Need for Geo-information in EU – Experiences from EuroGeographics point of view

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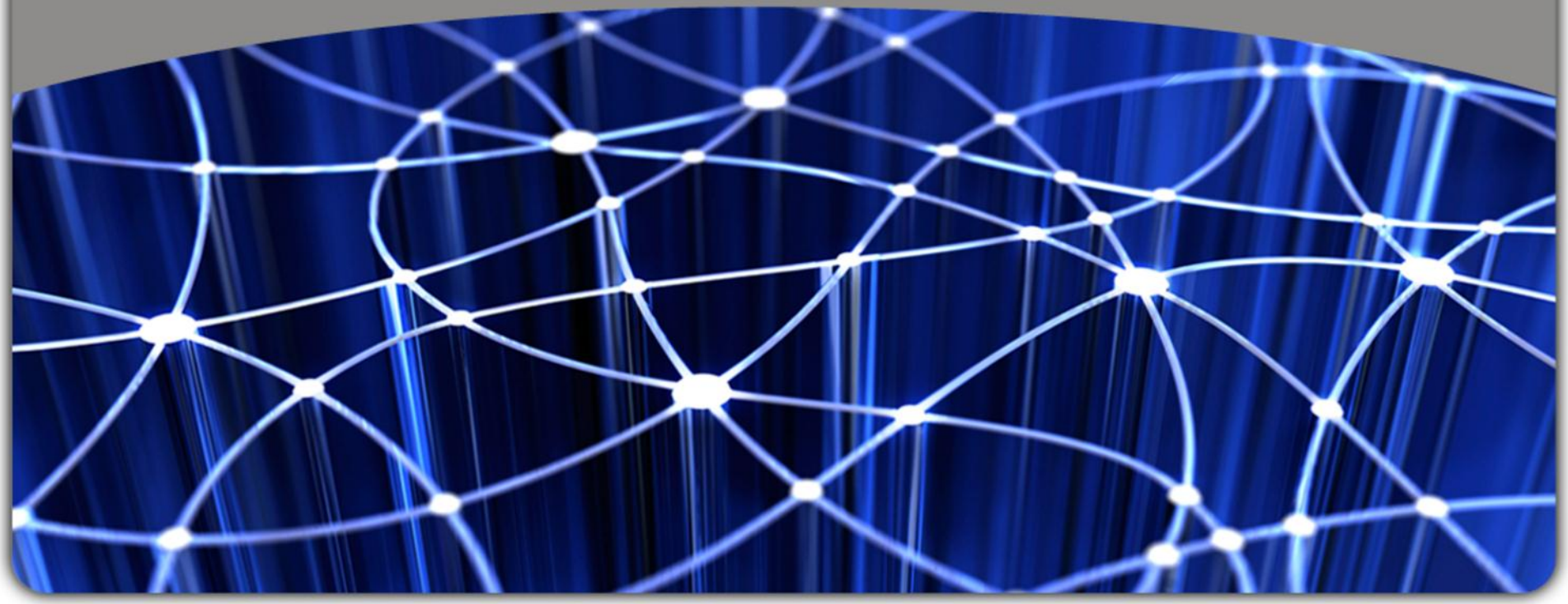


Outline

- What is EuroGeographics
- Competition to provide data for Europe, or not?
- What are the requirements
- Does distributed data harmonization work?
- E.L.F project
- Key messages

What is EuroGeographics?

- A not-for profit international association under Belgium law (AISBL)
- 56 national mapping, land registry and cadastral agencies in 45 European Countries
- Working to bring interoperable European geospatial reference data for the benefit of society
- A distributed head-office of 10 people
- Experience in making interoperable datasets for 20 years

EuroGeographics

WORKING IN PARTNERSHIP

TO ENSURE THAT GEOSPATIAL REFERENCE DATA CONTINUES TO DELIVER ECONOMIC, SOCIAL AND ENVIRONMENTAL BENEFITS, WE ARE COMMITTED TO ESTABLISHING MUTUALLY-BENEFICIAL WORKING RELATIONSHIPS WITH LIKE-MINDED ORGANISATIONS.

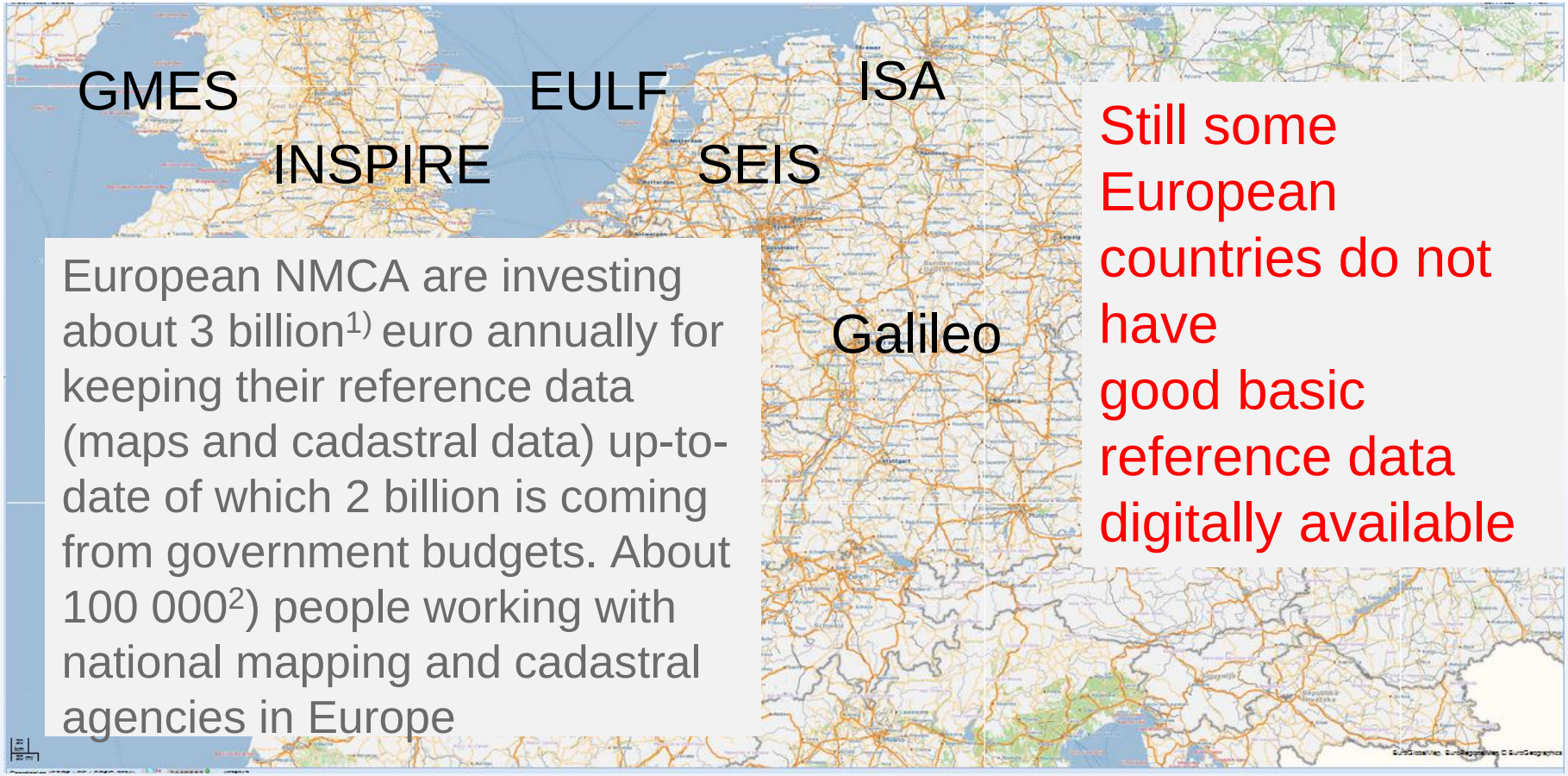
WE HAVE STRATEGIC MEMORANDUMS OF UNDERSTANDING (MOU) WITH:

