

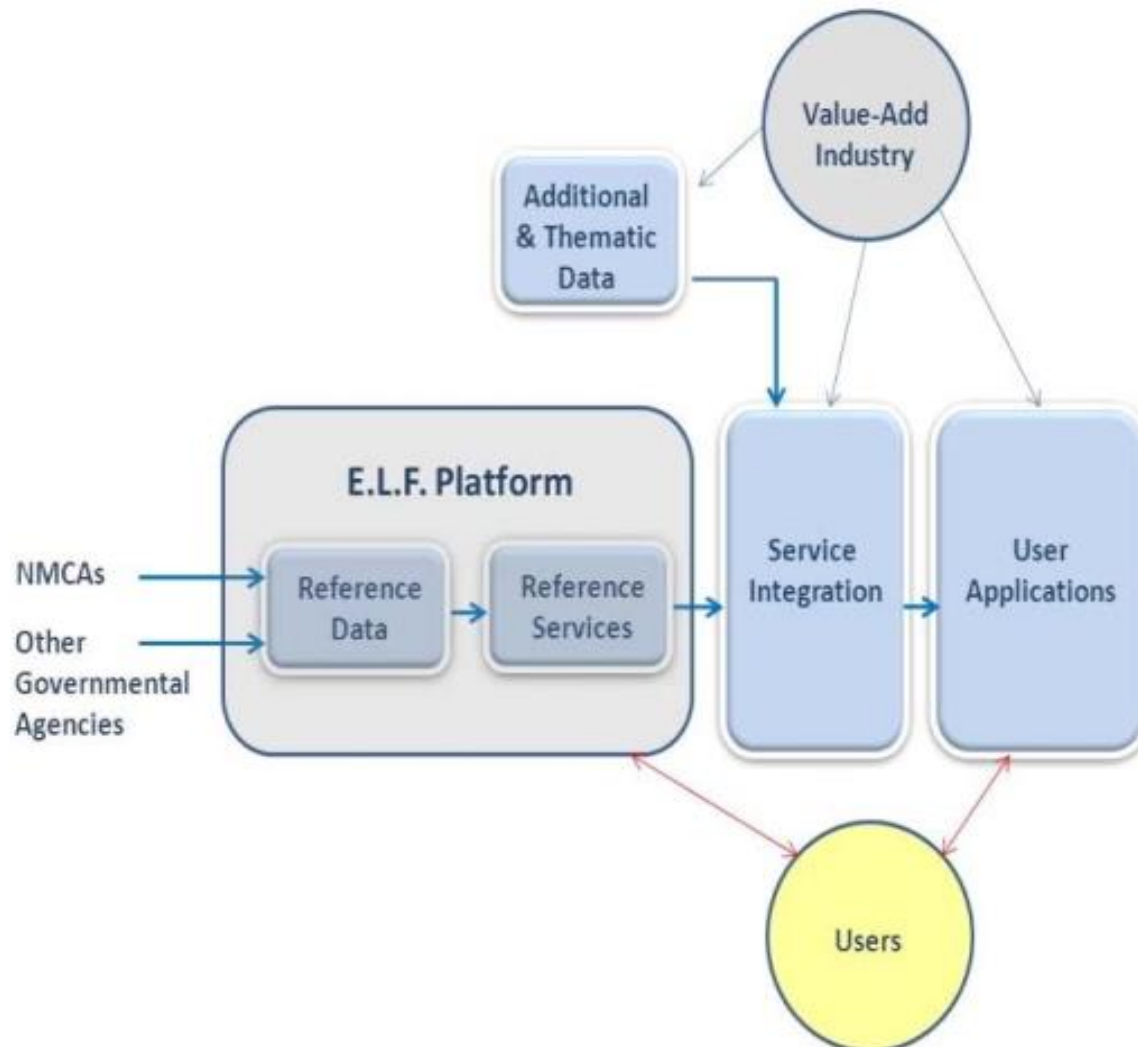
ELF data content and the expected contributions

Presentation to: EuroGeographics Technical Producers meeting

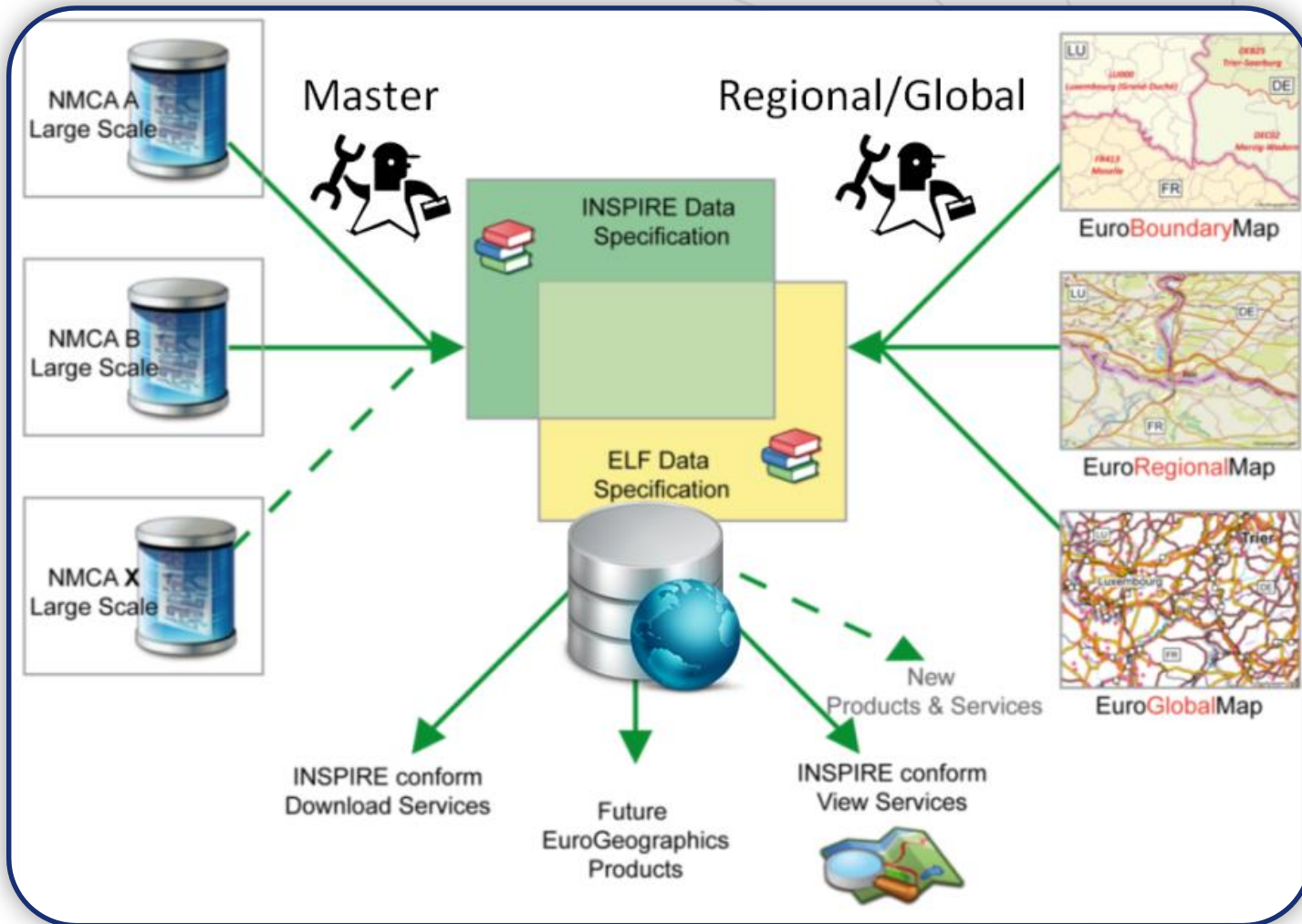
Author: Saulius Urbanas, EuroGeographics

