types

### For CRD:

- CRD uses only Links
- Some Attributes of LinkSets are transferred to the Links
  - railwayLineCode from RailwayLine to RailwayLink

# Core Reference Dataset (CRD) – flattening INSPIRE structure

**INSPIRE transport properties are own feature types which are associated to the transport links by linear referencing**

**For CRD:**

- The transport properties are assigned as attributes to the transport links
- If a transport property is defined only for a part of the transport link in the source data, it will be split accordingly

**Some INSPIRE attributes have multiplicity > 1 (e.g. [0.;\*] or [1.;\*]).**

**For CRD:**

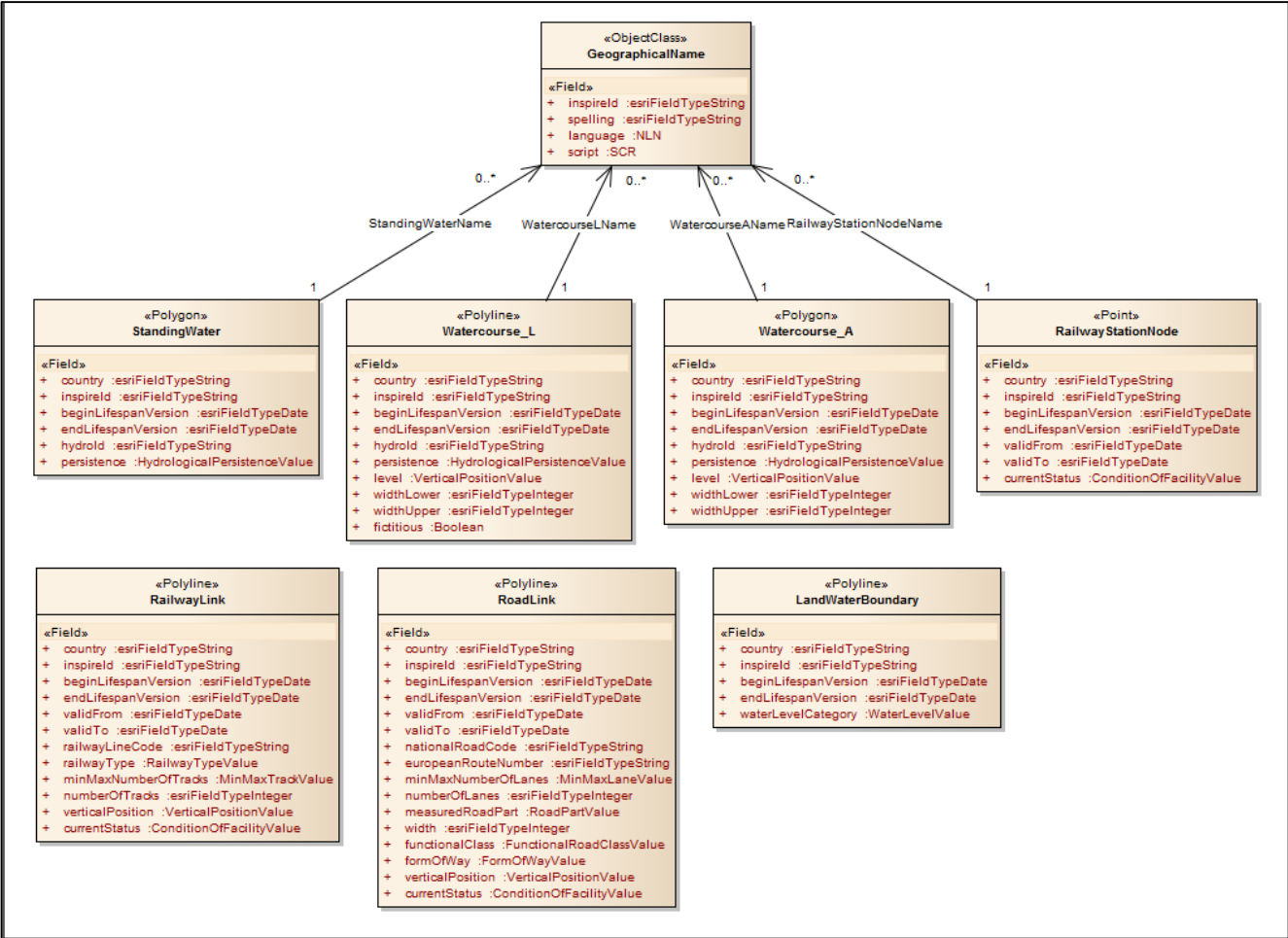
- all attributes have multiplicity [0...1] except GeographicalName

**Features may be of different geometric types (point, curve, surface)**

**For CRD:**

- the feature type is split (e.g. WaterCourse\_L and WaterCourse\_A) or only one option is kept (only surface for StandingWater)

