

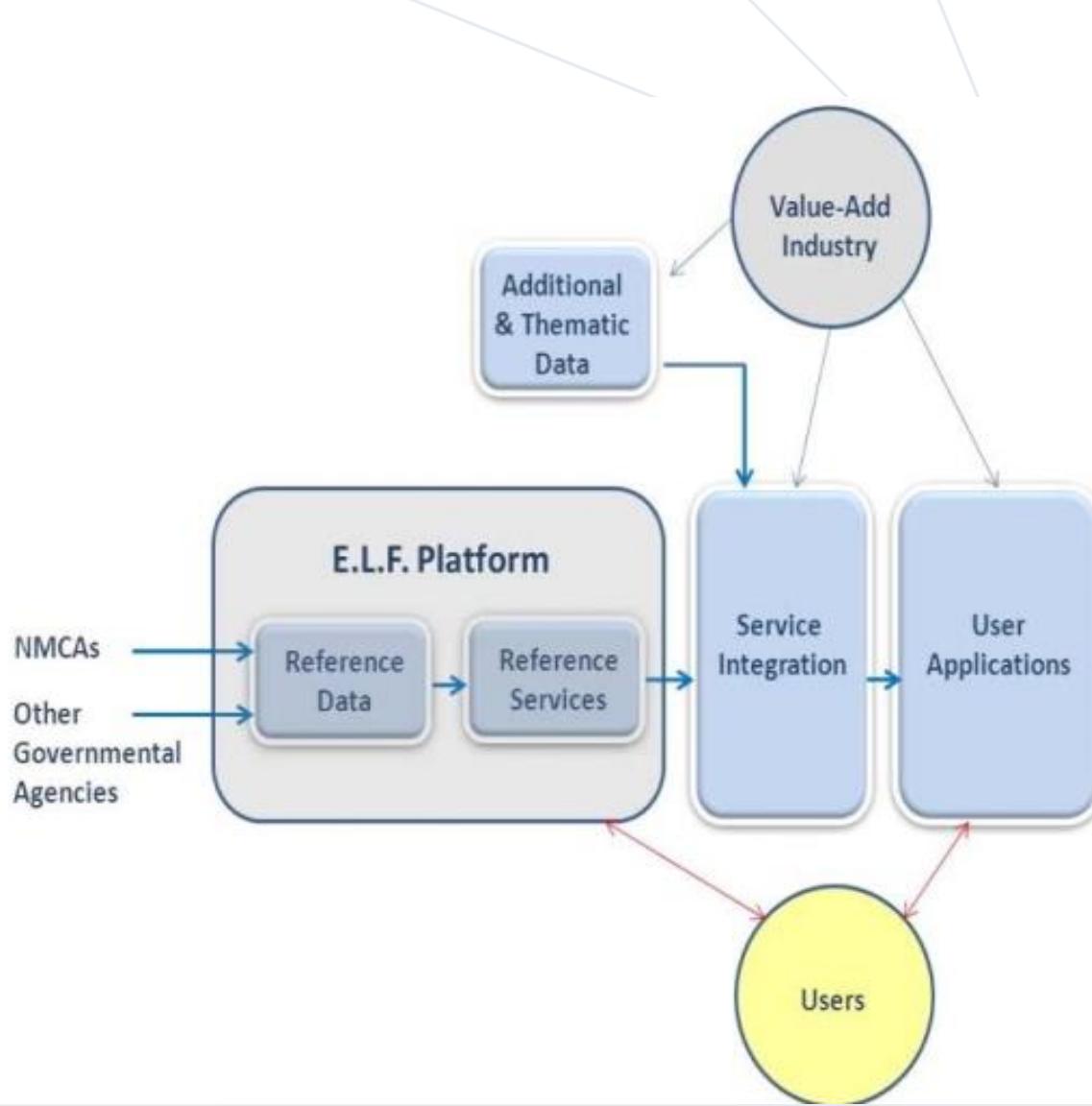
# ELF data content and the expected contributions

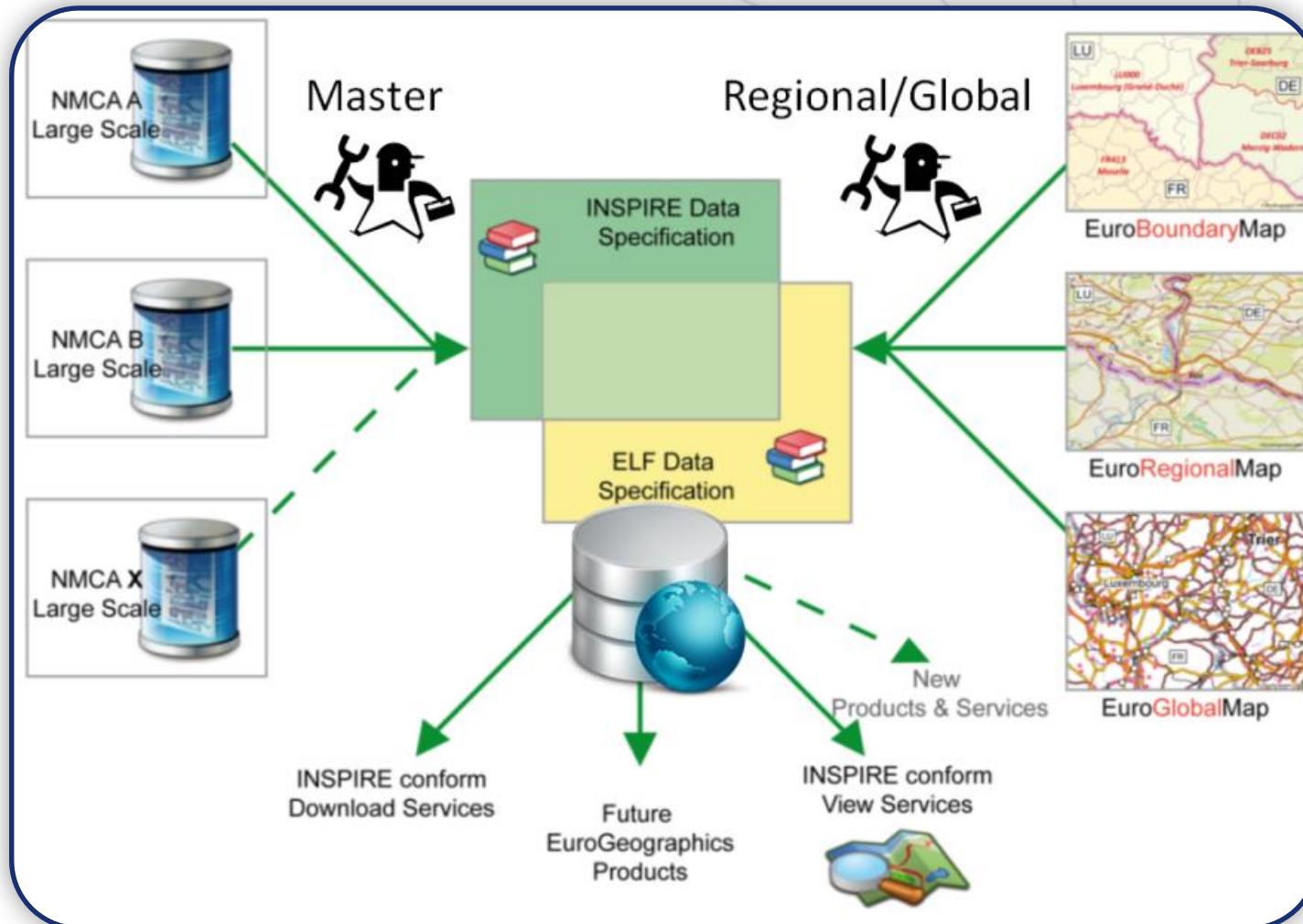
**Presentation to:** EuroGeographics Technical Producers meeting

