



ELF EUROPEAN
LOCATION
FRAMEWORK

ELF Basemap – Offering a European Reference Map Service

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ELF EUROPEAN
LOCATION
FRAMEWORK

INSPIRE

Cascading Services

Basemap

ELF Master

ELF Regional

ELF Global

GeoLocator

ELF Oskari

ArcGIS Online

14 countries

ELF Building Site

13 million euros

WP3

WP9

WP2

WP8

250 builders

WP5

WP6

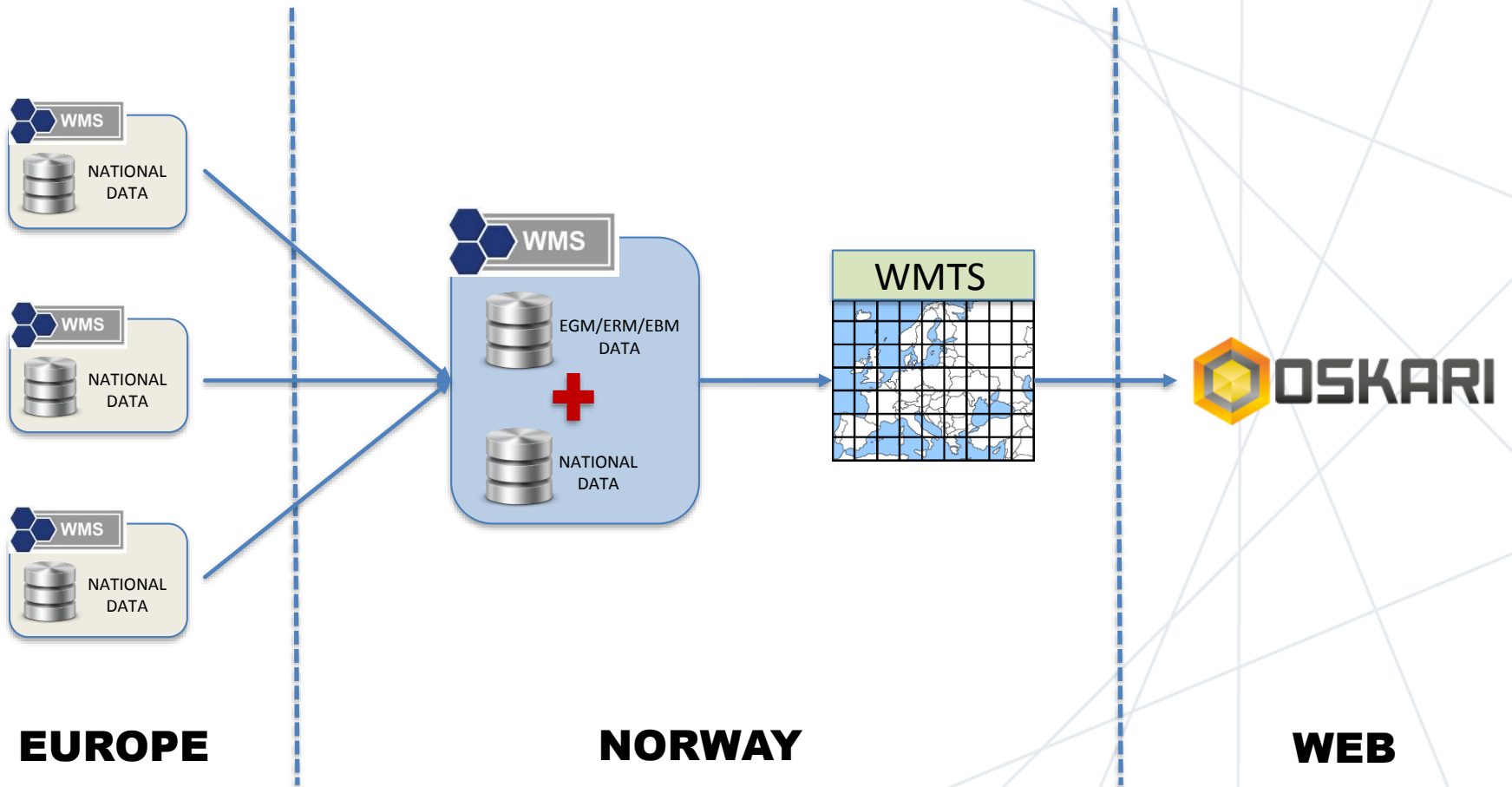
WP4

WP7

ELF Basemap – Basic concept

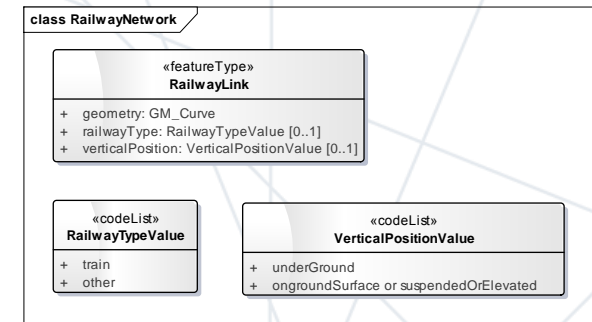
Map type	European Reference Map
Aim of map use	A reference background map to enable professional users to display their data in client applications such as websites, GIS and increasingly mobile devices; background data for other types of applications
Map content	General description of the man-made and natural landscape with specific interest for transport infrastructure, administrative boundaries, hydrography, location of settlements, relief and land cover information
User	Professionals and general public
Map function	Discovery, information, cognition, communication, and social function
Map use situation	Indoor (outdoor)
Area of interest	geographic Europe
Scale	pyramid of digital maps at different zoom levels 1: 40 000 000 - 1:2 300
Output medium	ELF BaseMap Service (WMTS)
Source Data	Digital vector data from pan-European and national contributions within the European Location Framework (ELF): EuroGeographics existing data at Global and Regional level as well as National basemap data, Digital Terrain Model Over Europe (EU-DEM)