- PSMA Australia
- European Land Information Service (EULIS)
- European Spatial Data Research (EuroSDR)
- The Permanent Committee on the Cadastre in the European Union (PCC)
- The United Nations Economic Commission for Europe Working Party on Land Administration (UNECE WPLA)
- The European Umbrella Organisation for the Geographic Information Community (EUROGI)
- The Council of European Geodetic Surveyors (CLGE)
- Open Geospatial Consortium (OGC)
- European Environment Agency (EEA)

WE HAVE STRATEGIC RELATIONSHIPS WITH:

- The International Association of Geodesy (IAG)
- The European Land Registry Association (ELRA)
- The Reference Frame Sub-Commission for Europe (EUREF)
- Geometer Europas (GE)
- EuroGeoSurveys (EGS)
- The Association of Geographic Information Laboratories for Europe (AGILE)
- The International Cartographic Association (ICA)
- The International Federation of Surveyors (FIG)
- The European Commission for Standardisation (CEN)
- International Organisation for Standardisation (ISO)
- Global Spatial Data Infrastructure Association (GSDI)
- United Nations Initiative on Global Geospatial Information Management (GGIM)

What Geo-information for Europe?



European NMCA are investing about 3 billion[1)] euro annually for keeping their reference data (maps and cadastral data) up-to-date of which 2 billion is coming from government budgets. About 100 000[2)]) people working with national mapping and cadastral agencies in Europe

Still some European countries do not have good basic reference data digitally available

1) Average of 85 million per country
2) 40 000 in Russia, average 2000 per country

Source:EuroGeographics study 2012

A simple example

- Eurostat wants to have information on hospitals and schools in Europe?
- Surely this is readily available?