Date: 1st April 2015

ELF platform(s) and Value Added services

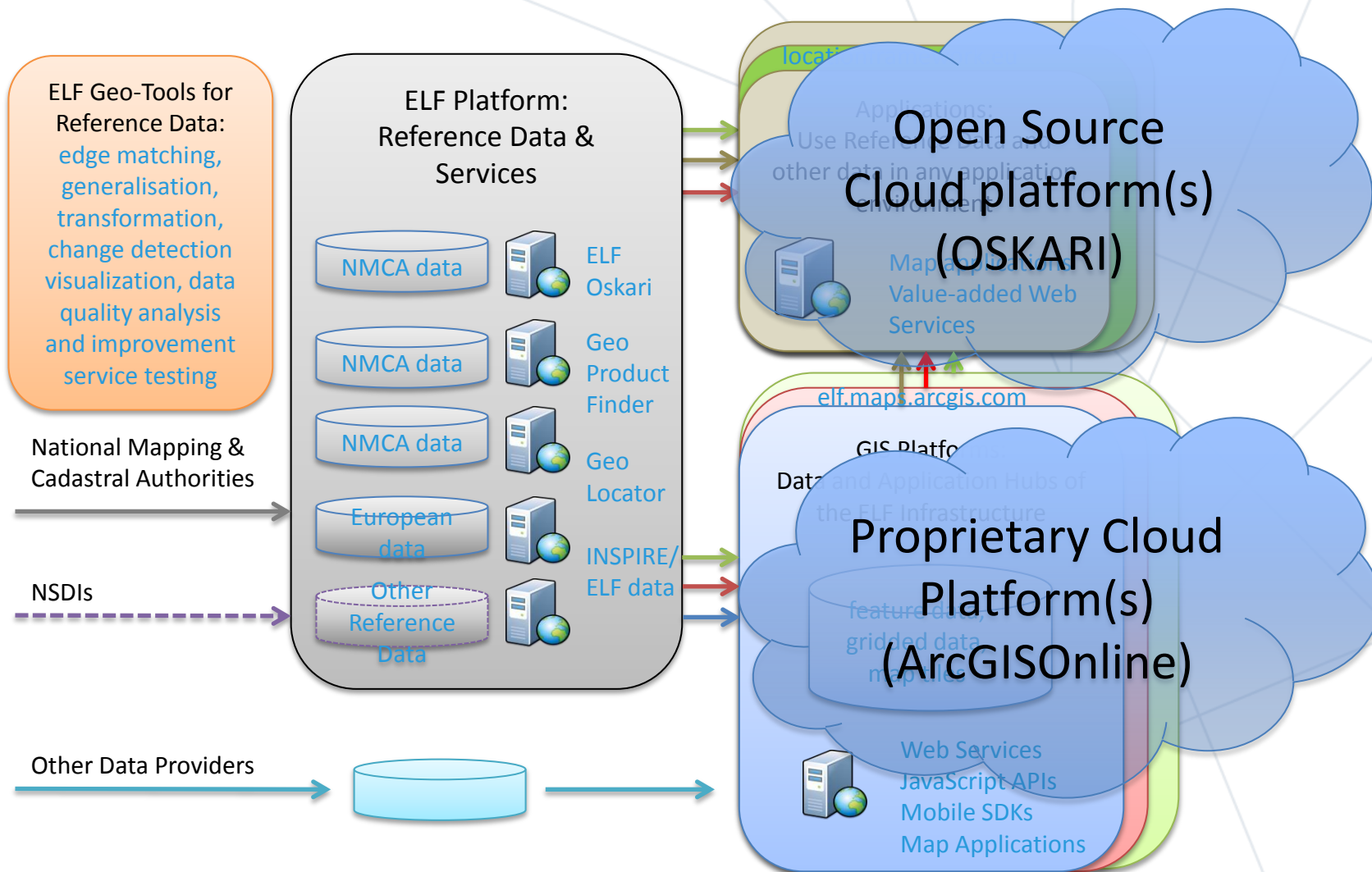


ELF: INSPIRE and more



- ★ 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

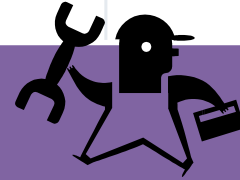


Data Content by themes and Level of Detail

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)	