Service Infrastructure



ELF Basemap specification

- ★ Content of ELF Basemap
 - ★ Themes
 - ★ Feature types
 - ★ Attributes used for selection/generalisation and portrayal
- ★ Simplification of ELF data model
 - ★ Simple, flat structure
 - ★ Only useful content for cartographic purposes
- ★ Common ELF-based terminology
- ★ SLD file
 - ★ Standardized way to document portrayal rules
 - ★ Layer name
 - ★ Layer source
 - ★ Scale range
 - ★ Symbol to be applied



	2k – 10 k	10k –40k	40k- 72k
motorway			
primaryRoad			
secondaryRoad			
tertiaryRoad			
otherRoad		(to 20 k)	

Technical Guidance Documents

DOCUMENTS

.SLD

CARTOGRAPHY



.MAP

IMPLEMENTATION



.XLS

SCALEMASTER



.WOR

BASEMAP MODEL
TECHNICAL GUIDANCE



.HTM

DIFF-DOCS TO BE USED WHEN
COMPARING DIFFERENT VERSIONS

STRUCTURE

- [-] ELF Basemap for Norway
 - ... LandCoverSurfaces
 - ... Wetlands
 - [+] Waterbody
 - ... Administrative unit
 - [-] Generic Transport Area
 - ... Aerodrome Area
 - ... Railway Station Area
 - [-] Generic Transport Link
 - ... RailwayLink
 - [+] Road Link
 - ... Waterway Link
 - ... Building
 - ... Geographical Names



CARTOGRAPHY



Challenges in development and production

Options:



- (1) Common process to flatten and simplify INSPIRE/ELF GML data
- (2) Transformation of existing data to simplified profile of INSPIRE/ELF data model
- (3) Use existing data and transformation/adaptation of SLD