Wikipedia listing in Estonia

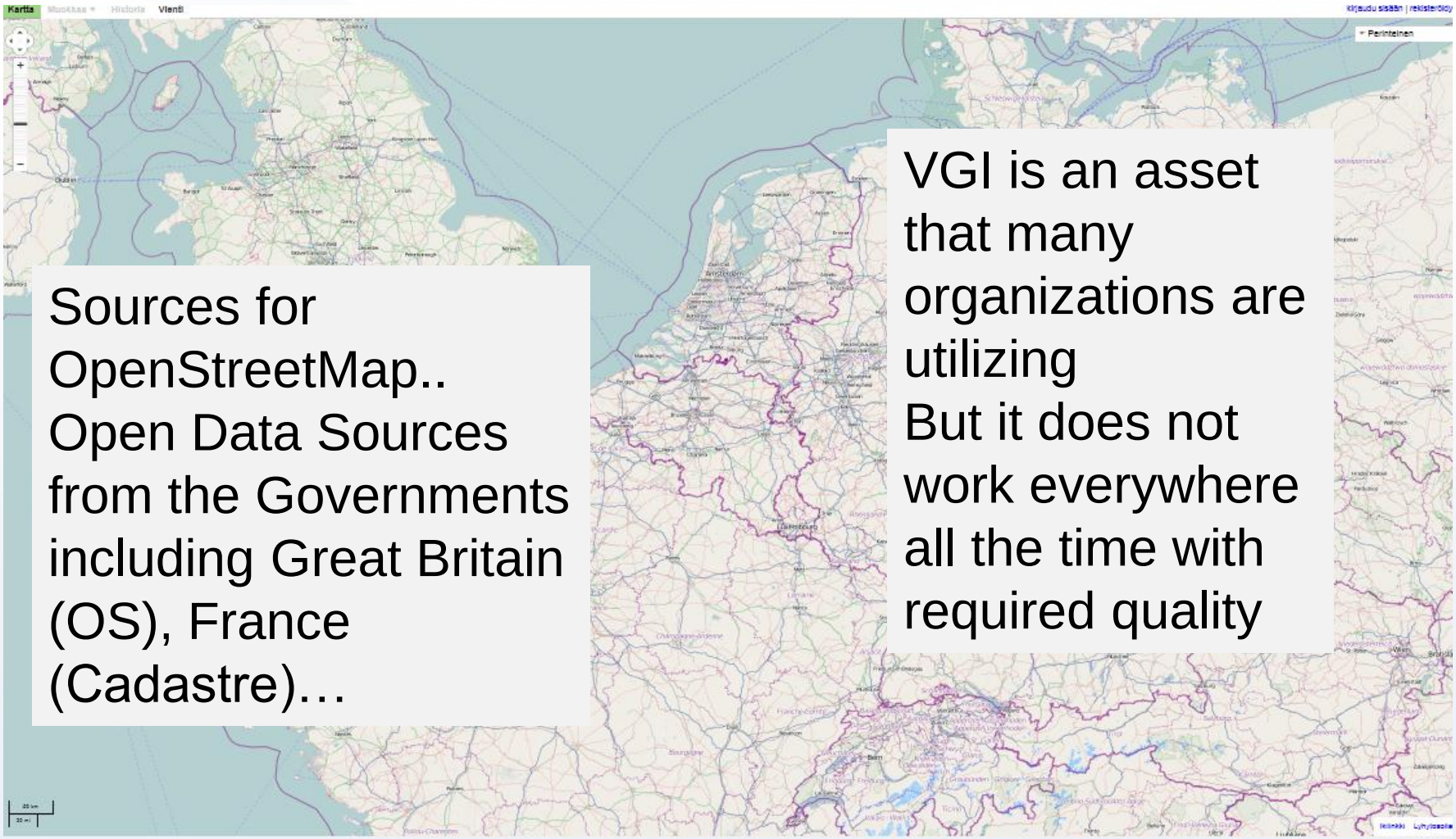
Estonia

Tartu Art College, Tartu

Estonian Academy of Arts, Tallinn

What about OpenStreetMap? or VGI?

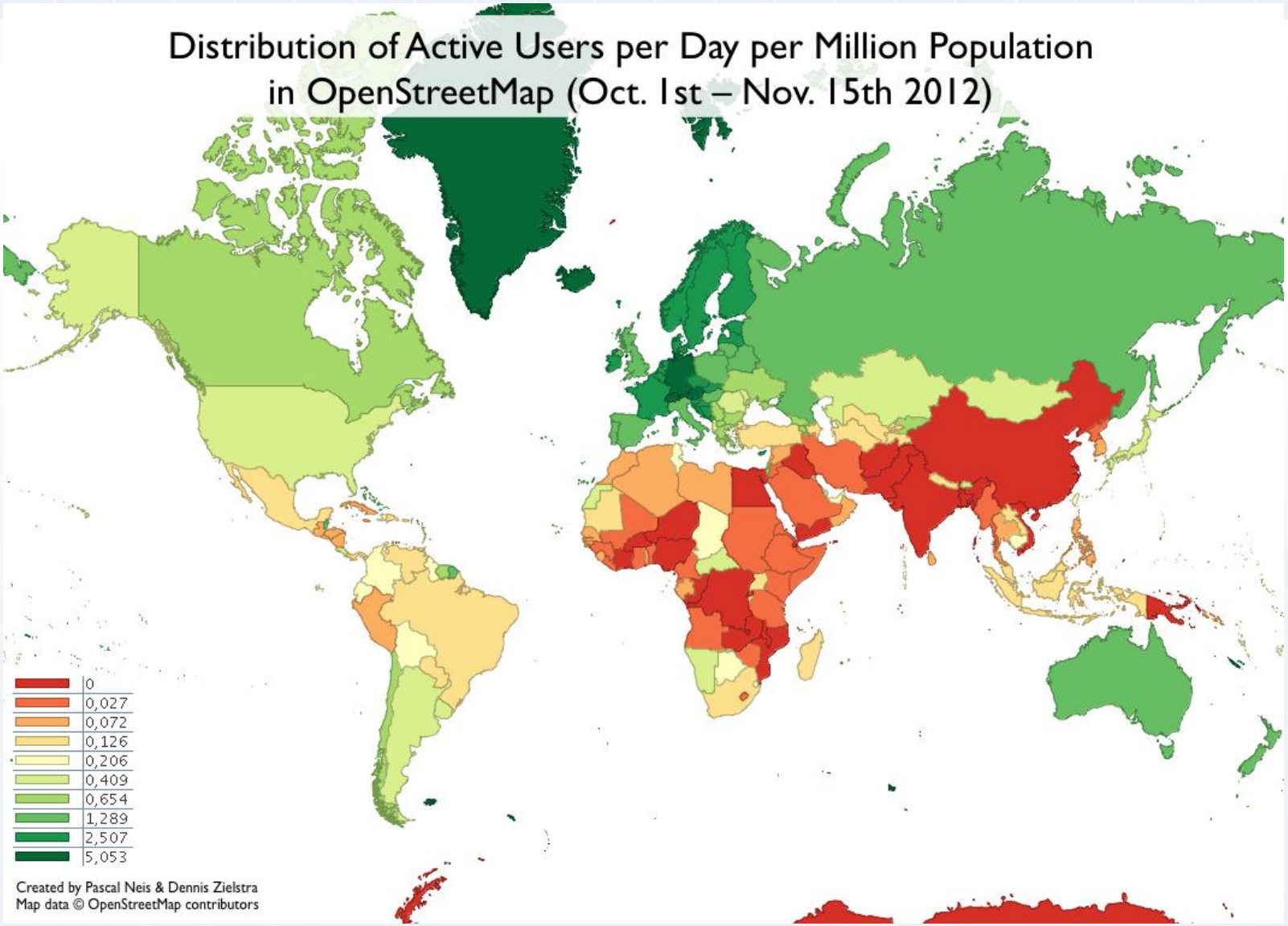
Or is Google, BING, Nokia, ESRI enough?



