

# Core Reference Dataset – Prototype

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Webinar 1: Technical requirements contributing to CRD and  
the status of first contributions



## CRD – the initial idea

**Reference Data set at Master Level of Detail for Europe  
make use of INSPIRE- / ELS-Data provided by NMCA**

**but:**

- Easy to use
- Simplified data model
- Limited content
- Harmonised at International boundaries
- Centralised data production

# CRD content (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

# Data model: Based on INSPIRE but flattened data model (I)

## 1.) 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)

## 2.) 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

## Data model: Based on INSPIRE but flattened data model (II)

3.) 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

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

For CRD:

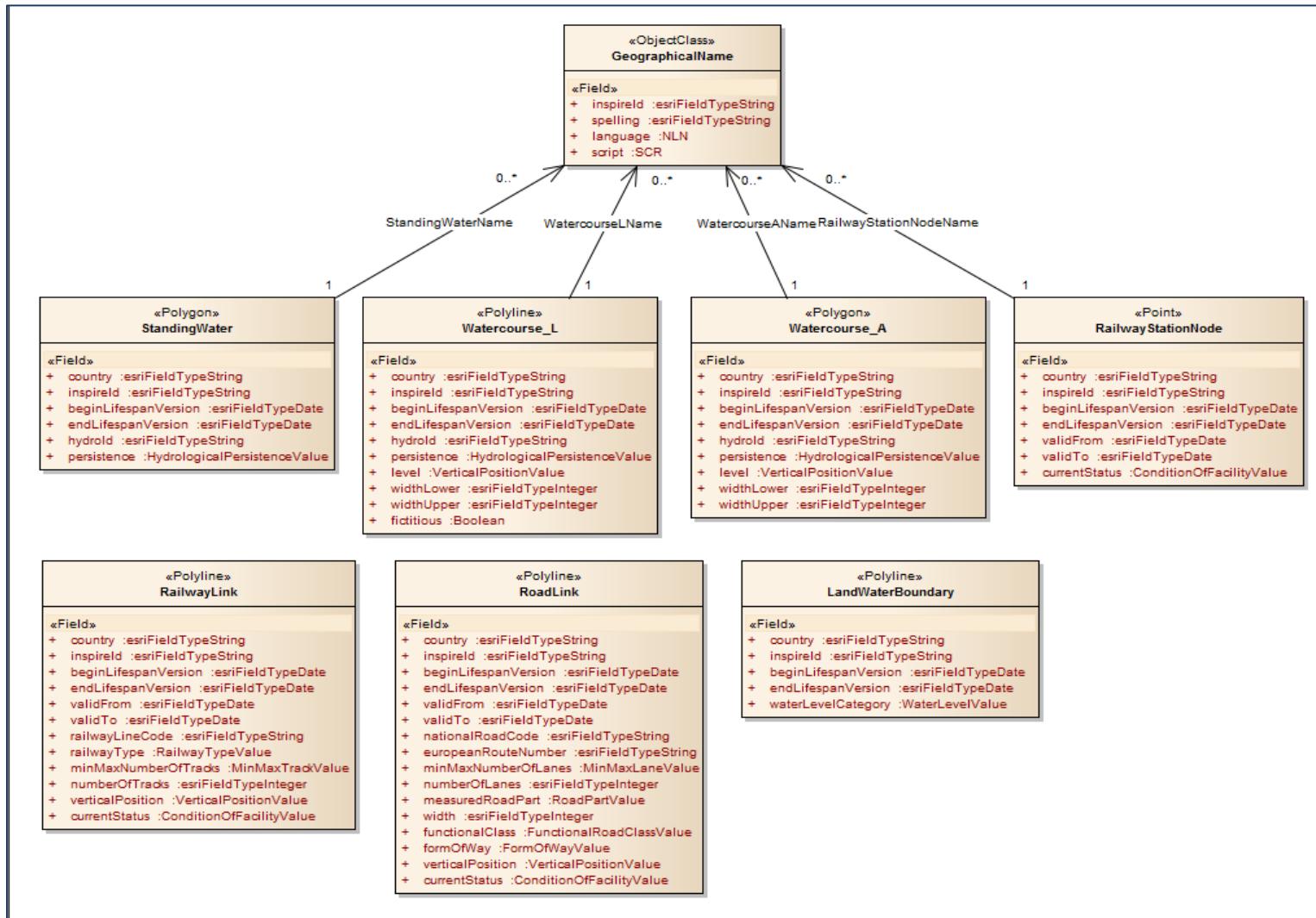
- all attributes have multiplicity [0...1] except GeographicalName

5.) 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



## Themes - Hydrography

Application Schema	Feature Type / Data Type	Geometry type
PhysicalWaters	StandingWater	Surface
	Watercourse	Curve and surface
	LandWaterBoundary	Curve

The feature type Watercourse can be provided as curve and surface geometry.