**Author:** Saulius Urbanas, EuroGeographics

**Date:** 1st April 2015

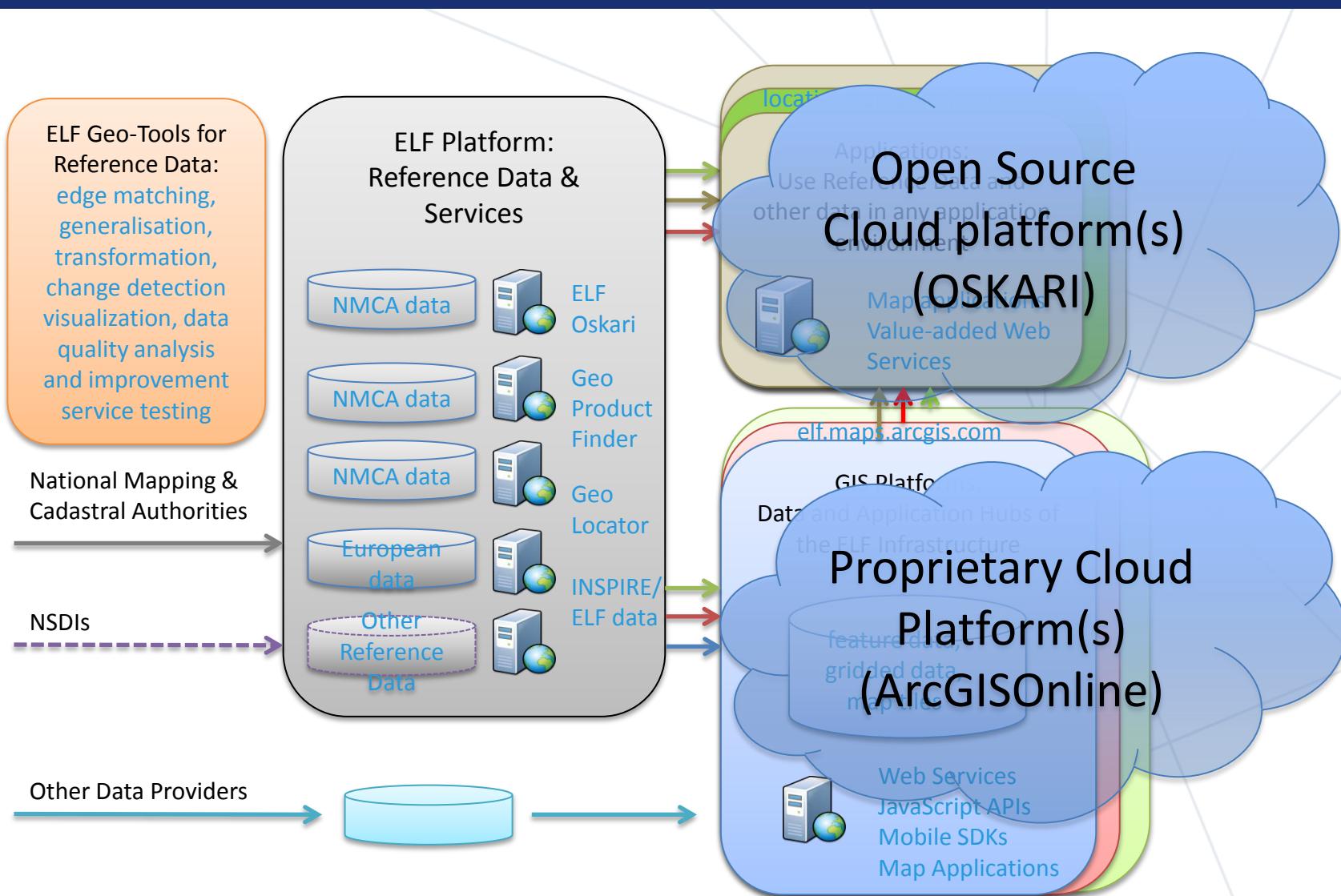
# ELF platform(s) and Value Added services





- ★ ELF Global: 1:500 000 and smaller
- ★ ELF Regional: 1:100 000 - >1:500 000
- ★ ELF Master
  - ★ Level 2 (LoD2): 1:25 000 - >1:100 000
  - ★ Level 1 (LoD1): 1:5 000 - >1:25 000
  - ★ Level 0 (LoD0): 1:5 000 and larger

# ELF technical Architecture



## Currently Centralized EBM/ERM and EGM work

MASTER LoD0	Master LoD1/2	REGIONAL	GLOBAL
Cadastral Parcels (CP)	Administrative Units (AU)	Administrative Units (AU): AU & NUTS	Administrative Units (AU)
Addresses (AD)	Hydrography (HY)	Hydrography (HY): HY & SR	Hydrography (HY): HY & SR
	Sea Regions (SR)		
	Transport Networks (TN)	Transport Networks (TN)	Transport Networks (TN)
Geographical Names (GN)	Geographical Names (GN)	Geographical Names (GN): GN & POP	Geographical Names (GN): GN & POP
Elevation (EL)	Elevation (EL)	Elevation (EL)	Elevation (EL)
	Land Cover (LC)	Land Cover (LC): POP & VEG	Land Cover (LC): POP
Buildings (BU)	Buildings (BU)	Buildings (BU)	
	Protected Sites (PS)	Protected Sites (PS)	
		Miscellaneous (MISC)	

# Data Content by themes

INSPIRE		ELF				
Theme	Application Schema	LoD0	LoD1	LoD2	Regional	Global
AD	Addresses	x				
AU	AdministrativeUnits		x	x	x	x
SU	NUTS (Statistical Units)		x	x	x	
BU	Buildings2D	x	x	x	x	
	BuildingsExtended2D	x	x			
CP	CadastralParcels	x	?			
EL	ElevationGridCoverages		x		x	
	ElevationVectorElements		x	x	?	x
GN	Geographical Names		x	x	x	x
HY	Hydro - Physical Waters		x	x	x	x
	Hydro - Network		x	x	x	x
GE	Hydrogeology				x	x
SR	Sea Regions		x	x	x	x
LC	LandCoverVector		x	x	x	
TN	Common Transport Elements		x	x	x	x
	Air Transport Network		x	x	x	x
	Cable Transport Network		x	x		
	Railway Transport Network		x	x	x	x
	Road Transport Network		x	x	x	x
	Water Transport Network		x	x	x	x
PS	ProtectedSitesSimple		x	x	x	
MISC	Miscellaneous				x	

## Data Maintenance & Processing



Update (UIDs)

Data  
Aggregation  
(Edgematching)