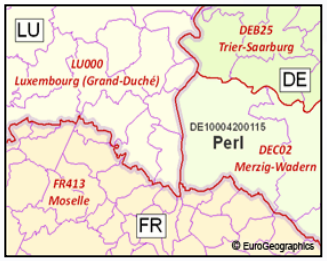
Sources for OpenStreetMap.. Open Data Sources from the Governments including Great Britain (OS), France (Cadastre)…

VGI is an asset that many organizations are utilizing
But it does not work everywhere all the time with required quality

Active contributors to the OpenStreetMap 2012



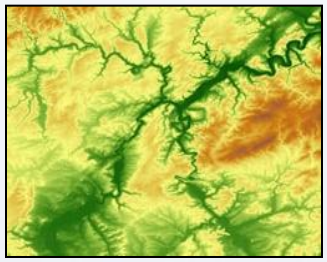
EuroGeographics Pan-European Datasets



EuroBoundaryMap
1:100 000

EuroRegionalMap
1: 250 000

EuroGlobalMap
1:1 000 000



EuroDEM

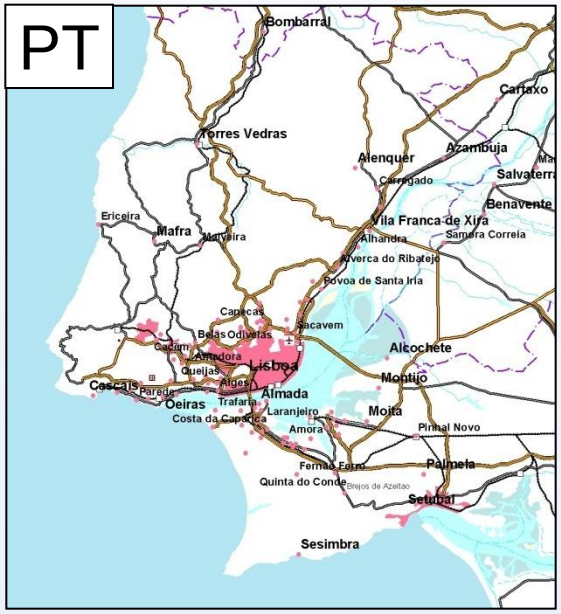
Europe Regional → Global

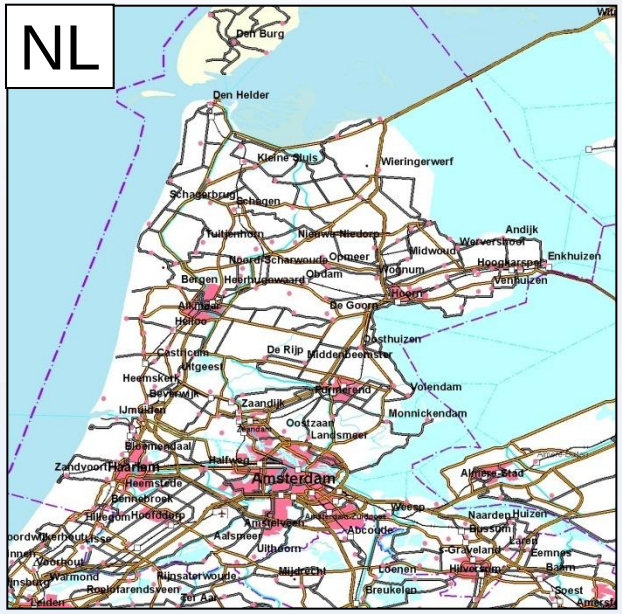
Level Of Details

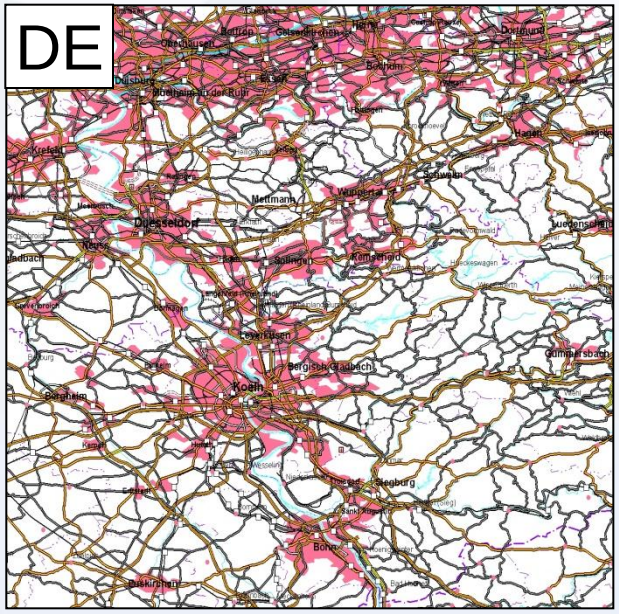
What cross-border datasets need to provide?