# Core Reference Dataset (CRD) – UML overview



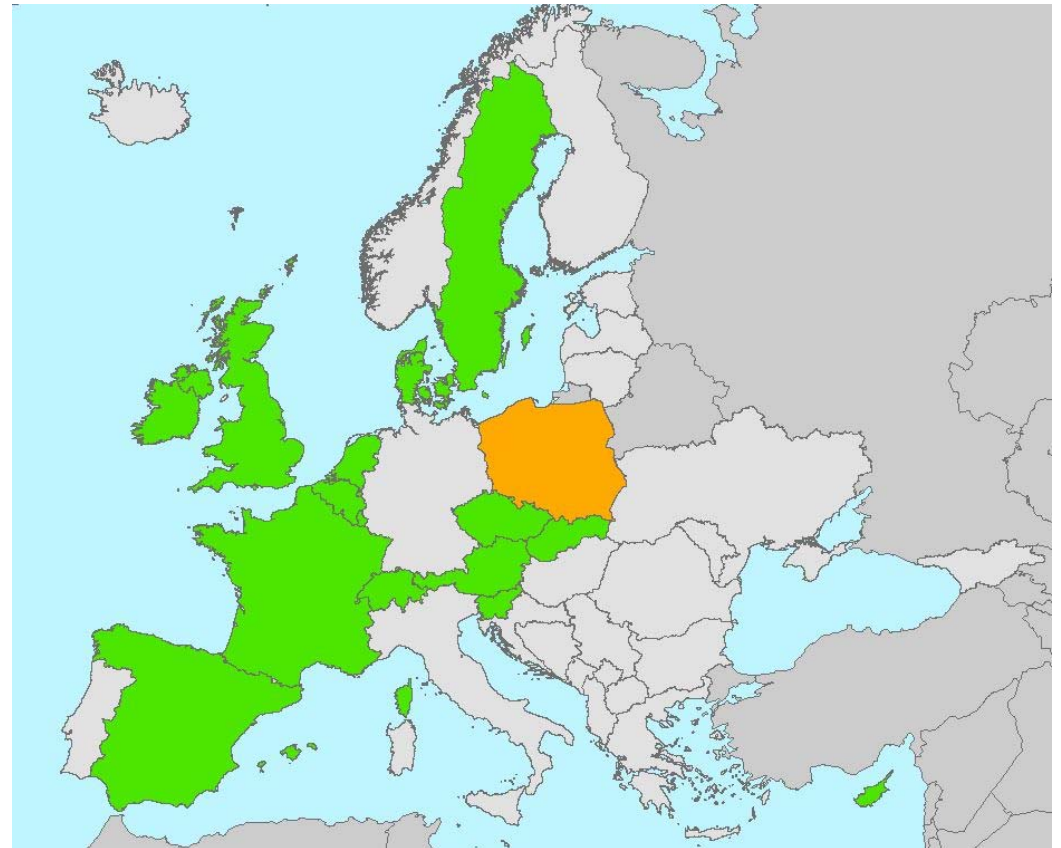


# Core Reference Dataset (CRD) – development of the prototype v0.1

## Status of contributions:

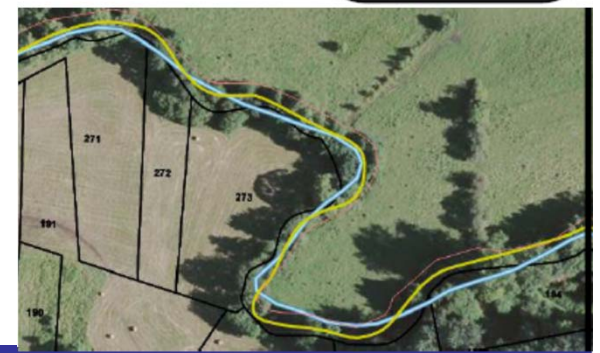
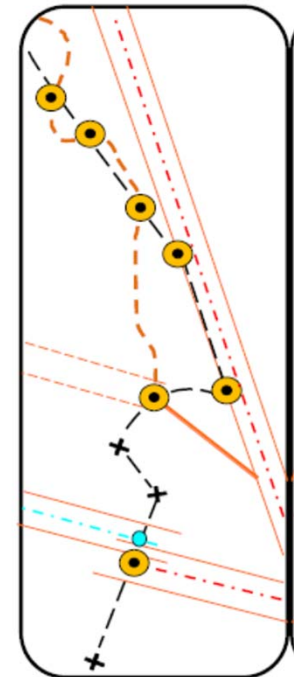
17 countries have delivered data  
(**green**: delivered whole country /  
**orange**: test data)

- HY: 16
- Road: 15
- Rail: 17



# Core Reference Dataset (CRD) – harmonisation of national data along borders

- “bottom up approach” - Edge-matching of features by **two neighboring countries** (NMCAs)
  - EuroGeographics edge-matching guidelines
    - Actions to be performed by national authorities
      1. the agreed Connecting Features (CFs) and
      2. updated of national data assuring the cross-border content
- “top-down” approach - Edge-matching of features **centrally**
  - Assessment of discrepancies
  - Triggering the edge-matching tools
    - Use of the agreed CFs
    - Centrally defined CFs



# Core Reference Dataset (CRD) – Timetable

July 2018 → Call for contribution to CRD

Oct 2018 → CRD prototype v0.1

Oct 2018 – March 2019 → Data production process

- Compilation of the CRD from the contributions of NMCAAs;
- Centralised edge-matching of the data along borders;
- Validation the edge-matched data, quality check and corrections.

April 2019 → Launch the Core Reference dataset v1.0

May 2019 → Evaluation of production process/lessons learned

- From data delivery by NMCAAs
- From production process
- Feedback / requirements from (potential) users

## Core Reference Dataset (CRD) – Way to proceed

- CRD is much broader than a data source for CLC+
- CRD meets a number of demands within the EC and its Institutions
- The CRD composition is based on the INSPIRE requirements – flatten INSPIRE data model
- TN and HY are priority themes, but more themes considered for the future
- Developments towards ELS / Open ELS
  - National (INSPIRE) services for maintenance / updates
  - Centralised offering to users