Data  
Quality

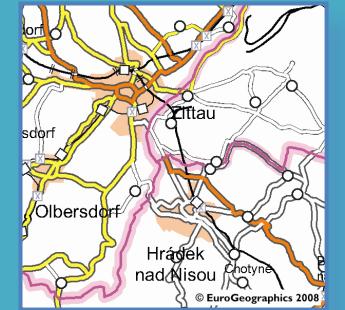
### Generalisation

Master  
►  
Regional

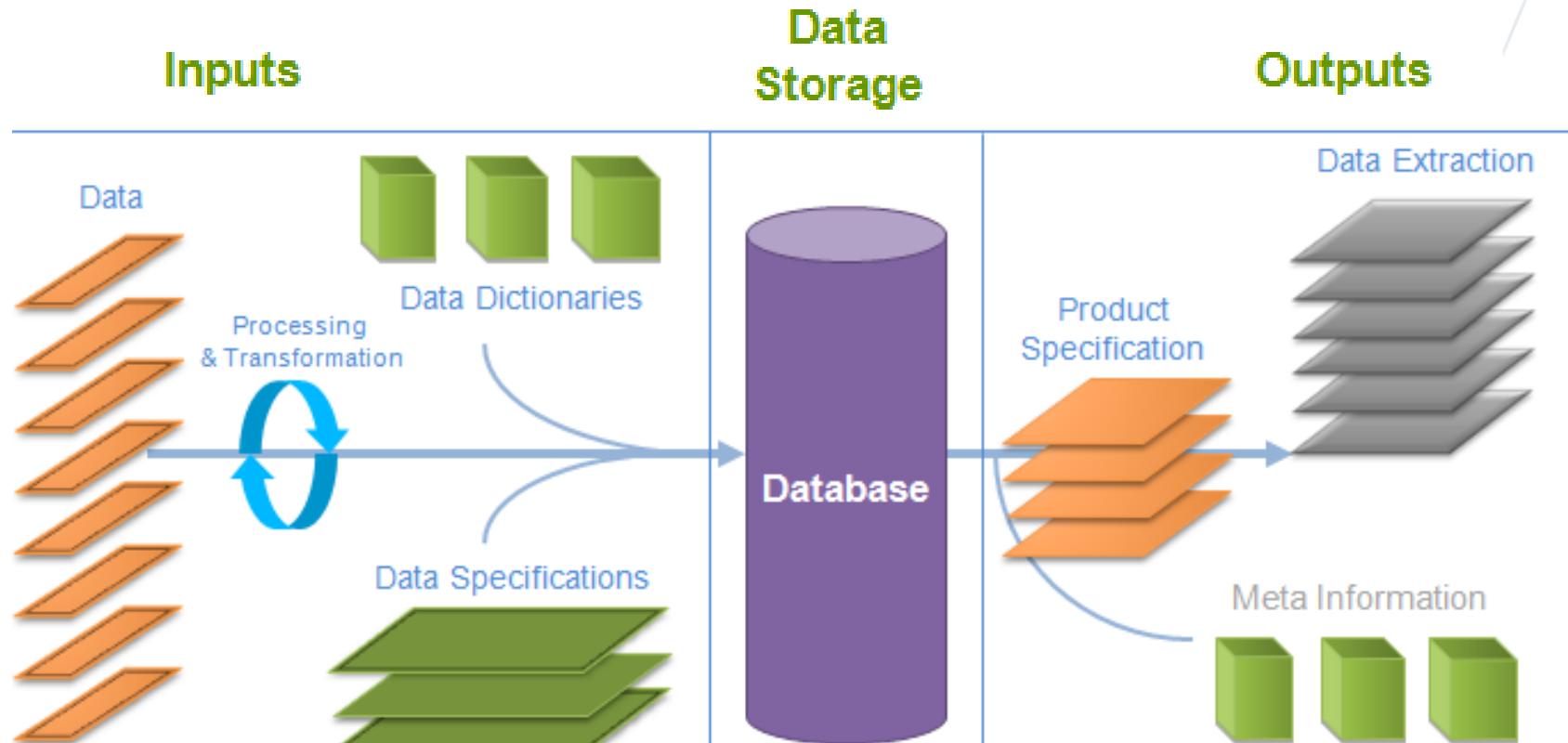
Regional  
►  
Global

### Visualisation

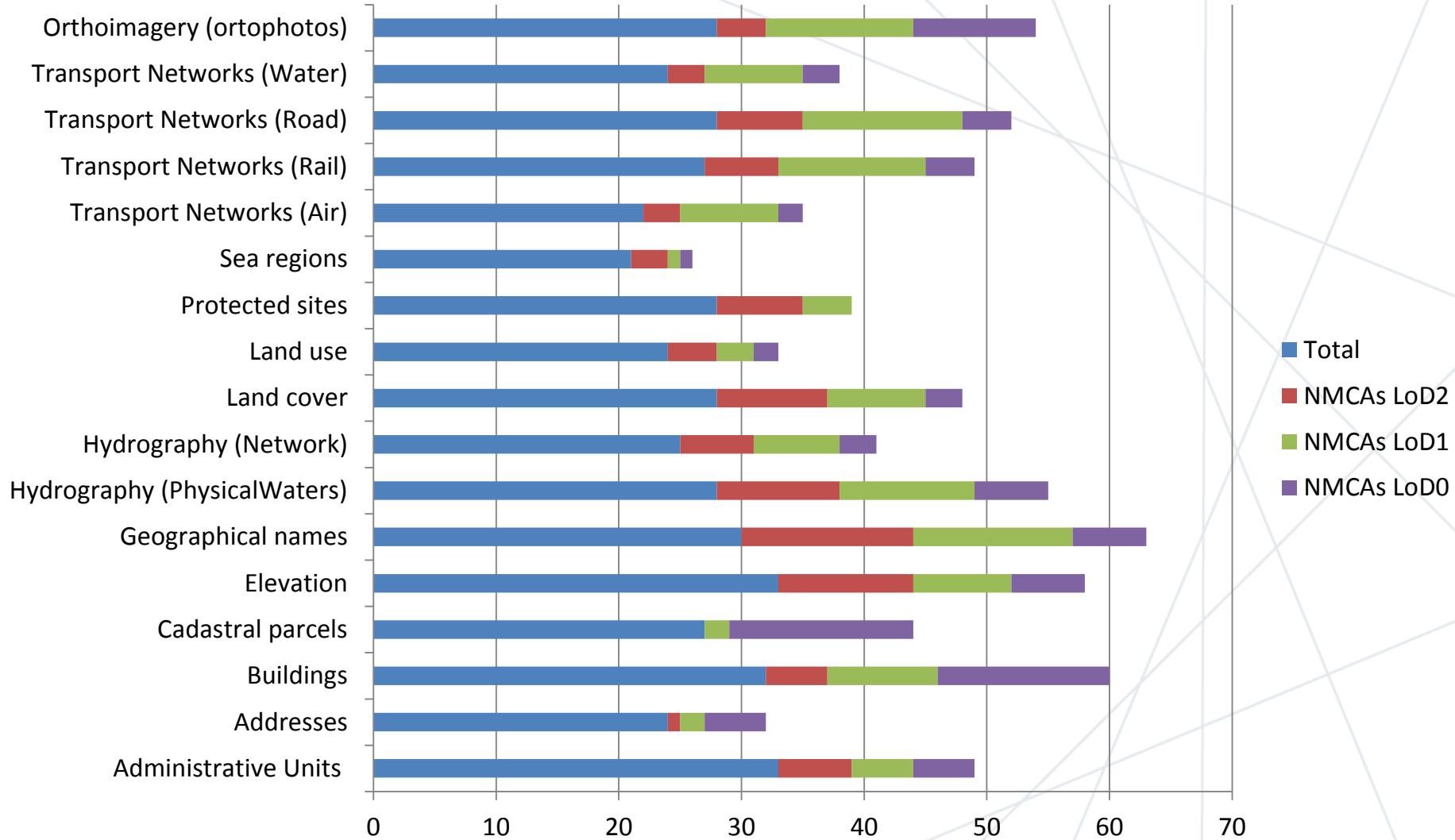
Map for Europe  
(ELF Basemap)



# ELF utilizes National web services



# Major themes: NMCAs role



## ★ NMCA's domination

- ★ AU, EL, GN, BU, HY, LC, ORT

## ★ NMCA's / 3<sup>rd</sup> party

- ★ CP, TN

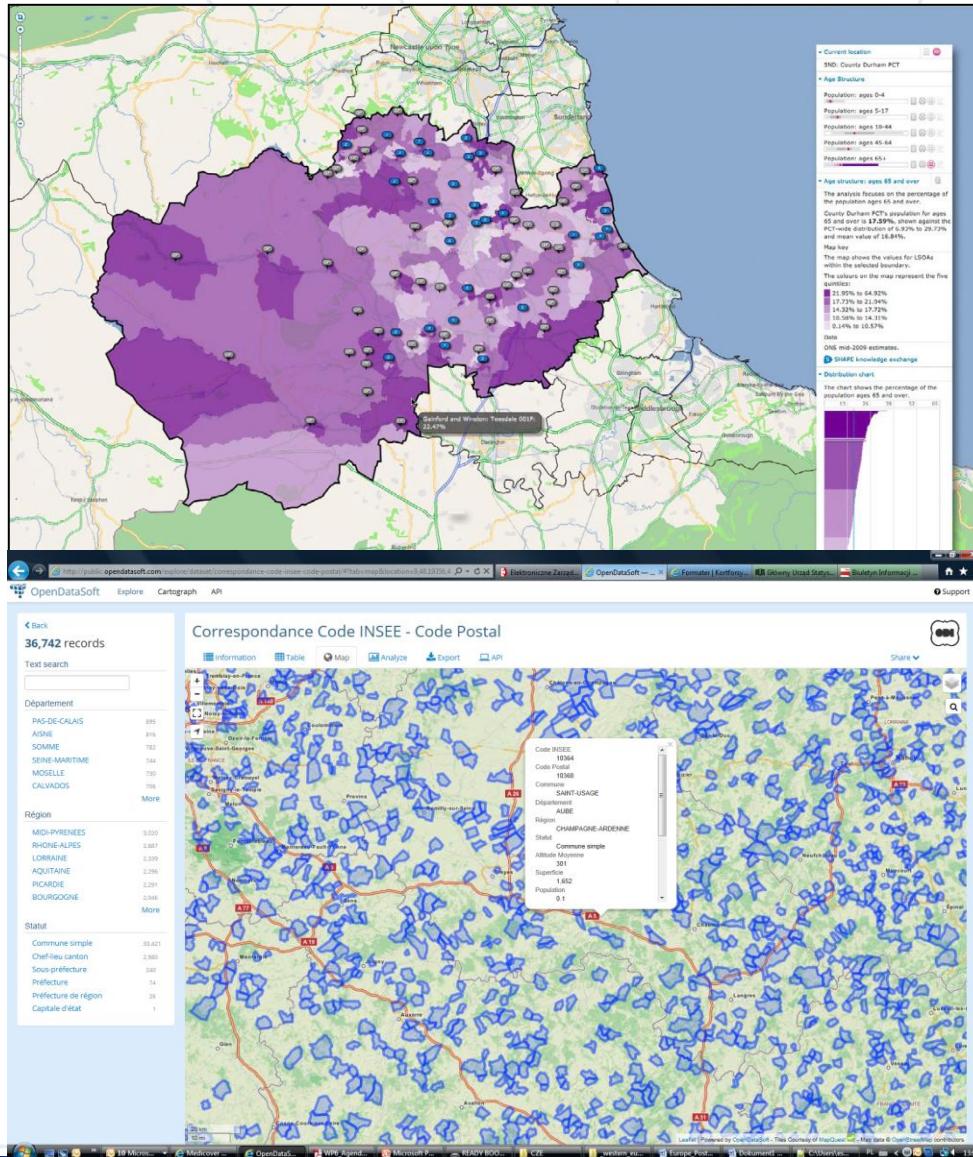
## ★ 3<sup>rd</sup> partly domination

- ★ AD, PS, SR

# Thematic data

<b>Theme</b>	<b>Linking theme</b>
Polygons of Postal codes	CP, AD
Socio-economic statistics	AU
Demography statistics	AU
Health statistics	AU
Hazards data - flood risk zones	BU, EL, AU, CP, HY
Hazards data - ground instability (subsidence, earthquake)	BU
Hazards data - windstorms	
Hazards data - wildfires	
Hazards data - crime	
Trees	CP, AD
Soil data	CP
Utilities and Governmental Services - hospitals, Emergency Medical Services	BU, AU, AD
Utilities and Governmental Services - primary and secondary schools, universities	BU, AU, GN
Disposal Site /Waste Pile: An area for the collecting / disposing of refuse or discarded material	CP
Energy resources: Power Generation, powerlines (electricity grid), pipelines (oil, gas)	BU, AD