- Common specification for all participating countries

→ i.e. the content is comparable



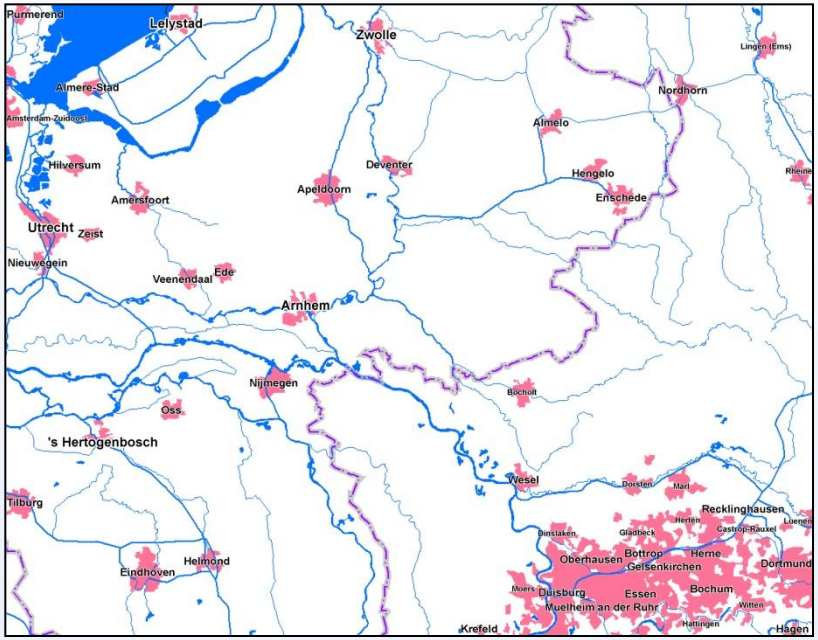


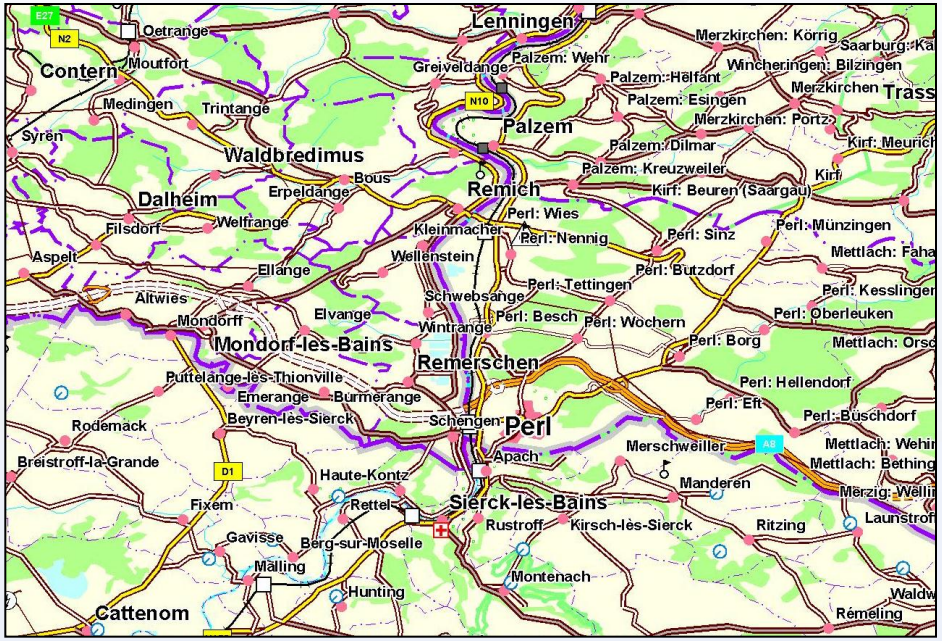


What cross-border datasets need to provide?

- No gaps or overlaps along the boundaries

→ i.e. seamless water and transportation networks



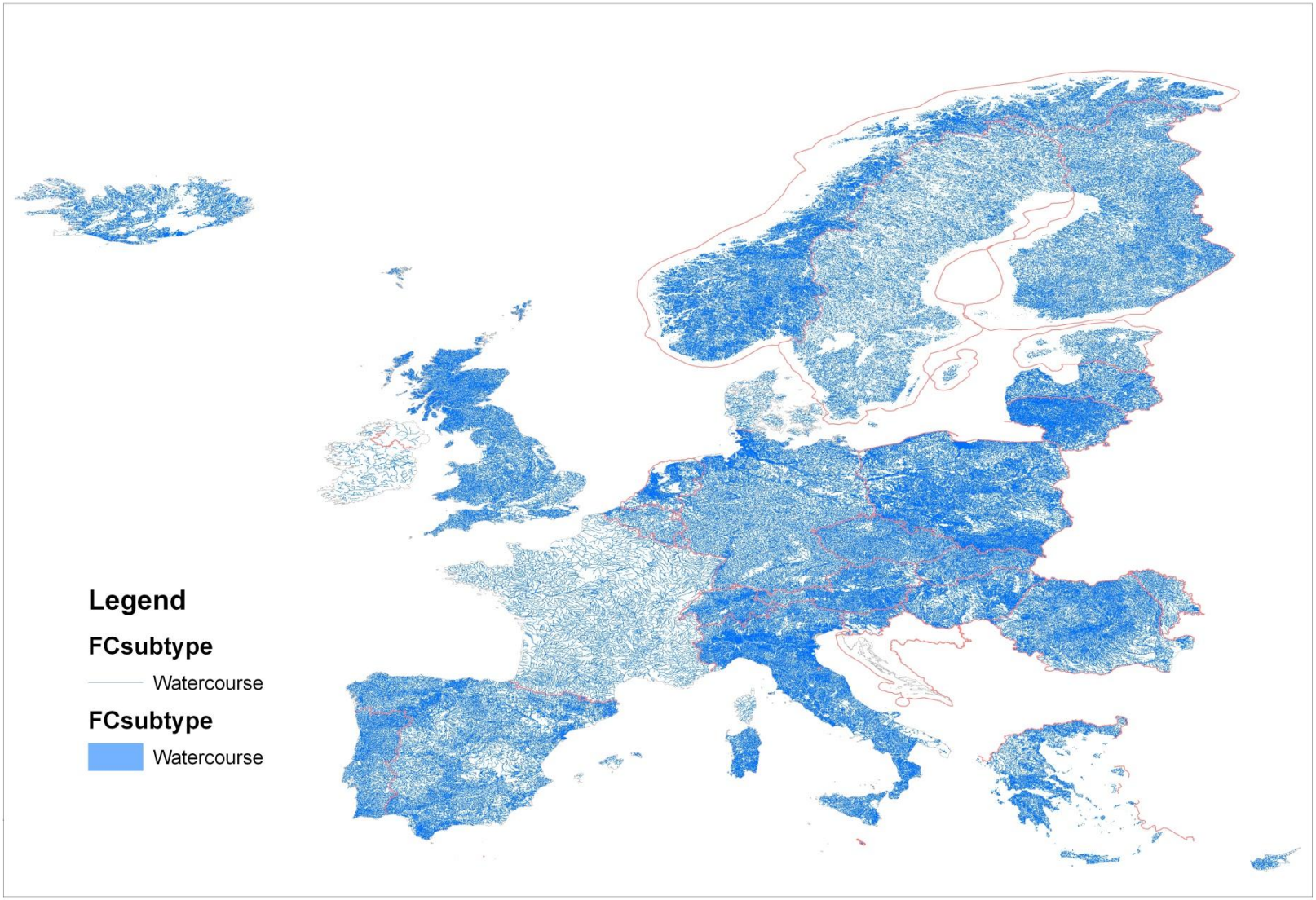


What cross-border datasets need to provide?