Advantages

- Pragmatic approach
- Contribute using existing data/services

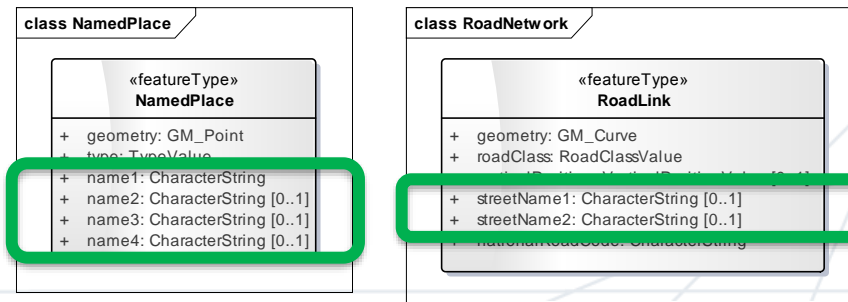
Drawbacks

- No systematic use of INSPIRE/ELF data
- Heterogeneous production process



General portrayal rules

- ★ Show only valid features
 - ★ Consideration of temporal aspects, e.g. lifecycle information and conditionOfFacility: exclude „historical“ features or features „projected/underConstruction“
- ★ Sea area
 - ★ Display as blue background
- ★ Geographical names
 - ★ Limitation of number of names for the same feature (general up to 4 names, 2 street names)
 - ★ Issue in countries with multiple languages
 - ★ Use of vendor specific parameters allowed to improve portrayal



General portrayal rules

★ Elevation

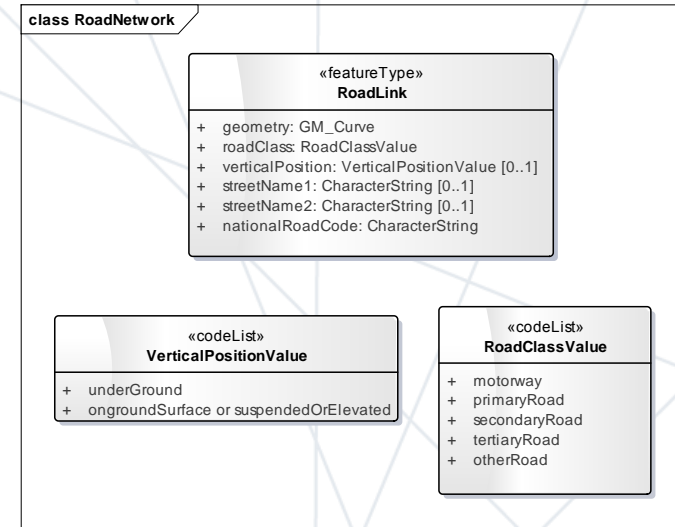
- ★ Hillshading based on EuroGeographics EuroDEM dataset