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

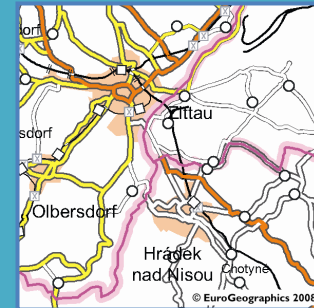
Generalisation

Master
►
Regional

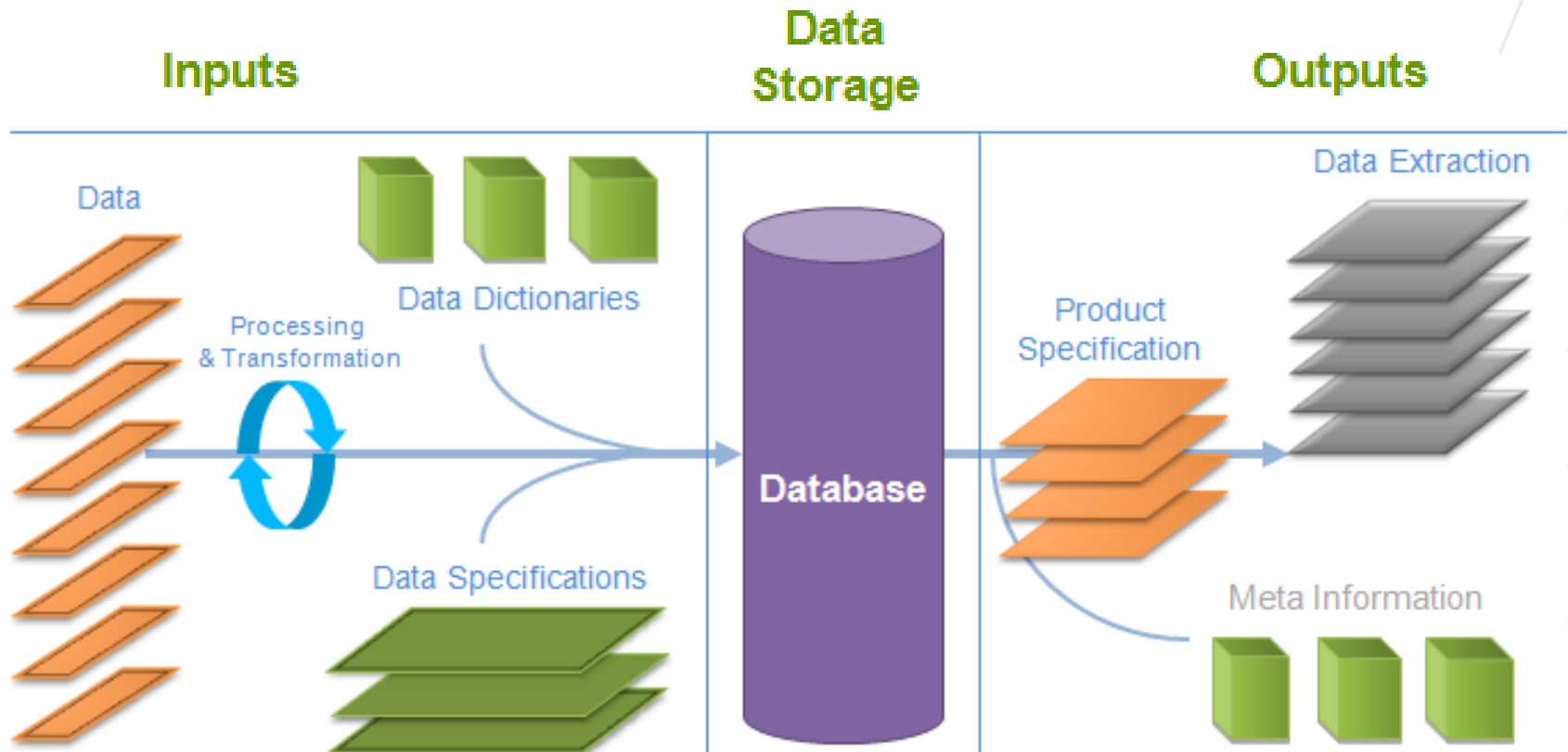
Regional
►
Global

Visualisation

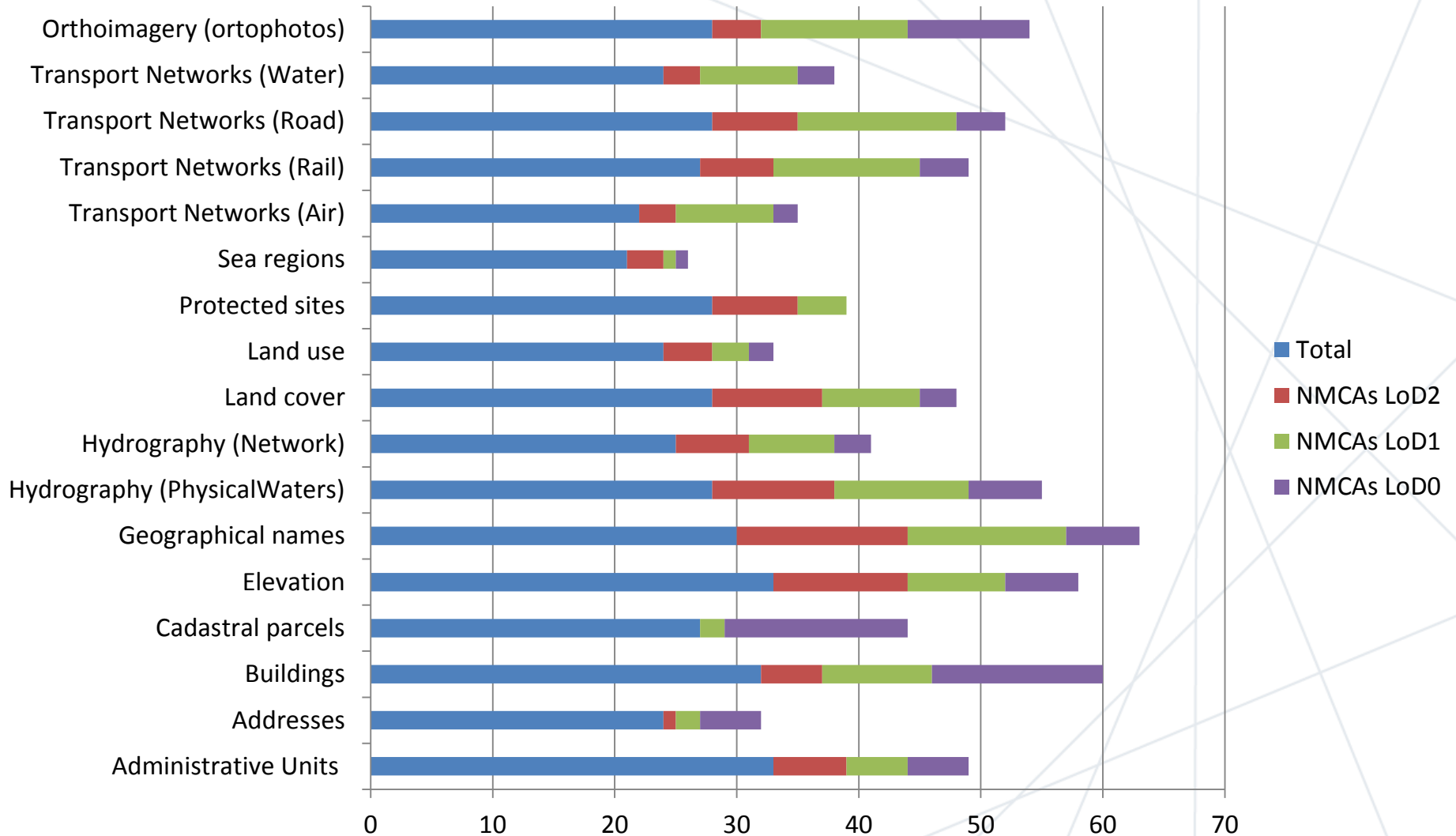
Map for Europe
(ELF Basemap)