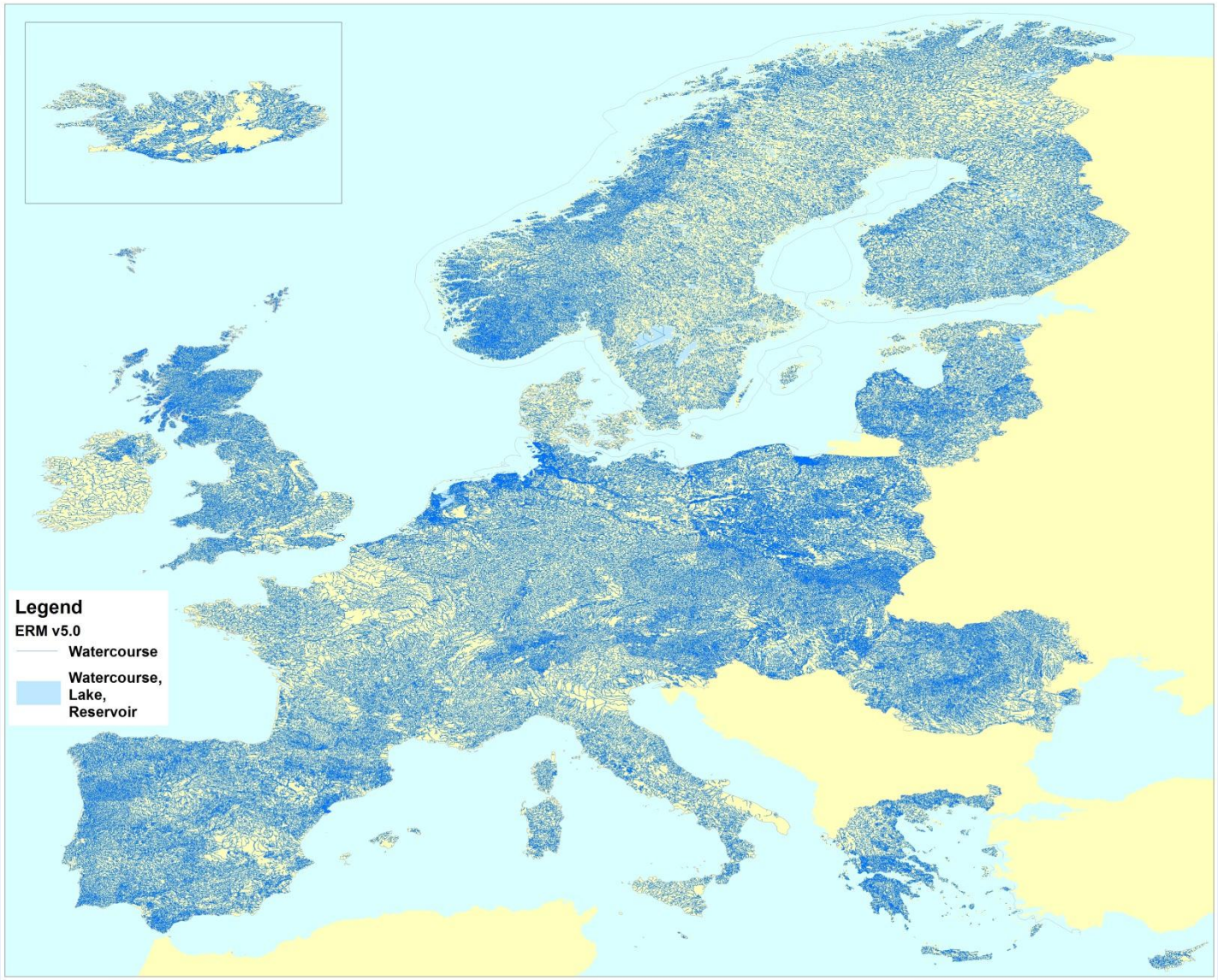
- Uniform geodetic reference system

→ i.e. no complex transformation for geoprocessing and cross-border visualisation

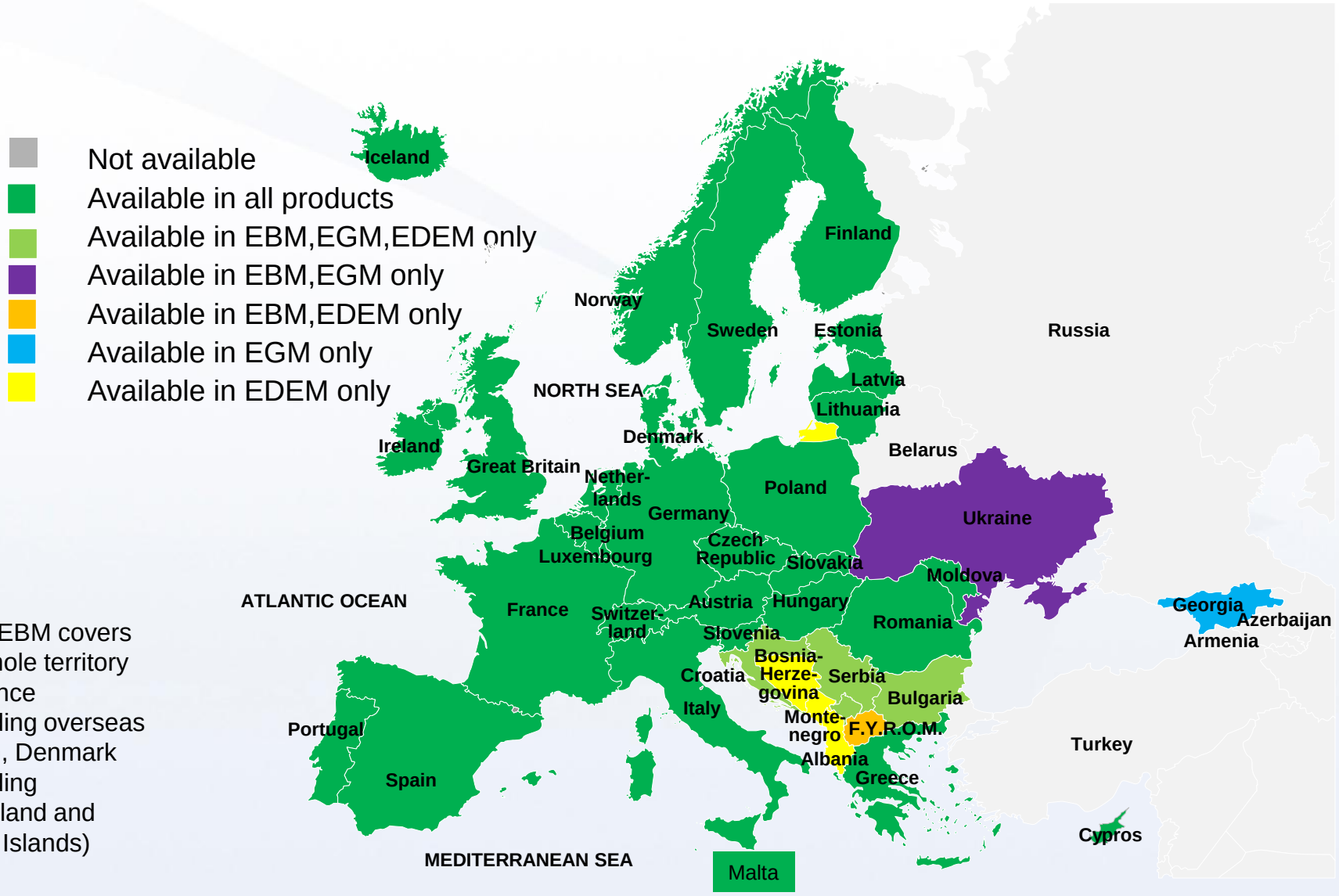
Our experinces in providing interoperability….
ERM 2009 version hydrography