- ★ Socio economic and Health statistics
- ★ Hazards data
- ★ Postal codes
- ★ Real Estate Registry (EULIS)
- ★ Open Data Depots
- ★ Spatial Planning and Regional Data
- ★ Soil
- ★ Land Use / Land Cover
- ★ Orthoimagery / Orthophotos



- ★ Let us to know what data/web services you have
  - ★ Questionnaire(s)
  - ★ Available reference data / thematic data
- ★ Contribute to ELF Regional/Global
  - ★ EuroRegionalMap, EuroGlobalMap, EuroDEM...
- ★ Contribute to ELF geo-tools
  - ★ International Boundaries for Edge-matching
  - ★ Geographical Names for GeoLocator
- ★ Contribute to ELF BaseMap
- ★ Setup national web service of Master level



## ★ Pan-European datasets:

- ★ EGM, ERM, EBM, EuroDEM

## ★ National view web services

- ★ WMTS, available in two projections (EPSG 3857(Web Pseudo Mercator) and EPSG 3035(ETRS-LAEA))

- ★ Cache is generated from cascaded WMS of National BaseMap WMS

- ★ Standard ELF tiling schema

## ★ Imagery view webservices

## ★ ELF Cadastal Map

- ★ footprints of cadastral parcels + administrative units, addresses and buildings

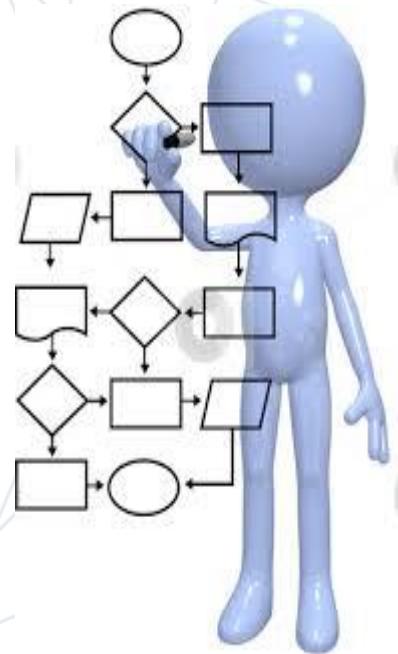
- ★ Cascaded WMS with getFeatureInfo support



- ★ INSPIRE conform National WMS
- ★ Medium and large scale data (>1:50.000)
- ★ Content: themes AU, BU, LC, HY, TN and GN
- ★ 3 source data options (new)
  
- ★ Common Portrayal rules under development by ELF Basemap Task force (03 April 2015)
  - ★ Available as SLD

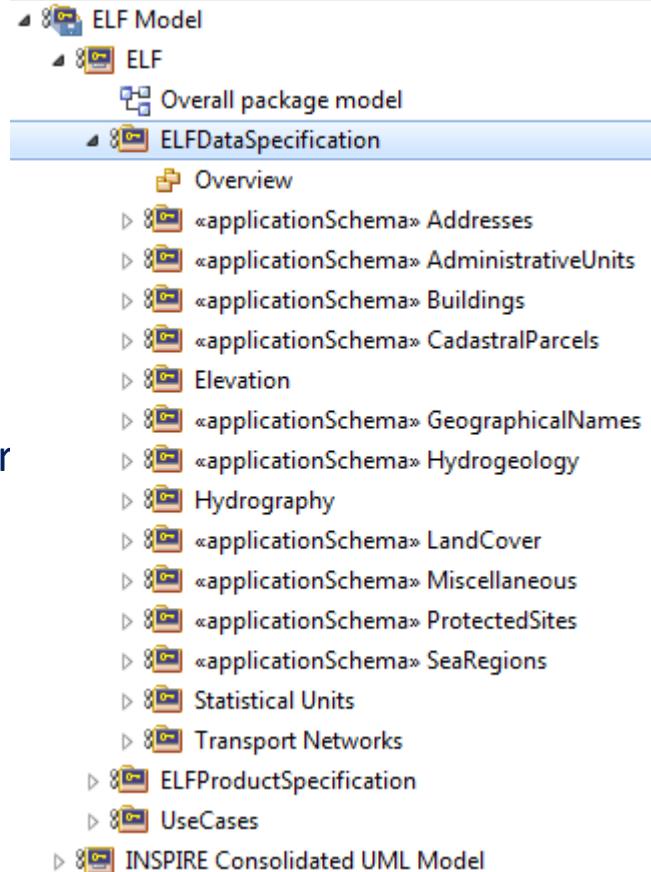
- ★ Geocoding and reverse geocoding
- ★ WFS-G, INSPIRE/ELF GN (GML), CLV, JSON and KML output
- ★ Multilingual, exonyms
- ★ Content
  - ★ GN from Eurogeonames and ELF National services
  - ★ AD from Elf National services
  - ★ AU from ELF National services
- ★ Custom operators
  - ★ GetFeatureinAU, FuzzyNameSearch, ReverseGeocode

- 1. Matching** the national data specifications with the ELF data specifications
  - ★ Matching table guideline and template (xls)
- 2. Transformation** of national data to ELF compliant web services
  - ★ Triger Transformation geo-tools
- 3. Edge matching** of national data to definitive international boundaries
  - ★ Triger Edge-matching geo-tools
- 4. Generalisation** of national topographic data assuring the cross-resolution consistency
  - ★ Triger Generalisation geo-tools
- 5. Evaluation of Data quality**
  - ★ Triger Quality Assurance geo-tools



## 6. Setup of the national web services according to the requirements of ELF Data model

- ★ Revised scale-independent [data model](#) based on INSPIRE data model r46118
- ★ ELF GML application schema at [ELF schema repository](#)
- ★ Publication of [ELF Feature Catalogues](#)
- ★ [ELF Code list](#)
- ★ WFS 2.0 (GML 3.2.1) and WMS; Atom Feed is under consideration
- ★ Recommended maxFeature min 10.000 pr. request.
- ★ Access:
  - ★ Cascade service
  - ★ Direct access download



# Be clear about what NMCAs provide

Seamless and consistent across

- Requirements in data provision (LoD, data quality, metadata, data capture)
- Define core content
- Move from national to European classifications