ELF utilizes National web services



Major themes: NMCAs role



★ NMCA's domination

★ AU, EL, GN, BU, HY, LC, ORT

★ NMCA's / 3rd party

★ CP, TN

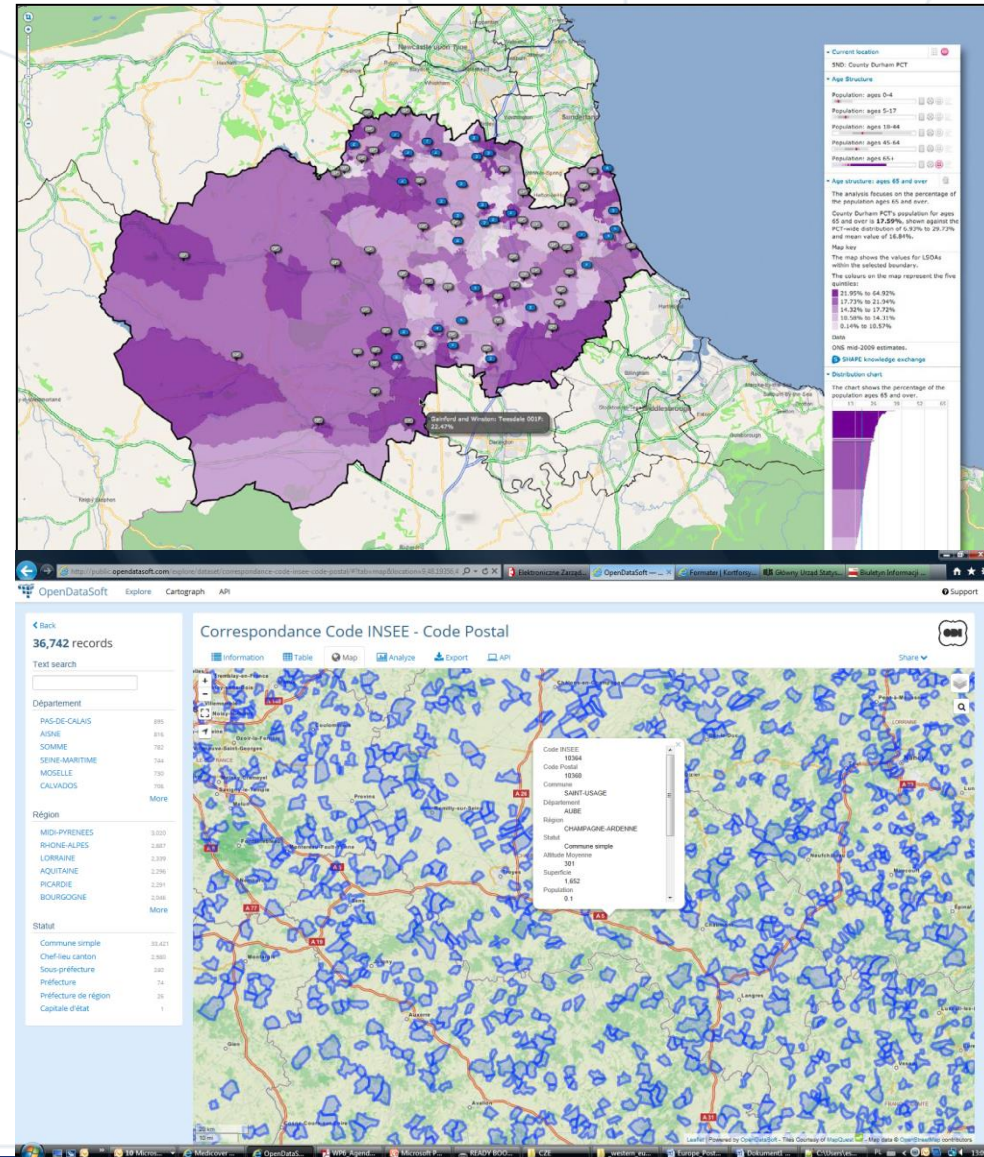
★ 3rd partly domination

★ AD, PS, SR

Thematic data

Theme	Linking theme
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 webservice

★ ELF Cadastal Map

- ★ footprints of cadastral parcels + administrative units, addresses and buildings
- ★ Cascaded WMS with getFeatureInfo support

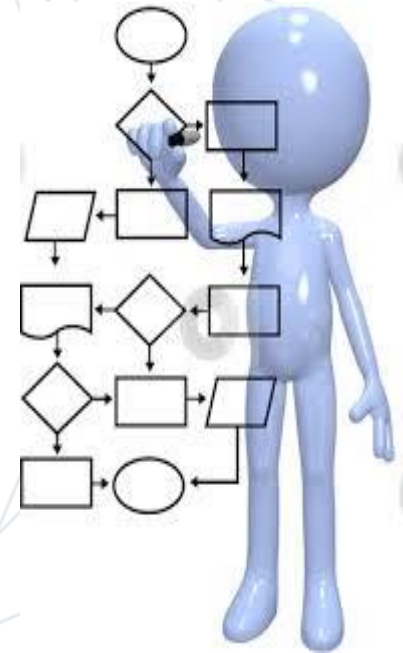


- ★ INSPIRE conform National WMS
- ★ Medium and large scale data (>1:50.000)
- ★ Content: themes AU, BU, LC, HY, TN and GN
- ★ 3 source data options (new)
- ★ Common Portrayal rules under development by ELF
Basemap Task force (03 April 2015)
 - ★ Available as SLD

- ★ 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

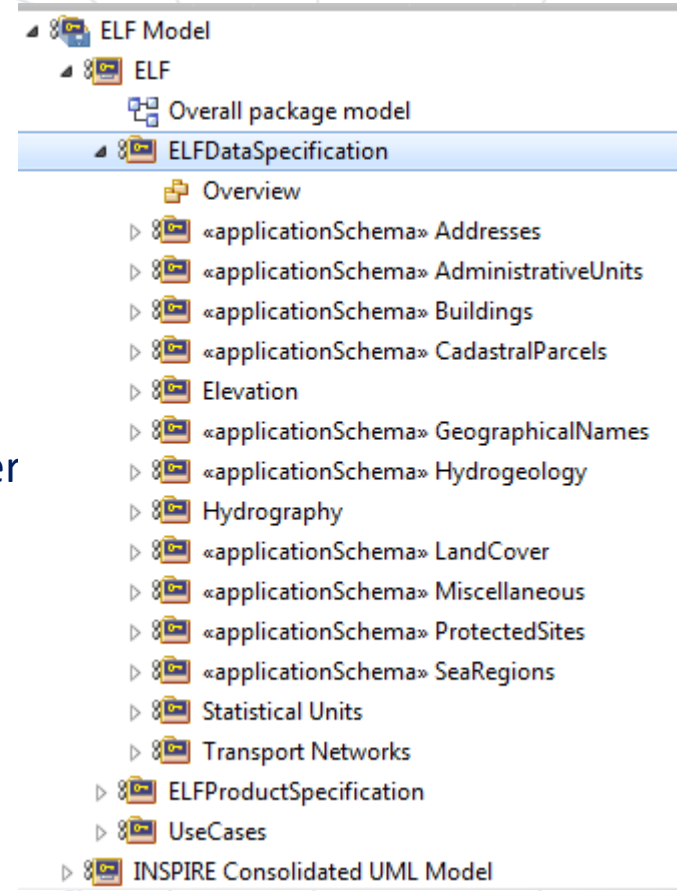
Process arranging Master data (1)

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
 - ★ Trigger Transformation geo-tools
3. **Edge matching** of national data to definitive international boundaries
 - ★ Trigger Edge-matching geo-tools
4. **Generalisation** of national topographic data assuring the cross-resolution consistency
 - ★ Trigger Generalisation geo-tools
5. **Evaluation of Data quality**
 - ★ Trigger 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 NMCA's 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