- mandatory to provide watercourses as curves
- provide as surfaces, if the watercourse has a significant width
- to establish a topological network → include **fictitious** lines

## Themes – Transport Network - Road

Application Schema	Feature Type / Data Type	Geometry type
<b>RoadTransport Network</b>	RoadLink	Curve
	Road	attribute
	ERoad	attribute
	NumberOfLanes	attribute
	RoadWidth	attribute
	FunctionalRoadClass	attribute
	FormOfWay	attribute
	ConditionOfFacility	attribute
	VerticalPosition	attribute
<b>CommonTransportElements</b>		

## Themes – Transport Network - Railway

Application Schema	Feature Type / Data Type	Geometry type
<b>RailwayTransport Network</b>	RailwayLink	Curve
	RailwayStationNode	Node
	RailwayLine	attribute
	RailwayType	attribute
	NumberOfTracks	attribute
	ConditionOfFacility	attribute
<b>CommonTransportElements</b>	VerticalPosition	attribute

## Production steps:

- Data delivery by NMCAs
- Quality checks
- Edge matching
- Final assembly of CRD

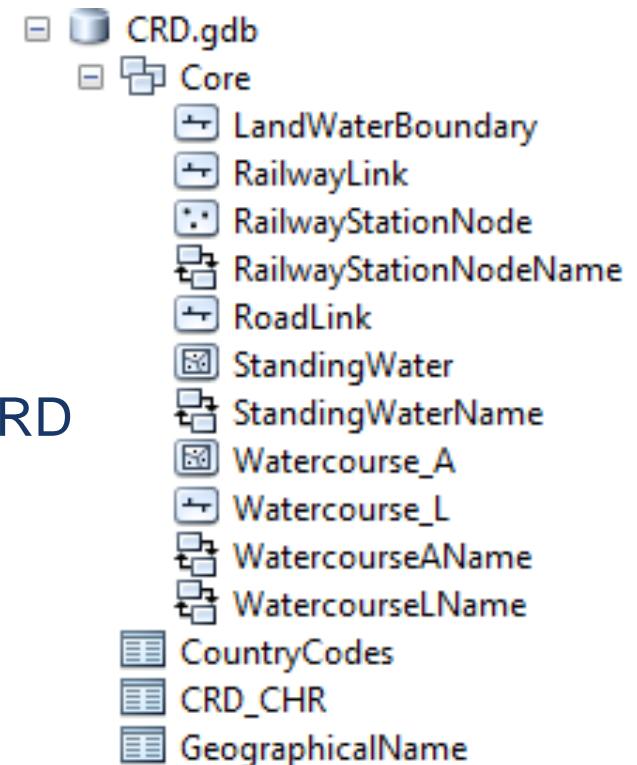
## Production steps: Data delivery by NMCAs

- INSPIRE data → transformation to CRD done by BKG

OR:

- NMCAs transform national data to CRD → delivery to BKG as CRD data

BKG provides template → ESRI gdb



## Production steps: Data delivery by NMCAs

**Focus is on:**

- **current features** (beginLifespanVersion, endLifespanVersion)
- **functional features** (currentStatus)

**In order to achieve a consistent data set please provide as many feature types/ data types / attributes as possible!**

## Production steps: Quality checks

**CRD relies on the quality checks done by NMCA for the original data**

- Focus on topology checks
- Basic Consistency checks
- But only minor corrections can be amended

Corrections / errors found will be reported back to NMCA after final data assembly

## Production steps: Edge matching

For Prototype: Will be done by BKG

- Create Connecting Features → Edge matching tool ERM
- The defined Connecting Features will be communicated to NMCA after the edge-matching
- No validation with each individual NMCA, but changes communicated back to NMCA

Where Connecting Features are available (FR-BE):

- Connecting Features are provided by NMCA, used for edge matching in CRD

International boundary will not be provided in CRD, only the connecting features

## Production steps: Final data assembly

- All countries in one data base
- Last basic quality checks
- Metadata
- Documentation