Consistent between themes

- Requirements in data provision: LoD
- Associations

Consistent between resolutions

- Define core content
- Use agreed classifications

Up-to-date, maintained and quality ensured

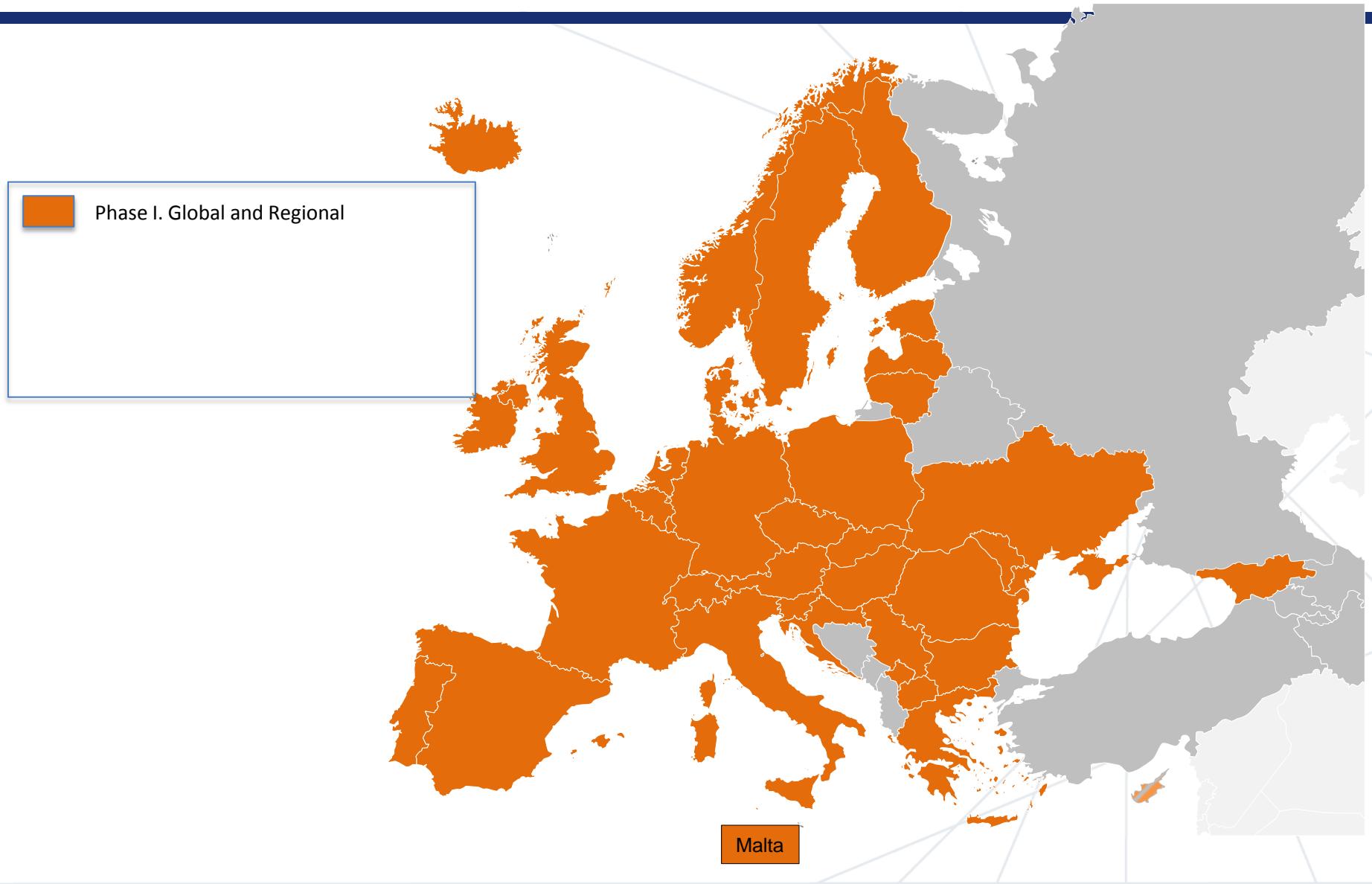
- Requirements in data provision (update cycle, data quality)

# Contribute and benefit

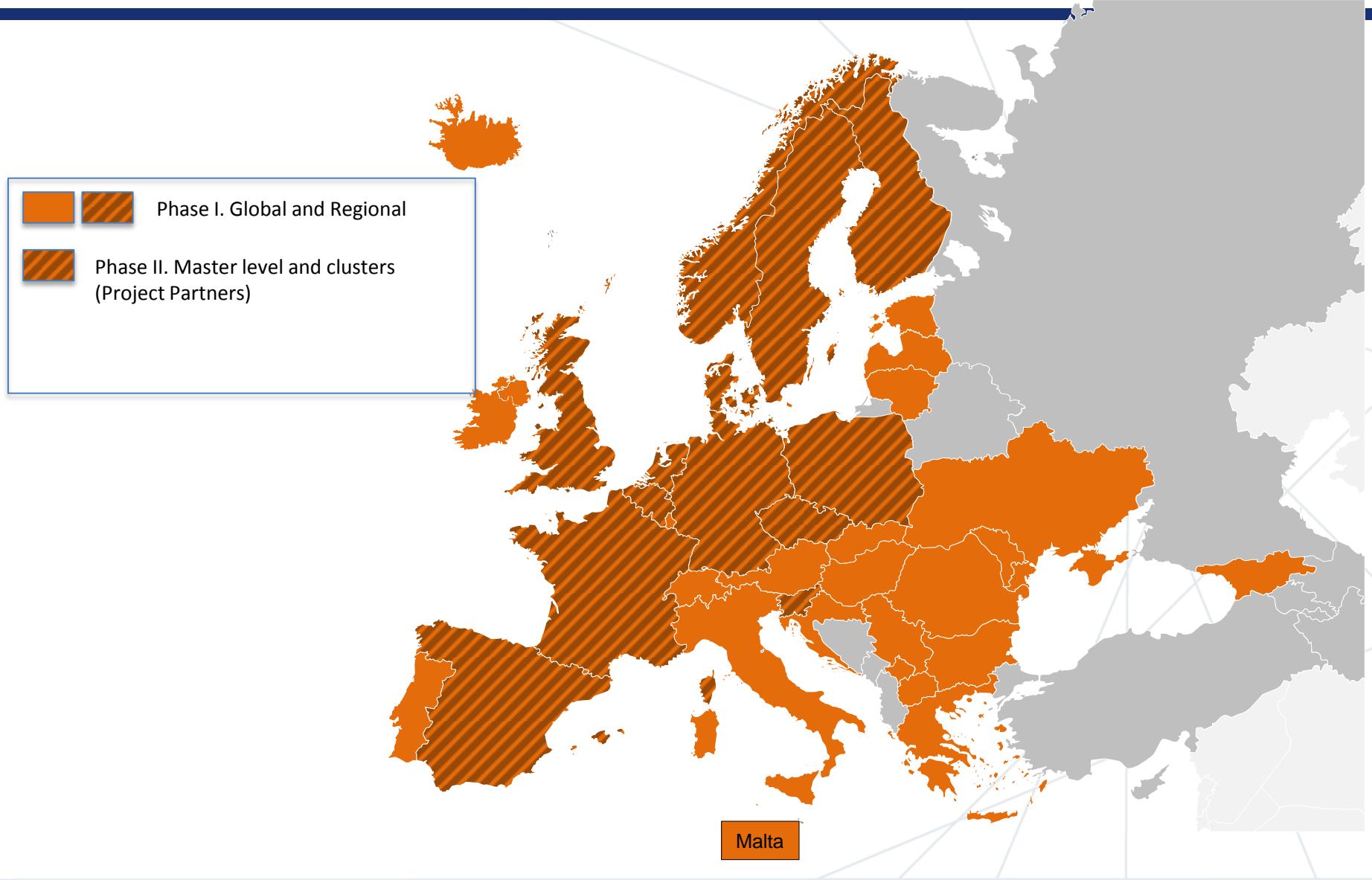
- ★ Start with small and pragmatic... assure progress
- ★ Fill the Questionnaire, provide data to EG products, access to available web services
- ★ Sign Data provider's agreement and define terms for data access to third parties
- ★ Let ELF to assist you
  - ★ Adopt specifications
  - ★ Get consultation from the ELF team
  - ★ Train your staff (trainings by webinars)
  - ★ Utilise geotools
- ★ Benefit from the ESRI grant
- ★ Consider projects supplementing ELF



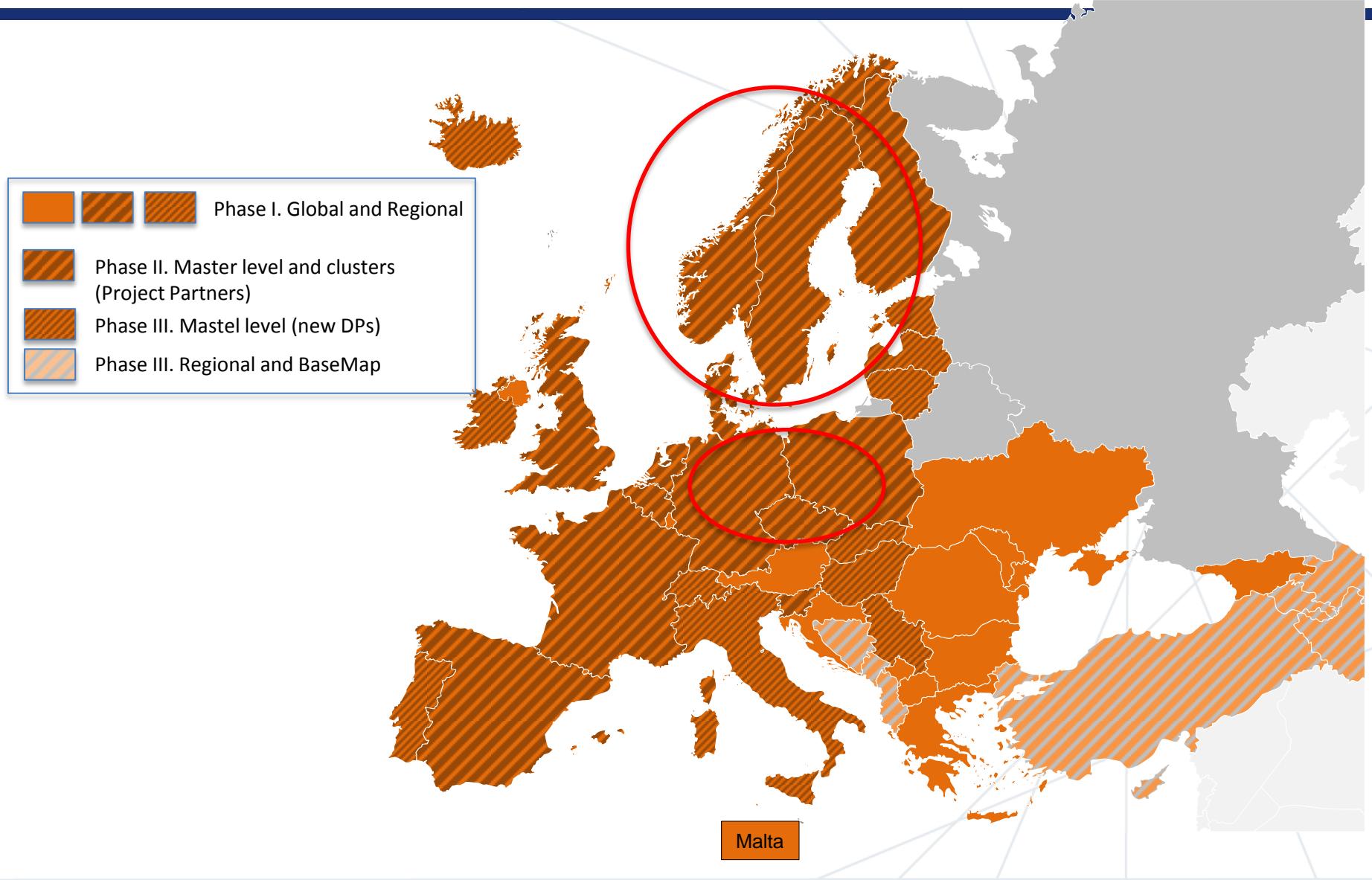
# ELF web services in coverage (1)