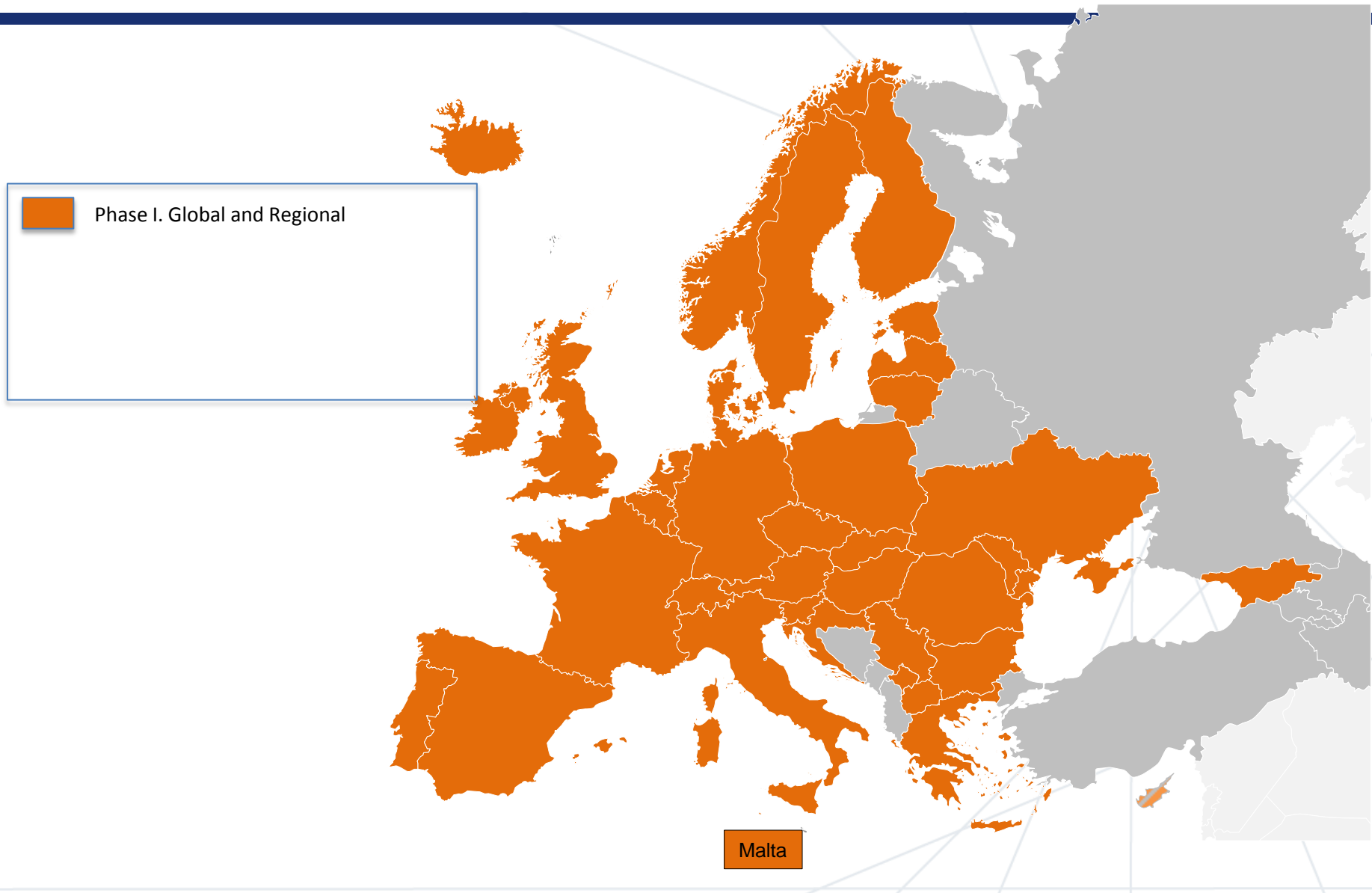
- Requirements in data provision (update cycle, data quality)

Contribute and benefit

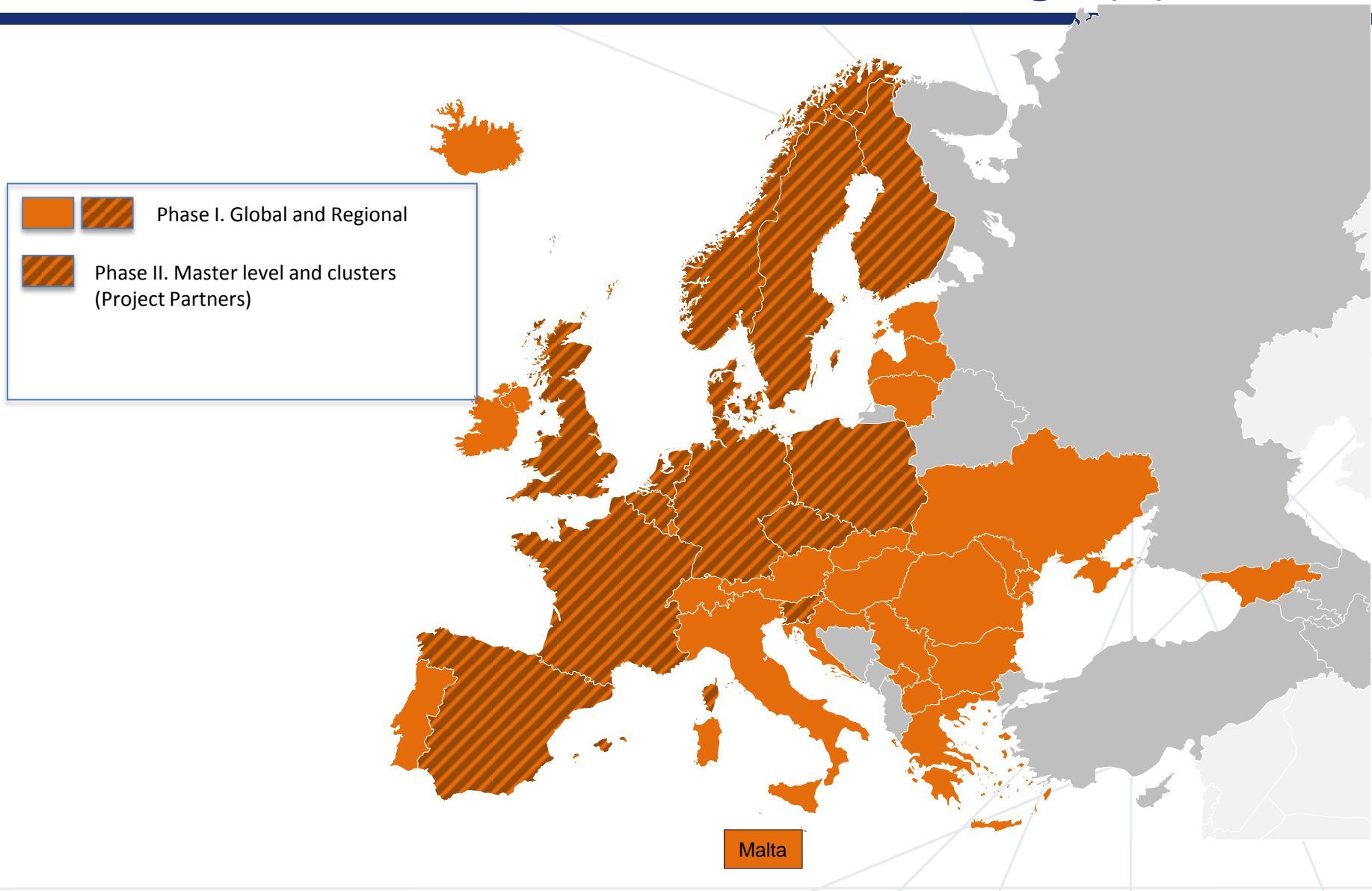
- ★ Start with small and pragmatic... assure progress
- ★ Fill the Questionnaire, provide data to EG products, access to available web services
- ★ Sign Data provider's agreement and define terms for data access to third parties
- ★ Let ELF to assist you
 - ★ Adopt specifications
 - ★ Get consultation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