★ Transport Network Properties

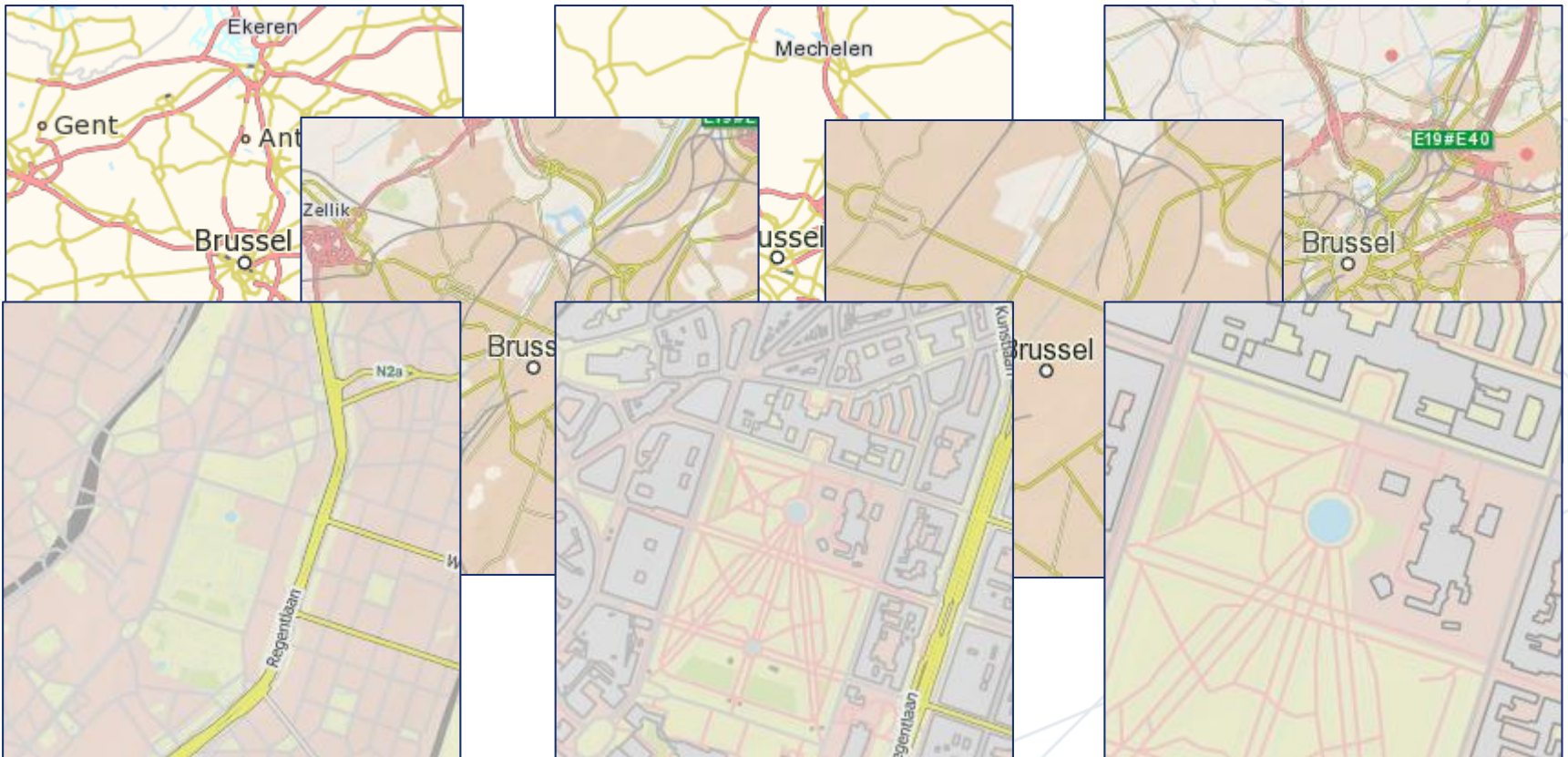
- ★ Simplified into attributes attached to features
- ★ Partly two attributes driving the selection and portrayal
- ★ European Road Classification based on combination of FormOfWay and FunctionalRoadClass

★ Settlements

- ★ Possibility for classification missing in INSPIRE GN::NamedPlace
- ★ based on EuroGeographics EuroRegionalMap dataset using population information