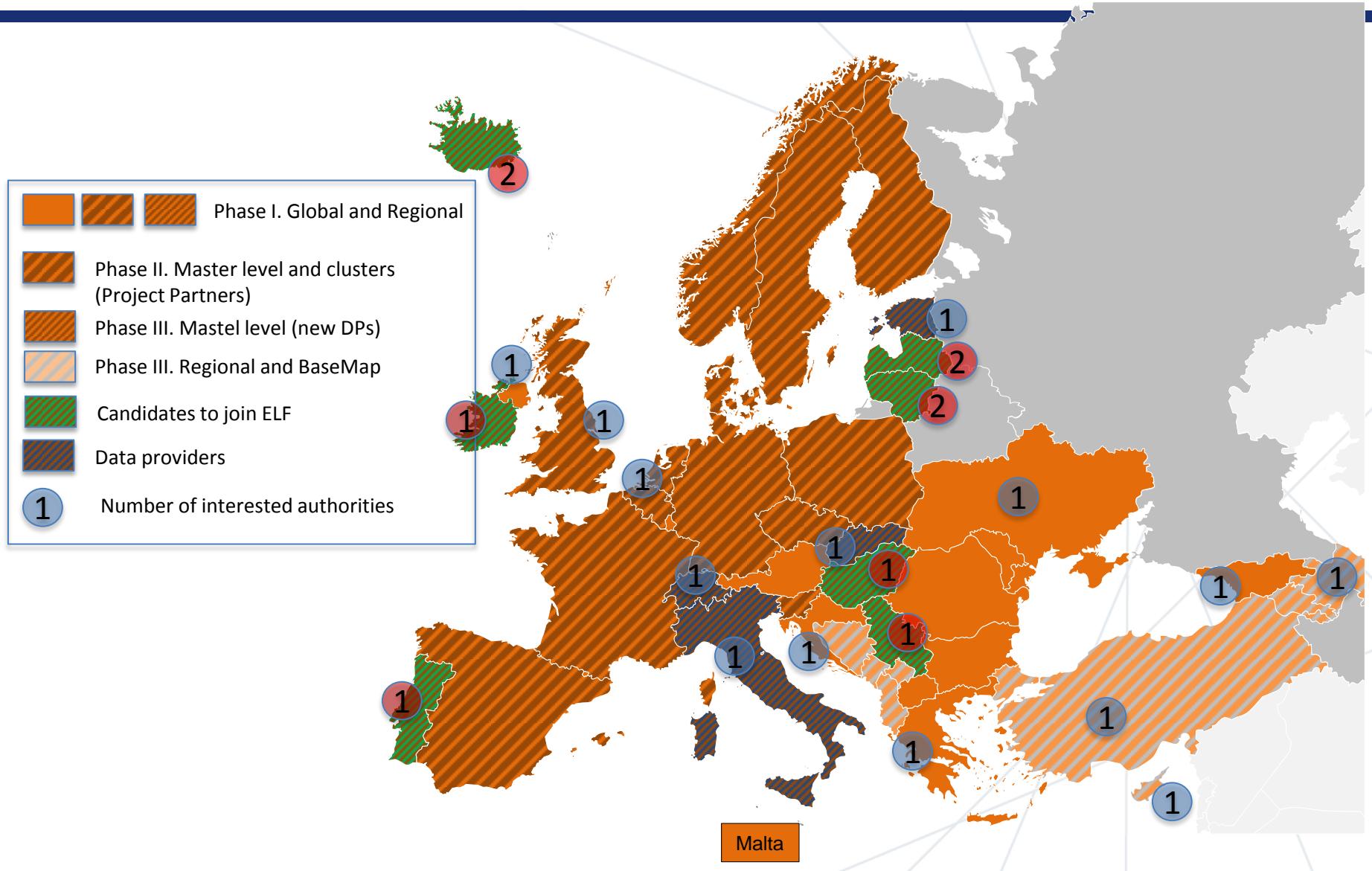
# ELF web services in coverage (2)



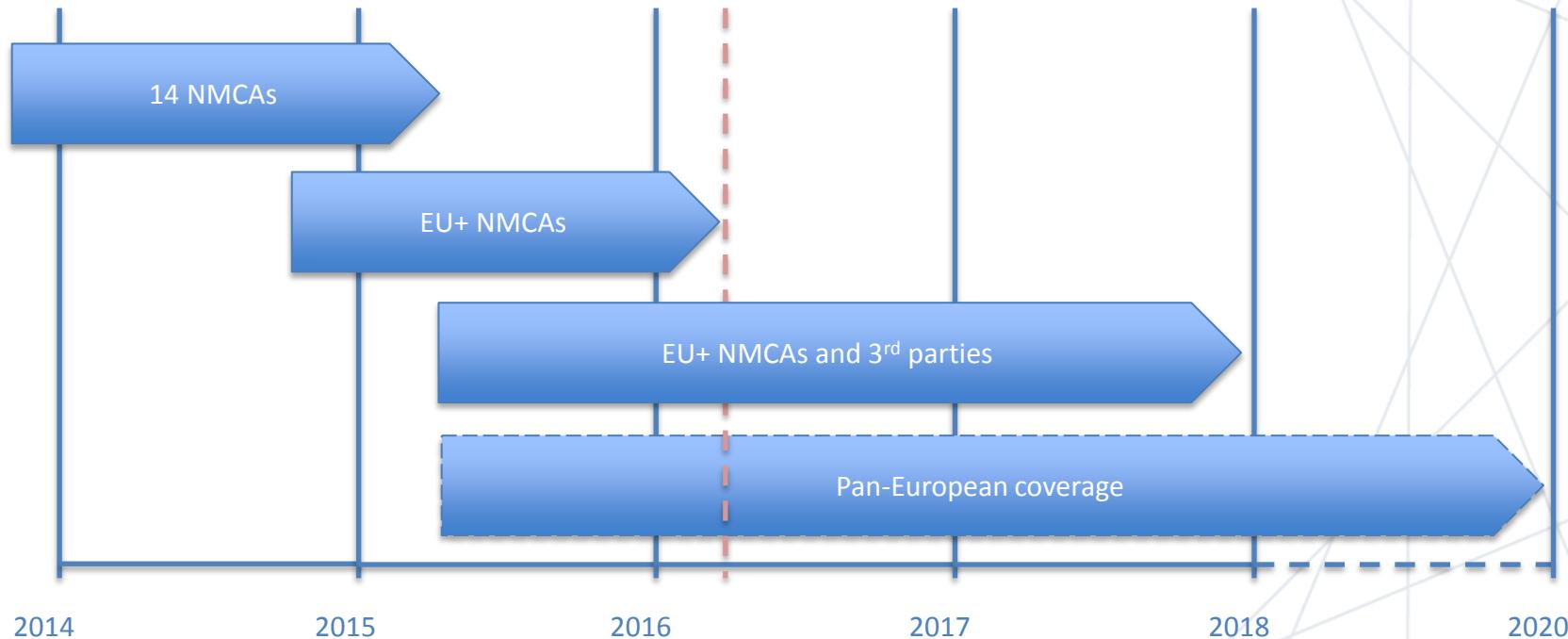
# ELF web services in coverage (3)