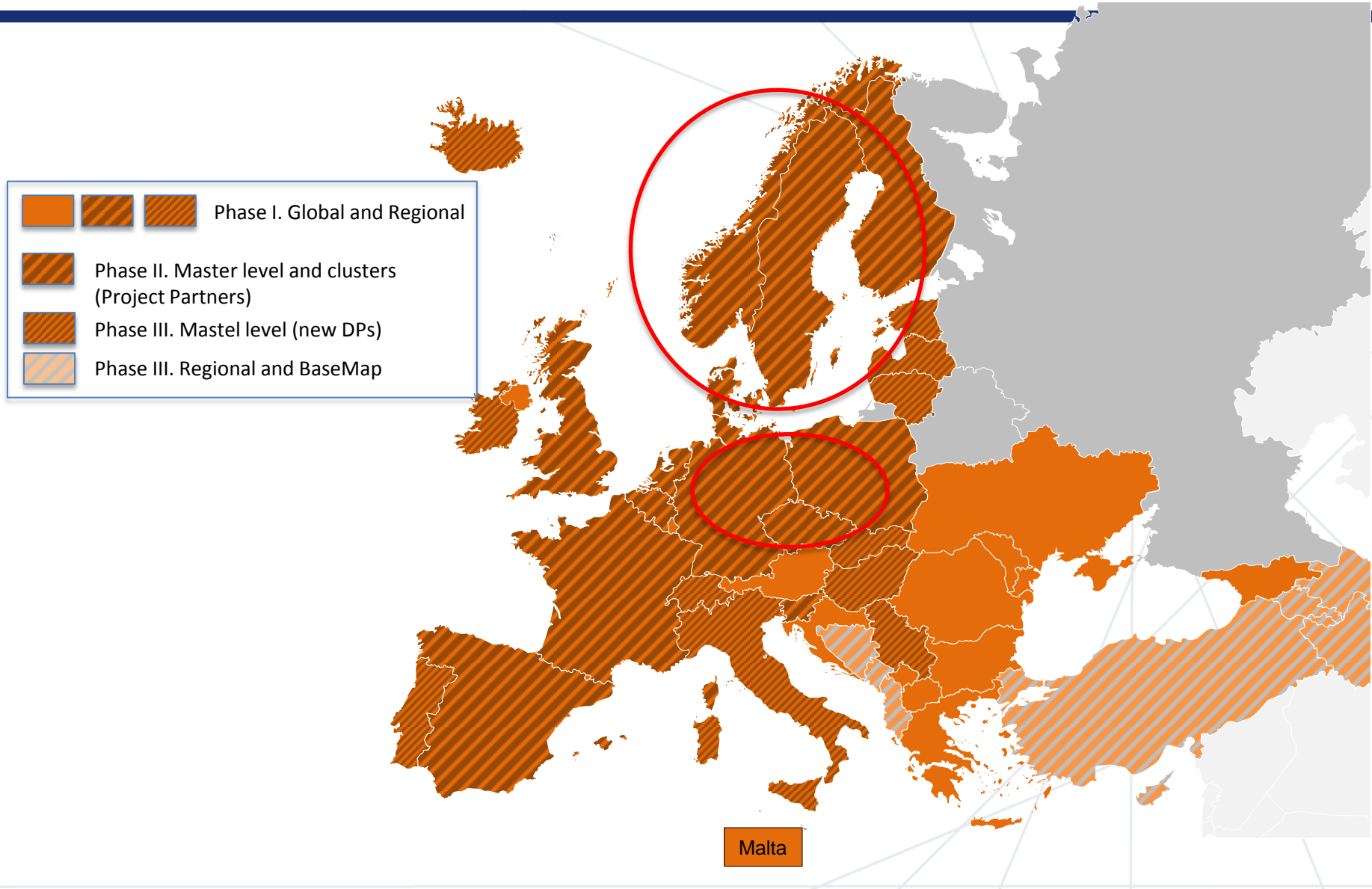
ELF web services in coverage (1)



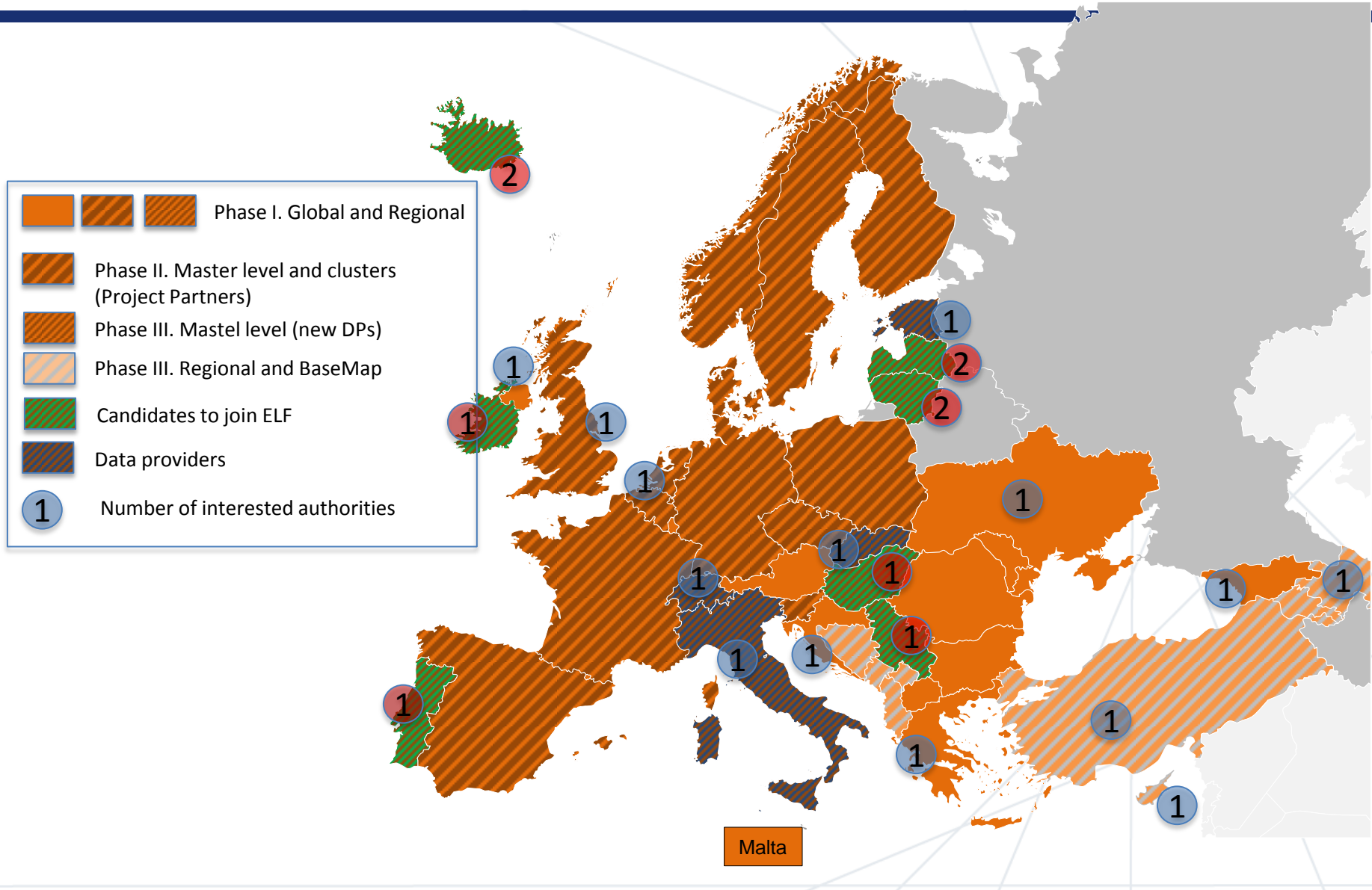
ELF web services in coverage (2)