And the latest version (2012)….



Coverage of the products 2012



Note: EBM covers the whole territory of France (including overseas areas), Denmark (including Greenland and Faroe Islands)

Benefits of the EuroGeographics products

- Stable process
- Updated regularly
- Authorative source
- Good positional accuracy
- Metadata available
- European co-ordinate system (ETRS89)
- INSPIRE and ISO 19100 compliant
- Linking statistical and other data
- Products support each other
- Agreed national boundaries

Future improvements

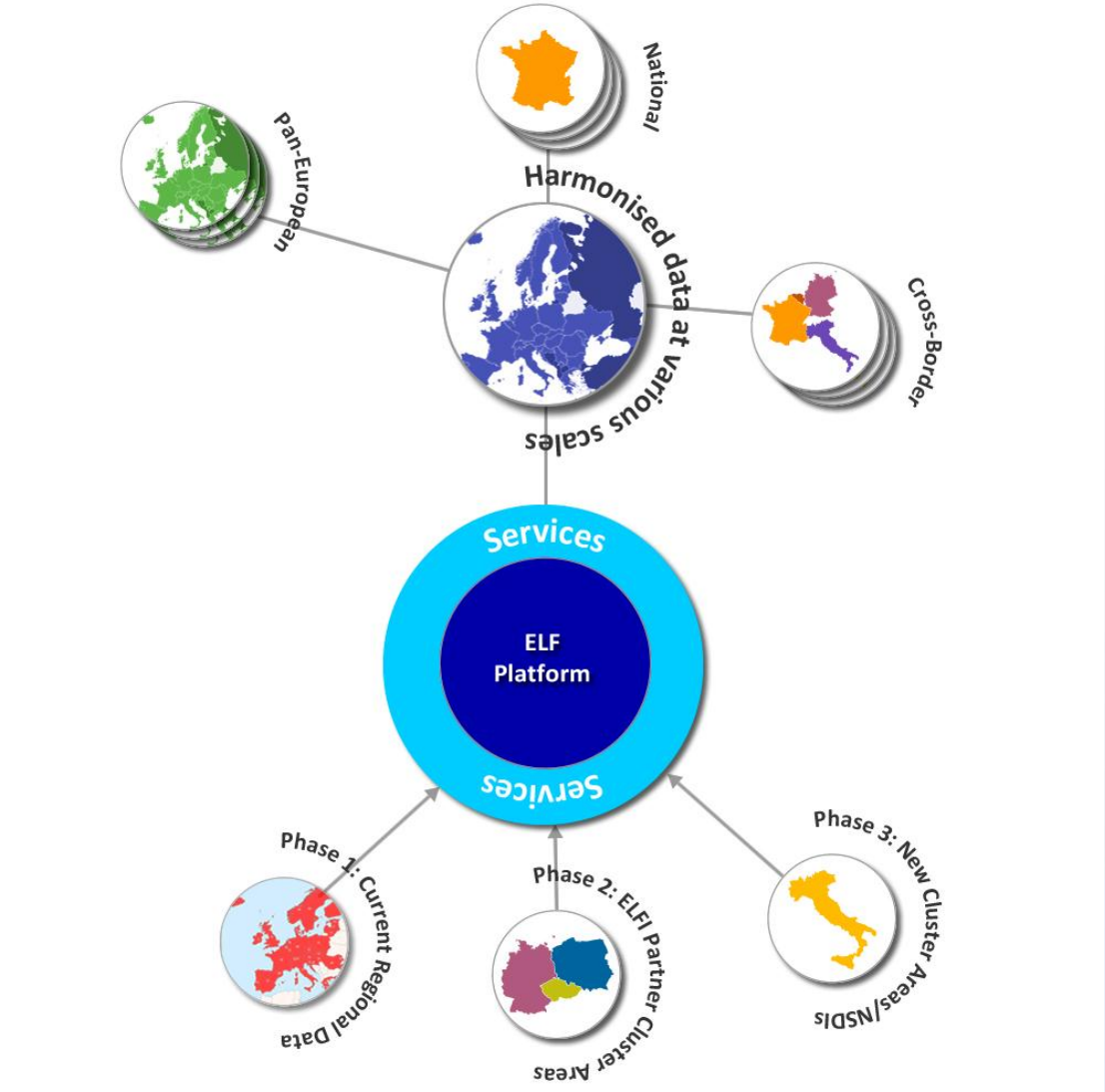
- Full coverage of Europe
- Strong binding of the production processes to national processes through the E.L.F. project
- EBM-ERM-EGM strongly connected together (One reference data for Europe)
- Change only updates
- INSPIRE/E.L.F. data model
- Quality improvements (ISO 19158 and ISO 19157)
- National data linkage through E.L.F.
- EuroGeoNames and State Boundaries of Europe

EuroGeoNames – A geographical names service for Europe

- 14 countries connected now (2 million names)-> EU 27 in 2013-2015
- A Cloud based Central Service
- Based on national services and data
- Authorative data source
- INSPIRE, OGC compliant
- Future plans include connecting addresses