# Candidates PP and Data providers



# The roadmap to a full ELF European coverage





ELF web training webinars		
Subject	Responsible ELF WP, presenters	Month, Year
ELF specifications	WP2, Anja Hopfstock, Morten Borrebeck	Completed at 20 <sup>th</sup> November 2014
ELF quality validation geotools <i>During the Webinar 'ELF Quality Validation Geotools' ESRI, ImaGeo and Delft University will each demonstrate their Quality Validation tool together with an introduction by WP2.</i>	WP4, Den Werner, Paul Hardy, Hugo Ledoux WP2 Sonja Werhahn	Completed at 27 <sup>th</sup> November 2014
ELF specifications	WP2, Anja Hopfstock, Morten Borrebeck	Completed 17 December 2014
Setting up ELF services with ArcGIS for INSPIRE <i>The webinar will demonstrate how to share geospatial resources and services by complying with INSPIRE and ELF using ArcGIS technology included in the ArcGIS for INSPIRE Data models, map authoring and service publication will be the focus of the webinar. ArcGIS Server, services and geodatabase configurations and optimisations aspects will also be discussed</i>	WP3, Roberto Lucchi	Completed, 26 January 2015
Setting up ELF View and Download services	WP3, Roy Mellum	Completed, 12 February 2015
ELF edge-matching geotools	WP4, Den Werner, Paul Hardy, Hugo Ledoux	Completed, 10 March 2015
Setting up ELF View and Download services (considering the process of edge-matching)	WP3, Roy Mellum	Completed, 12 March 2015
ELF Schema Transformation geo-tools	WP4, Richard Rombouts, Marianne de Vries	Moved to 10:00 – 11:30, 22 May 2015 <a href="https://attendee.gotowebinar.com/register/8048708054838407682">https://attendee.gotowebinar.com/register/8048708054838407682</a>
ELF Pilot basemap <i>Attendees will be introduced to the ELF basemap specification and requirements/capabilities for emerging the national view web services for it.</i>	WP2 and WP3, Dominique Laurent, Thomas Eillet	10:00 – 12:00, 27 March 2015 <a href="https://attendee.gotowebinar.com/register/794606422711132162">https://attendee.gotowebinar.com/register/794606422711132162</a>
ELF SLD editor geotool	WP3, Jani Kylmäaho	10:00 – 12:00, 7 April 2015 <a href="https://meanmitteusitios.webex.com/meanmitteusitios/i.php?MTID=m0b9f8661ae061bb0d351fb379387bc">https://meanmitteusitios.webex.com/meanmitteusitios/i.php?MTID=m0b9f8661ae061bb0d351fb379387bc</a> Password: sld1
Use of ELF data in ArcGIS Online by NMCA's <i>Through the Arc Grant for ELF, NMCA's have access to an ArcGIS Online subscription. This enables them to access ELF data seamlessly from all ArcGIS clients and development environments as well as a</i>	WP3, Clemens Portele, Nick Land	March-May 2015*

## ★ Audience

- ★ ELF Project Partners
- ★ All members of EuroGeographics

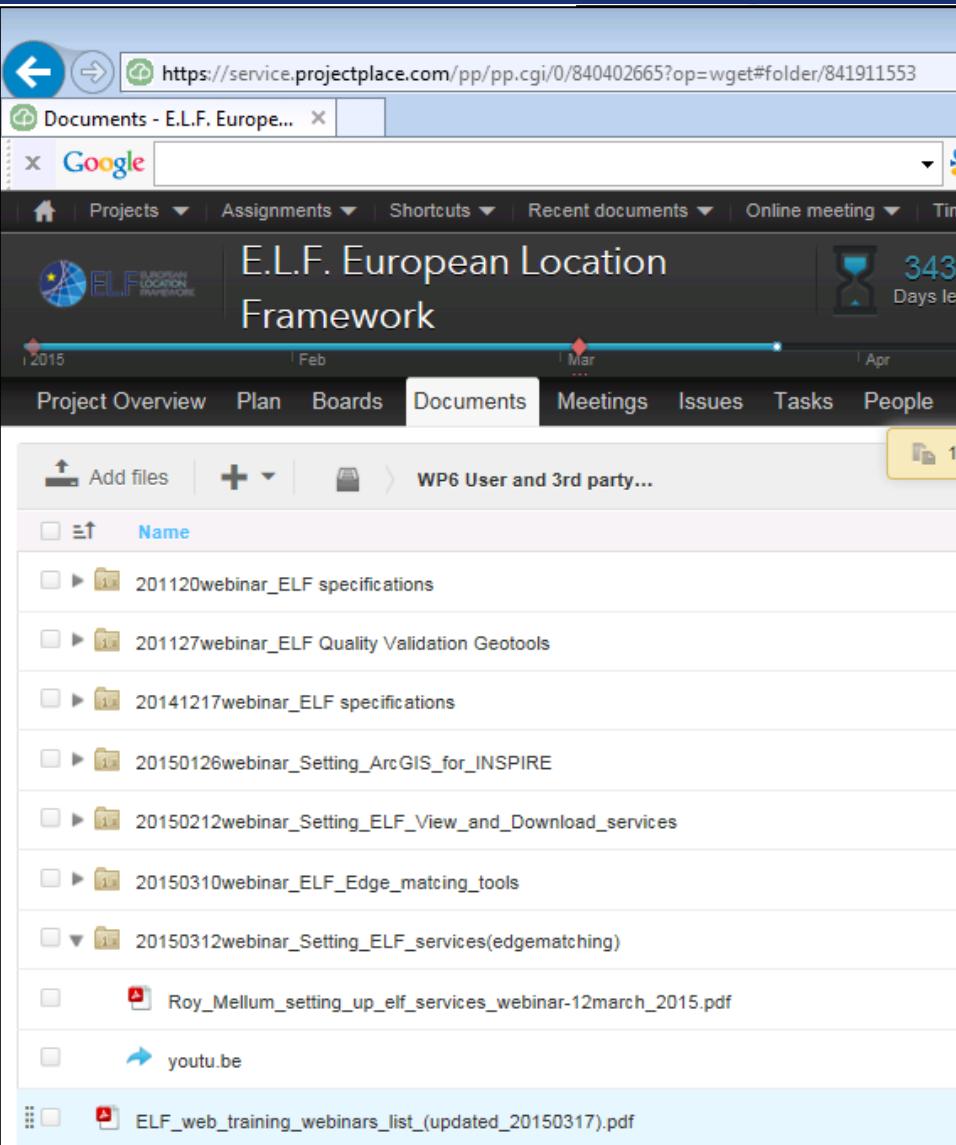
## ★ Great interest

- ★ 30-70 attendees
- ★ Requests to access from INSPIRE community

## ★ Records (youtube links) and slides

- ★ ProjectPlace
- ★ EuroGeographics website (Members Only)