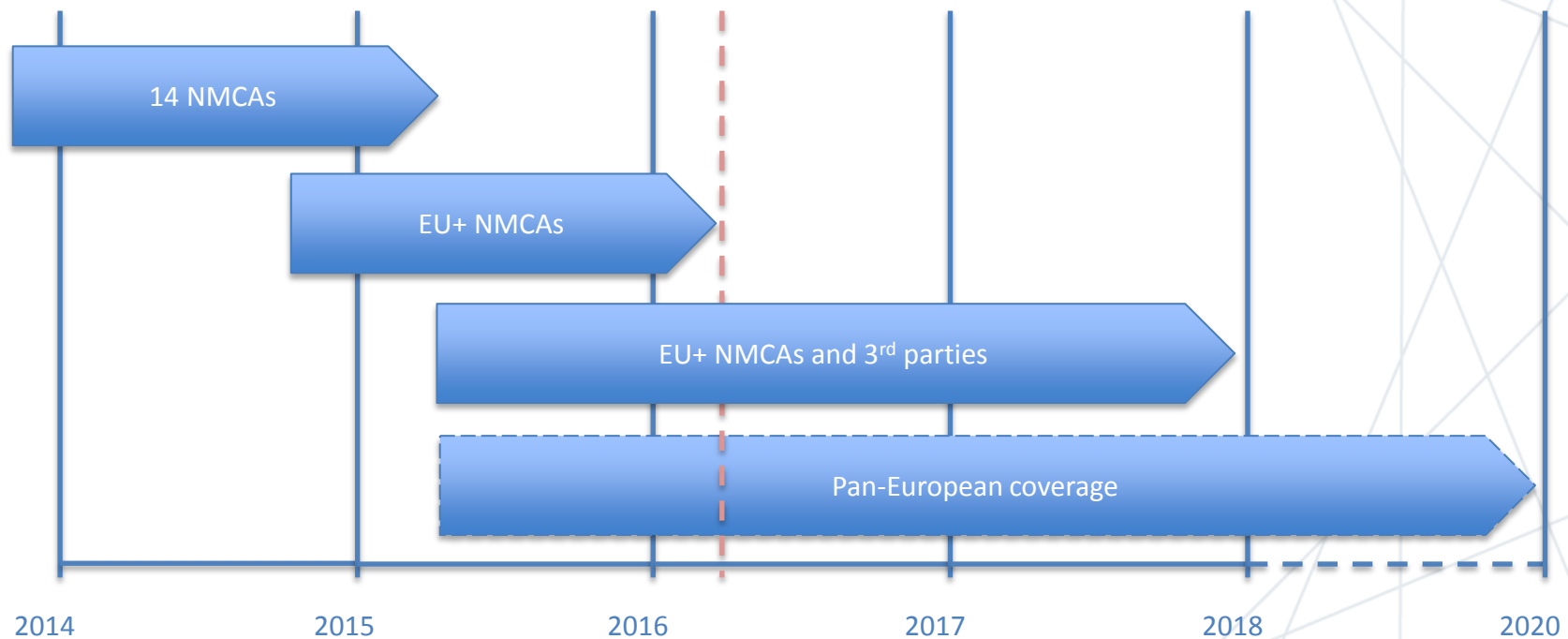
ELF web services in coverage (3)



Candidates PP and Data providers



The roadmap to a full ELF European coverage





ELF web training webinars

The following ELF trainings and consultations are planned to be organized to all members of EuroGeographics:

Subject	Responsible ELF WP, presenters	Month, Year
ELF specifications	WP2, Anje Hopfstock, Morten Borrebeek	Completed at 20 th November 2014
ELF quality validation geotools <i>During the Webinar 'ELF Quality Validation Geotools' ESRI, 1Spatial and Delft University will each demonstrate their Quality Validation tool together with an introduction by WP2.</i>	WP4, Dan Warner, Paul Herdy, Hugo Ledoux WP2 Sanje Werhahn	Completed at 27 th November 2014
ELF specifications	WP2, Anje Hopfstock, Morten Borrebeek	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 EU Grant for ELF. Data models, map authoring and service publication will be the focus of the webinar. ArcGIS Server, services and geodatabase configurations and optimisations aspects will be 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, Dan Warner, Paul Herdy, 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 Scheme Transformation geo-tools	WP4, Richard Rombouts, Marianne de Vries	Moved to 10:00 – 11:30, 22 May 2015 https://attendee.gotowebinar.com/register/8048708054838407682
ELF Pilot basemap <i>Attendees will be introduced to the ELF basemap specification and requirements/capabilities for arranging the national view web services for it.</i>	WP2 and WP3, Dominique Laurent, Thomas Ellett	10:00 – 12:00, 27 March 2015 https://attendee.gotowebinar.com/register/794606422711132162
ELF SLD editor geotool	WP3, Jari Kylmäaho	10:00 – 12:00, 7 April 2015 https://meetings.usis.it/webex.com/join/jt/usis/its/j.php?MTID=mbf8b661ee061bb6de351f579387bc Password: sld1
Use of ELF data in ArcGIS Online by NMCAs <i>Through the EU Grant for ELF, NMCAs 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 Fortele, Nick Land	March-May 2015*