The E.L.F. project – One Reference Geo-information Service for Europe

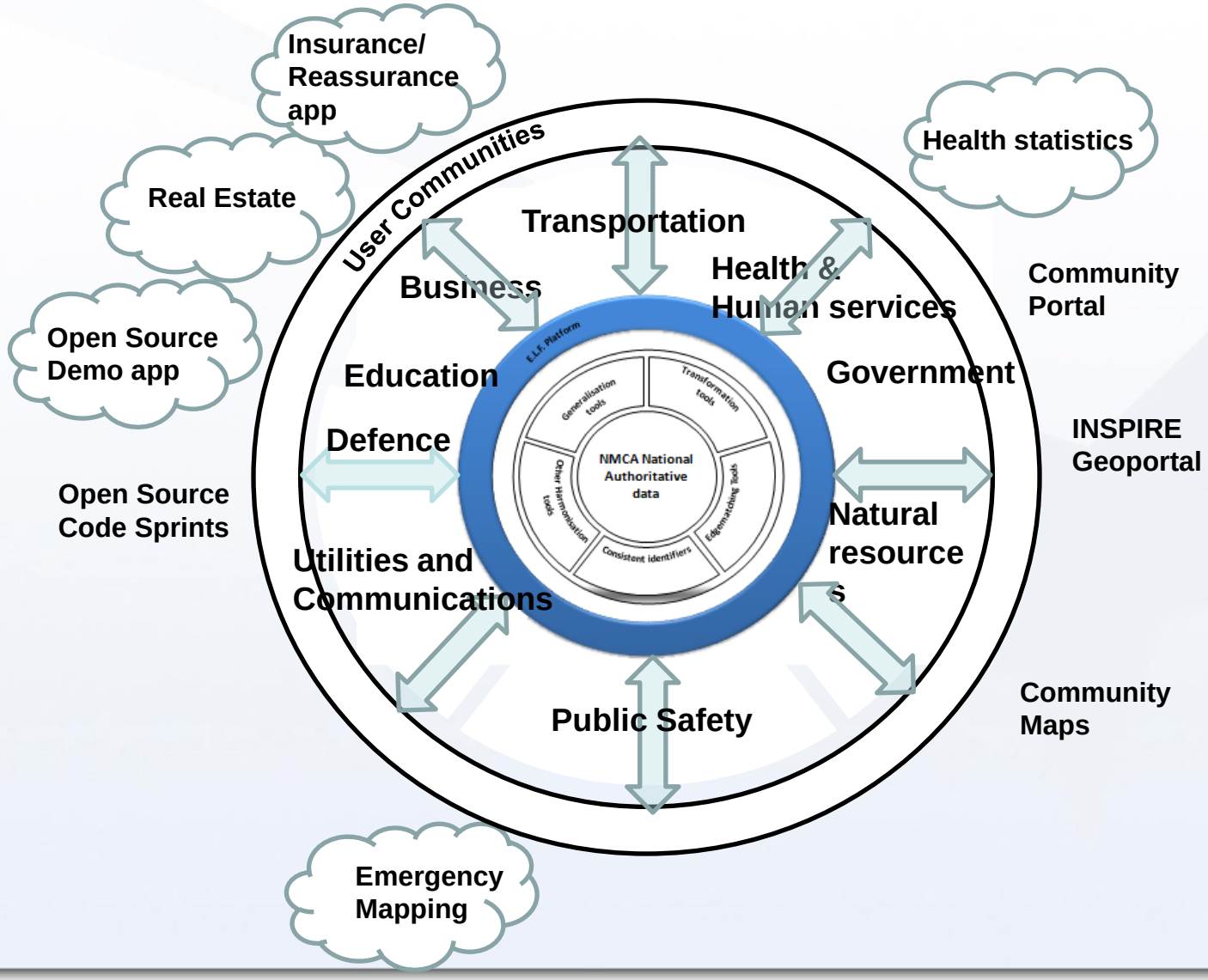
- 36 months project
- 30 partners
  - 14 data providers
  - ESRI, 1Spatial, Open Source developers
  - OGC Europe
- Implementation of the E.L.F.
- Three phases



WP6: User and third party content

- Identification of needed content and services
  - Land Cover/Land Use
  - EUDEM30
  - Orthoimagery
  - Hydrology
  - Postal Code Areas
  - Railways
  - Transport
- Connecting public services to E.L.F
  - National and Regional SDIs
  - EU portals
- Providing E.L.F. platform to aggregrated services and content
  - Industry and VARs

WP7: Service instances



Future Reference Data (through the E.L.F.)

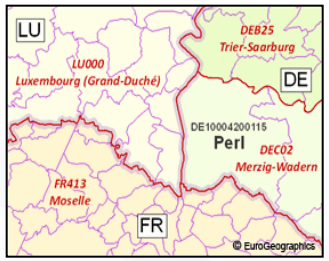
E.L.F Admin

E.L.F. Hydro

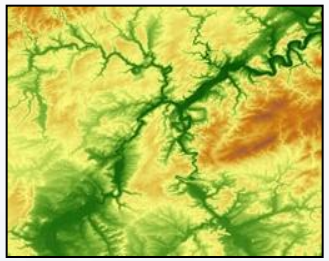
E.L.F. Transport

E.L.F. Utilities and Gov. Services (POIs)

E.L.F. Geographical Names

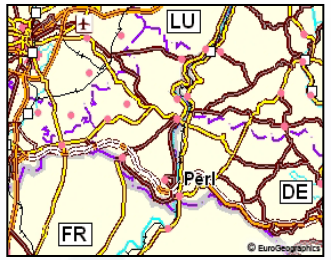


E.L.F Admin



E.L.F Elevation

E.L.F Regional



E.L.F. Global

1:50 000

E.L.F Regional

E.L.F. International Boundaries

E.L.F. Cadastral

E.L.F. Cadastral

Local National Europe Regional Global

Level Of Details

Key messages

- Harmonization is needed in order to build EU-wide geo-information
- INSPIRE is a good basis but some additional work needed (E.L.F. project)
- Additional sources complement reference data and are crucial for meeting user requirements like statistical, environmental, EO data (GMES), VGI
- Need to provide reference data as source for commercial services (Google, Nokia, Bing, ESRI…)
- End-user services will be made by commercial players
- End-user services should be free
- Sustainability of reference data update should be arranged (both EU- and Member States have to invest)

Together we are stronger