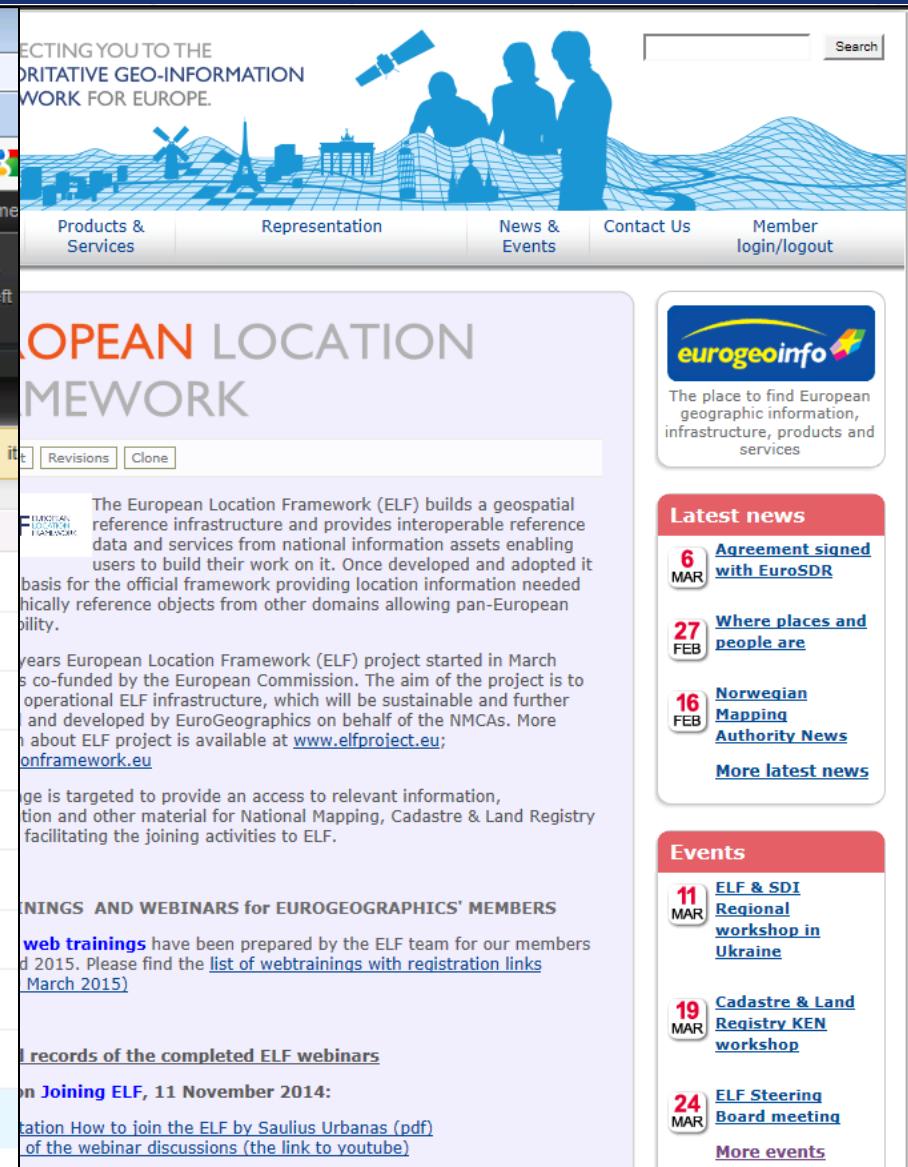
# Access to records and slides



The screenshot shows a ProjectPlace interface for the 'E.L.F. European Location Framework' project. The top navigation bar includes links for Projects, Assignments, Shortcuts, Recent documents, Online meeting, and Time. The main content area displays a list of documents under the 'Documents' tab. The list includes:

- 201120webinar\_ELF specifications
- 201127webinar\_ELF Quality Validation Geotools
- 20141217webinar\_ELF specifications
- 20150126webinar\_Setting\_ArcGIS\_for\_INSPIRE
- 20150212webinar\_Setting\_ELF\_View\_and\_Download\_services
- 20150310webinar\_ELF\_Edge\_matching\_tools
- 20150312webinar\_Setting\_ELF\_services(edgematching)
- Roy\_Mellum\_setting\_up\_elf\_services\_webinar-12march\_2015.pdf
- youtu.be
- ELF\_web\_training\_webinars\_list\_(updated\_20150317).pdf

A progress bar at the top indicates '343 Days left' until the project's end date.



The screenshot shows the ELF website homepage. The header features the ELF logo and a banner with the text 'WELCOME TO THE OFFICIAL GEO-LOCATION WORK FOR EUROPE' and silhouettes of people and a satellite. The main navigation menu includes Products & Services, Representation, News & Events, Contact Us, and Member login/logout.

## EUROPEAN LOCATION FRAMEWORK

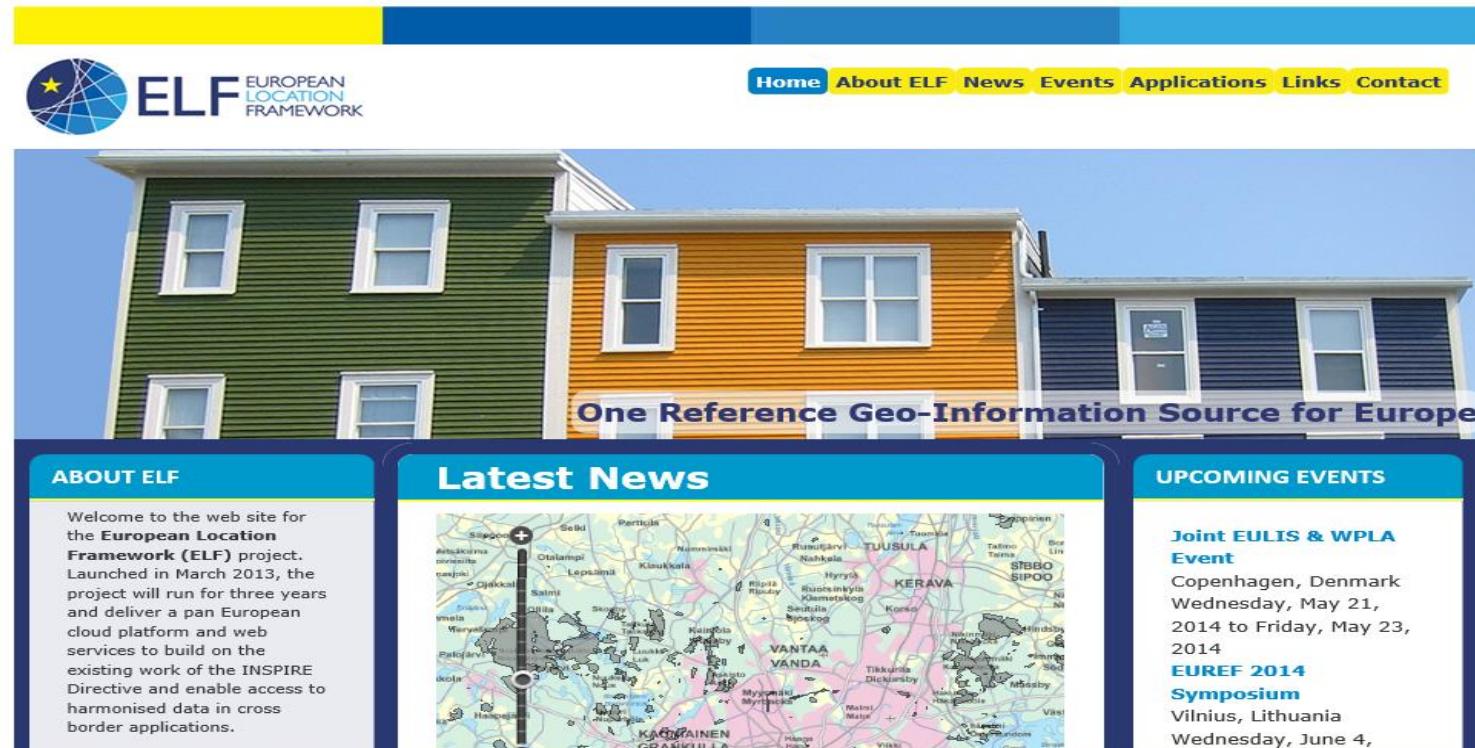
The page content includes:

- Agreement signed with EuroSDR** (6 MAR)
- Where places and people are** (27 FEB)
- Norwegian Mapping Authority News** (16 FEB)
- More latest news**
- Events** section:
  - ELF & SDI Regional workshop in Ukraine** (11 MAR)
  - Cadastre & Land Registry KEN workshop** (19 MAR)
  - ELF Steering Board meeting** (24 MAR)
  - More events**

Below the news section, there are sections for **TRAININGS AND WEBINARS for EUROGEOGRAPHICS' MEMBERS** and **records of the completed ELF webinars**. The 'JOINING ELF' section provides a link to 'How to join the ELF by Saulius Urbanas (pdf)' and a link to 'the webinar discussions (the link to youtube)'.

# Thank you for the attention!

[www.elfproject.eu](http://www.elfproject.eu)



The screenshot shows the ELF project website homepage. At the top, there is a navigation bar with links: Home, About ELF, News, Events, Applications, Links, and Contact. The main header features a photograph of a row of houses with different colored facades (green, orange, blue) under a clear blue sky. Overlaid on the image is the text "One Reference Geo-Information Source for Europe". The page is divided into three main sections: "ABOUT ELF", "Latest News", and "UPCOMING EVENTS". The "ABOUT ELF" section contains a brief description of the project. The "Latest News" section features a map of the Helsinki region with various locations labeled. The "UPCOMING EVENTS" section lists two events: "Joint EULIS & WPLA Event" in Copenhagen, Denmark, and "EUREF 2014 Symposium" in Vilnius, Lithuania.

**ABOUT ELF**

Welcome to the web site for the **European Location Framework (ELF)** project. Launched in March 2013, the project will run for three years and deliver a pan European cloud platform and web services to build on the existing work of the INSPIRE Directive and enable access to harmonised data in cross border applications.

**Latest News**



**UPCOMING EVENTS**

**Joint EULIS & WPLA Event**  
Copenhagen, Denmark  
Wednesday, May 21, 2014 to Friday, May 23, 2014

**EUREF 2014 Symposium**  
Vilnius, Lithuania  
Wednesday, June 4,