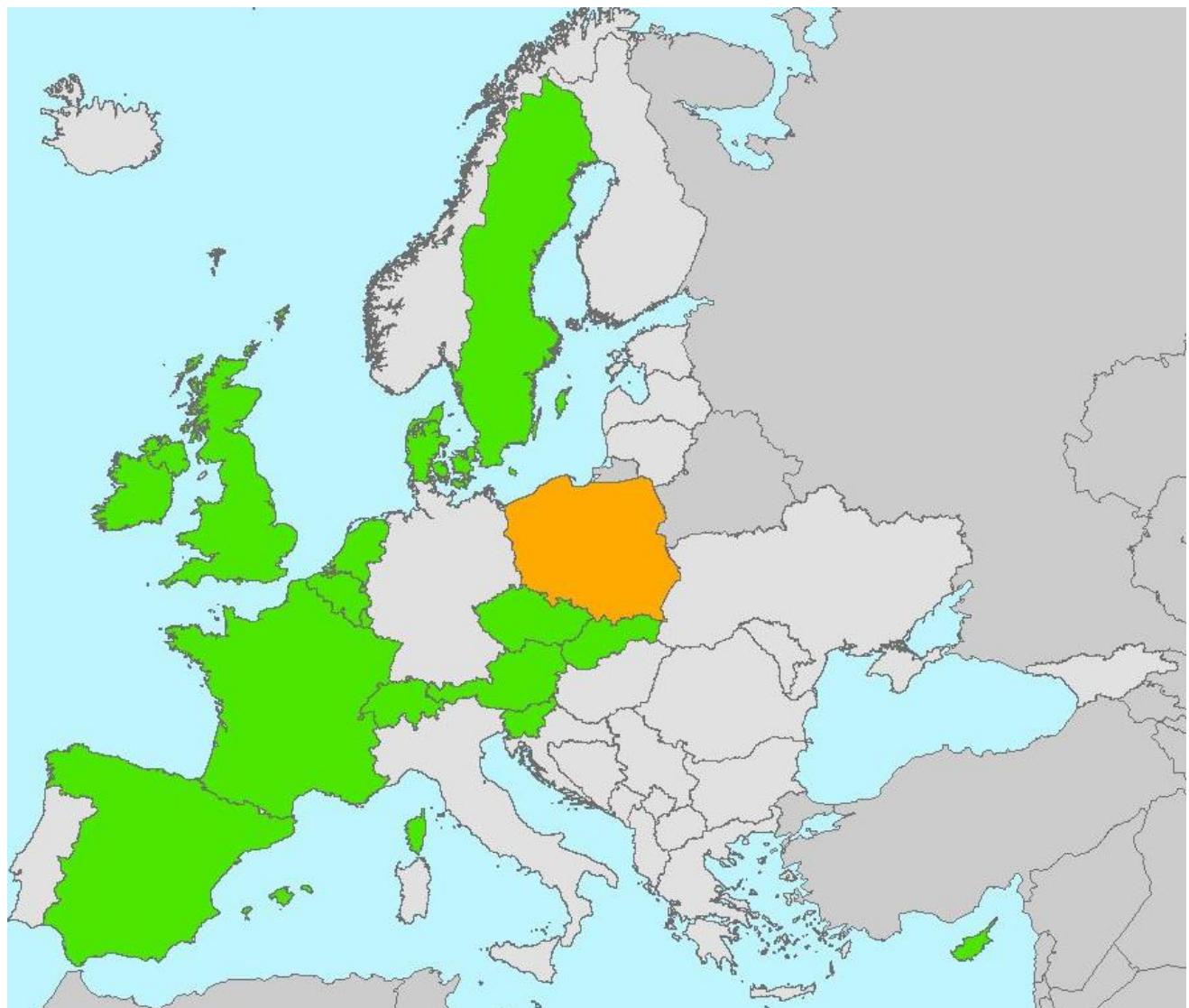
## Contributions to date

### Status of contributions:

17 countries have delivered data

(green: delivered whole country /  
orange: test data)

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



## What are we doing at the moment?

- Evaluation of data deliveries → come back to NMCAs for questions if necessary
  - About half of NMCAs have delivered INSPIRE, other half has delivered CRD
  - Not all feature types delivered by all NMCAs
    - Watercourse\_A (Watercourse surface features) missing for some
    - RailwayLinks missing for one
  - Attributes missing
- Define quality rules
- Test edge matching
- Define Metadata content → come back to NMCAs when ready

## What comes next?

- Prototype available by end of October 2018
- Final product ready by end of April 2019

### Evaluation of production process / lessons learned

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

### Plans for the future

- Additional themes
- Additional coverage
- Regular updates of all themes

## Link to CRD base camp

<https://launchpad.37signals.com/basecamp/1899592/signin>

### Includes

- CRD data specifications
- CRD producer guidelines
- Template for CRD data set (ESRI gdb)

# Thank you for your attention

## Contacts

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