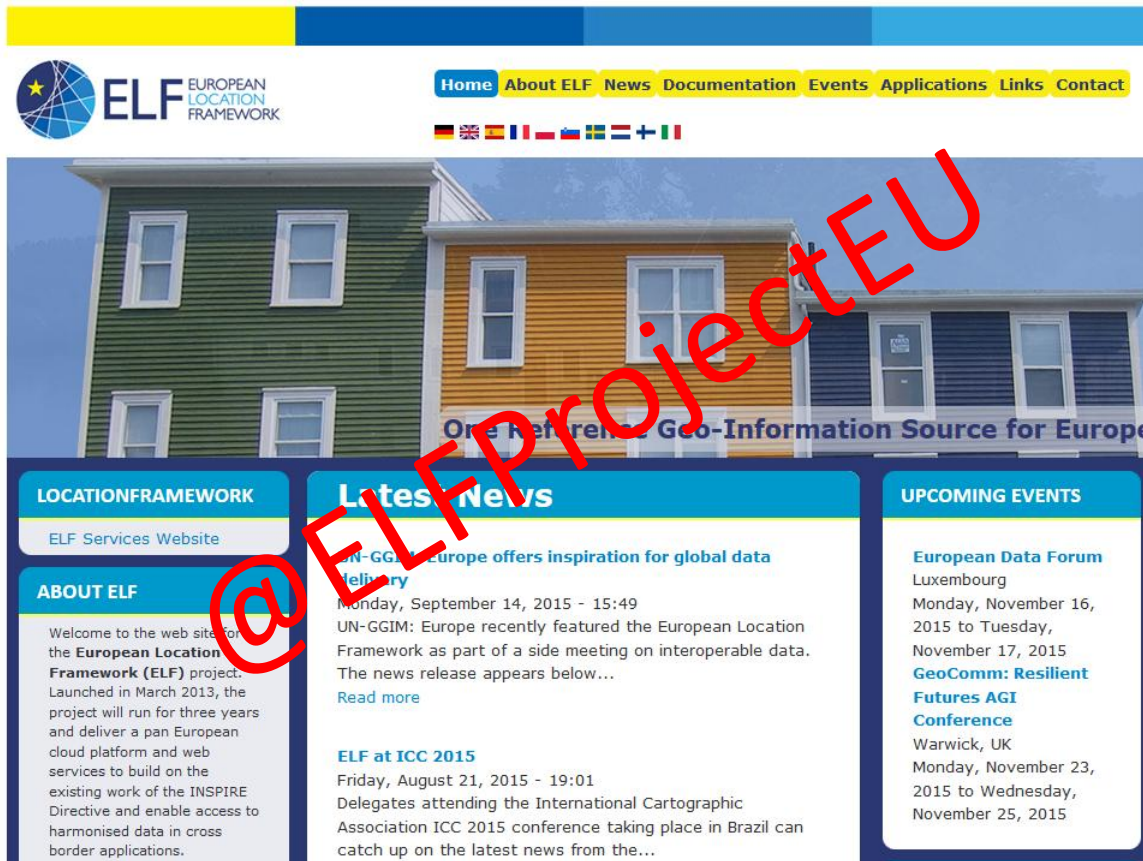
Pilot implementation



Challenges

- ★ Fitness-for-purpose of INSPIRE/ELF data for mapping
 - ★ INSPIRE/ELF data model and format:
complexity of data model (e.g. transport properties), missing classification information, overlaps between themes
 - ★ heterogeneous data content: limited mandatory information, national classifications
- ★ Production process
 - ★ Use of INSPIRE/ELF data vs. existing data and/or services
 - ★ Technology
- ★ Service infrastructure
 - ★ Harvesting national WMS
 - ★ Set up WMTS
- ✓ Pilot Basemap for Nordic cluster (Norway, Sweden, Finland) + Netherlands, Denmark, Belgium, Poland, Czech Republic
- ✓ Basemap with simple content to be used as background map

More information



The screenshot shows the ELF website homepage. At the top, there is a navigation menu with links: Home, About ELF, News, Documentation, Events, Applications, Links, and Contact. Below the menu are flags representing various European countries. The main banner features a photograph of a modern house with green, yellow, and blue siding, with the text "One Reference Geo-Information Source for Europe" overlaid. The page is divided into three main sections: "LOCATIONFRAMEWORK" with a link to "ELF Services Website"; "Latest News" featuring a news item about "UN-GGIM: Europe offers inspiration for global data delivery" dated Monday, September 14, 2015, and another about "ELF at ICC 2015" dated Friday, August 21, 2015; and "UPCOMING EVENTS" listing the "European Data Forum" in Luxembourg (November 16-17, 2015) and the "GeoComm: Resilient Futures AGI Conference" in Warwick, UK (November 23-25, 2015).

www.elfproject.eu

From isolated components to integrated, cross-border seamless authoritative reference data ...



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Thank you!