★ Audience

- ★ ELF Project Partners
- ★ All members of EuroGeographics

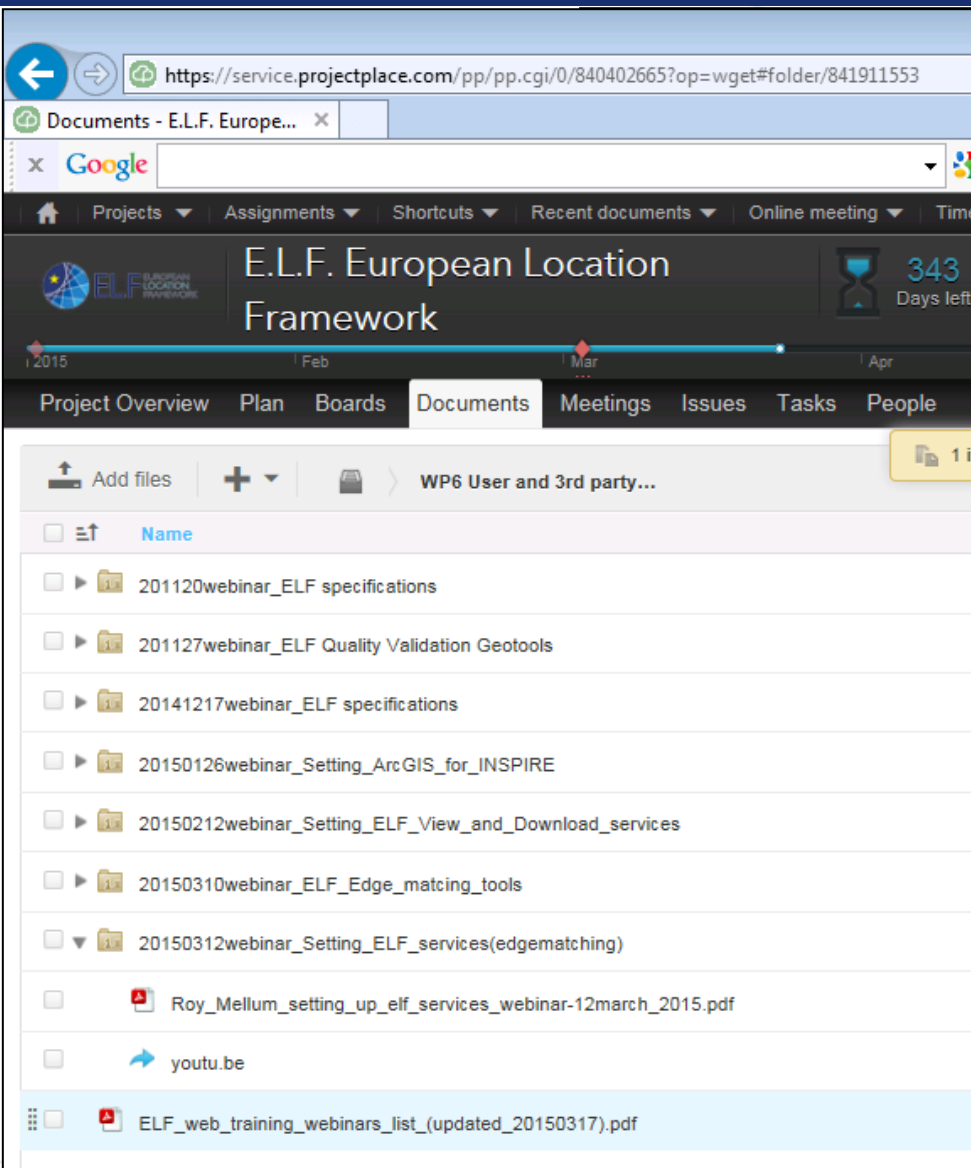
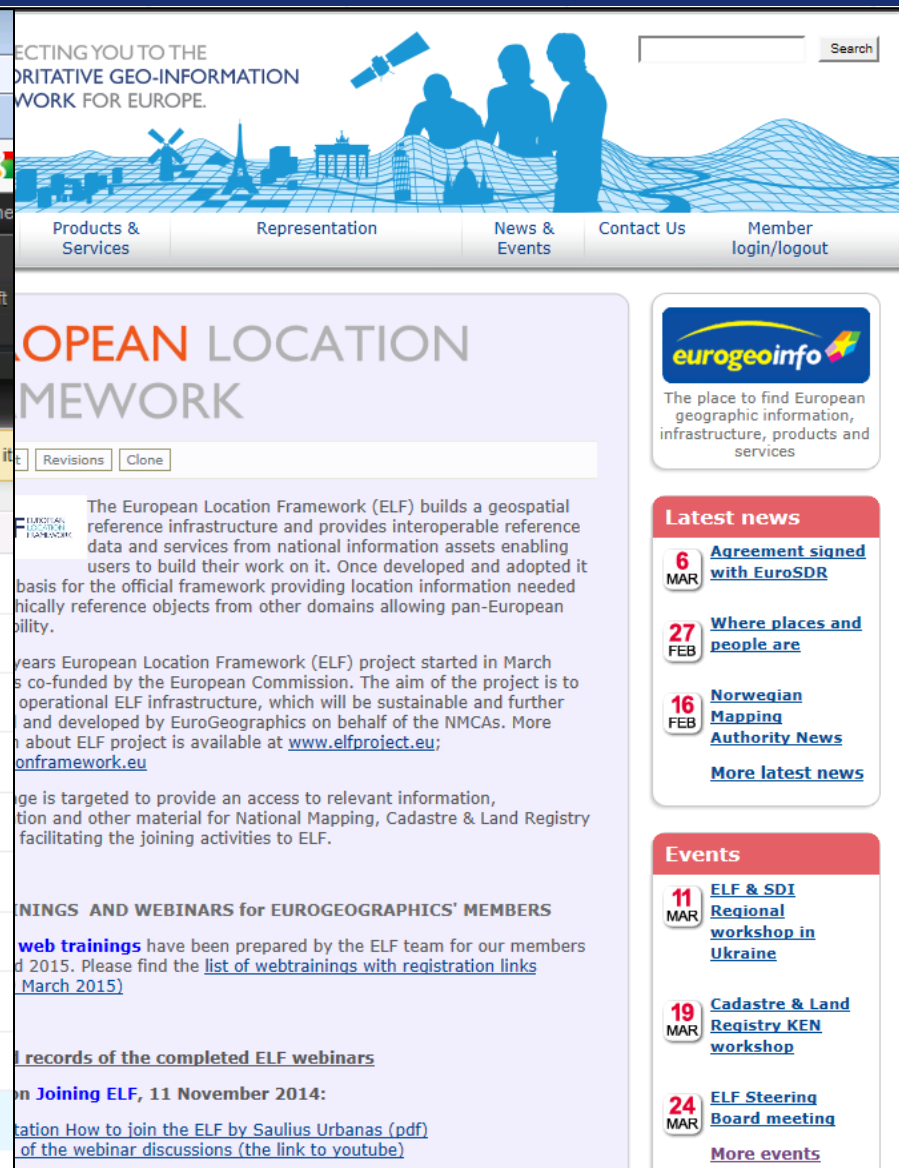
★ Great interest

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

★ Records (youtube links) and slides

- ★ ProjectPlace
- ★ EuroGeographics website (Members Only)

Access to records and slides

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EUROPEAN LOCATION FRAMEWORK

Revisions Clone

The European Location Framework (ELF) builds a geospatial reference infrastructure and provides interoperable reference data and services from national information assets enabling users to build their work on it. Once developed and adopted it basis for the official framework providing location information needed hically reference objects from other domains allowing pan-European ility.

years European Location Framework (ELF) project started in March s co-funded by the European Commission. The aim of the project is to operational ELF infrastructure, which will be sustainable and further and developed by EuroGeographics on behalf of the NMCAs. More a about ELF project is available at www.elfproject.eu; onframework.eu

ge is targeted to provide an access to relevant information, tion and other material for National Mapping, Cadastre & Land Registry facilitating the joining activities to ELF.

ININGS AND WEBINARS for EUROGEOGRAPHICS' MEMBERS

web trainings have been prepared by the ELF team for our members d 2015. Please find the [list of webtrainings with registration links March 2015](#)

l records of the completed ELF webinars

on Joining ELF, 11 November 2014:

[ation How to join the ELF by Saulius Urbanas \(pdf\)](#)
[of the webinar discussions \(the link to youtube\)](#)

Latest news

- 6 MAR** [Agreement signed with EuroSDR](#)
- 27 FEB** [Where places and people are](#)
- 16 FEB** [Norwegian Mapping Authority News](#)
- [More latest news](#)

Events

- 11 MAR** [ELF & SDI Regional workshop in Ukraine](#)
- 19 MAR** [Cadastre & Land Registry KEN workshop](#)
- 24 MAR** [ELF Steering Board meeting](#)
- [More events](#)

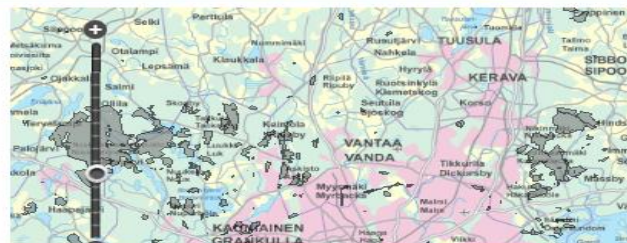
www.elfproject.eu



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,