ELF- Providing Platforms for Accessing INSPIRE Based Reference Data
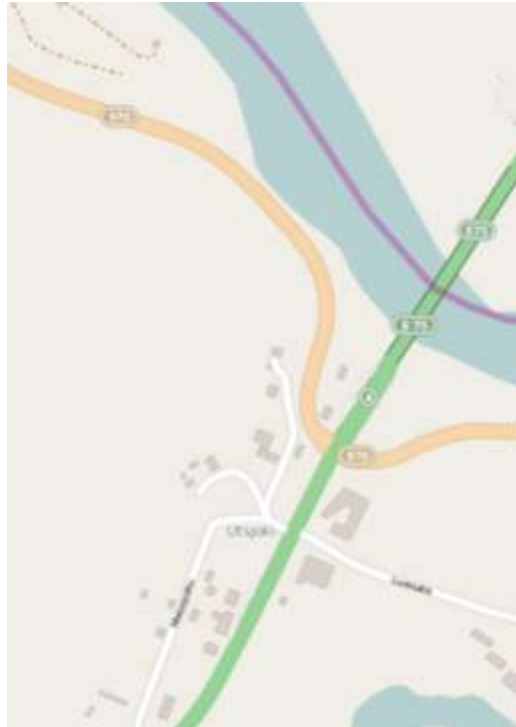
Presentation to: **Geospatial World Forum 25-29 May 2015**

By: **Antti Jakobsson**
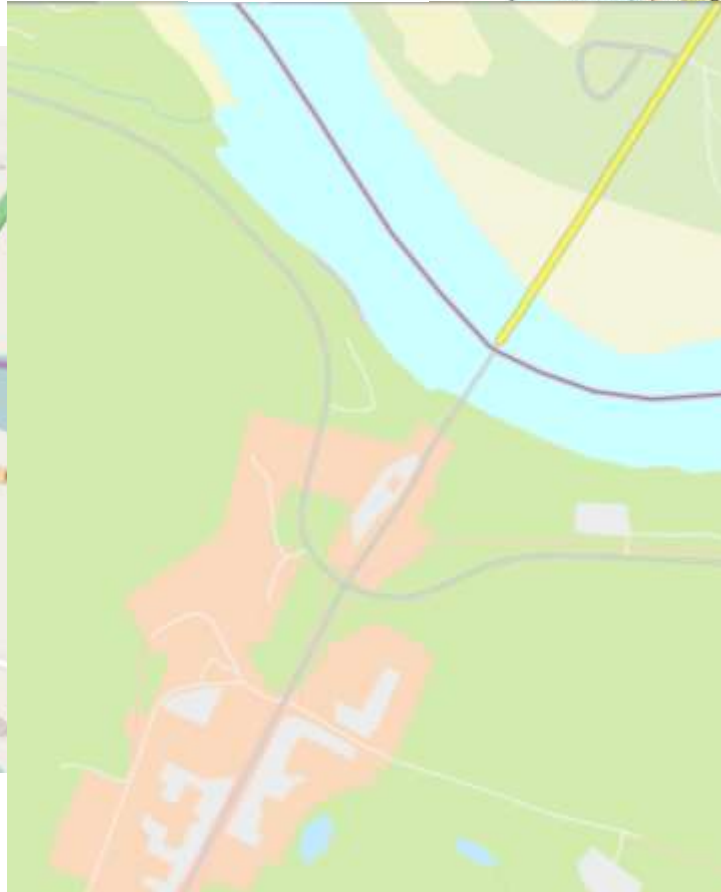
Date: **27ʰ May 2015**

Why ELF?

Crowdsourcing

Authoritysourcing = ELF
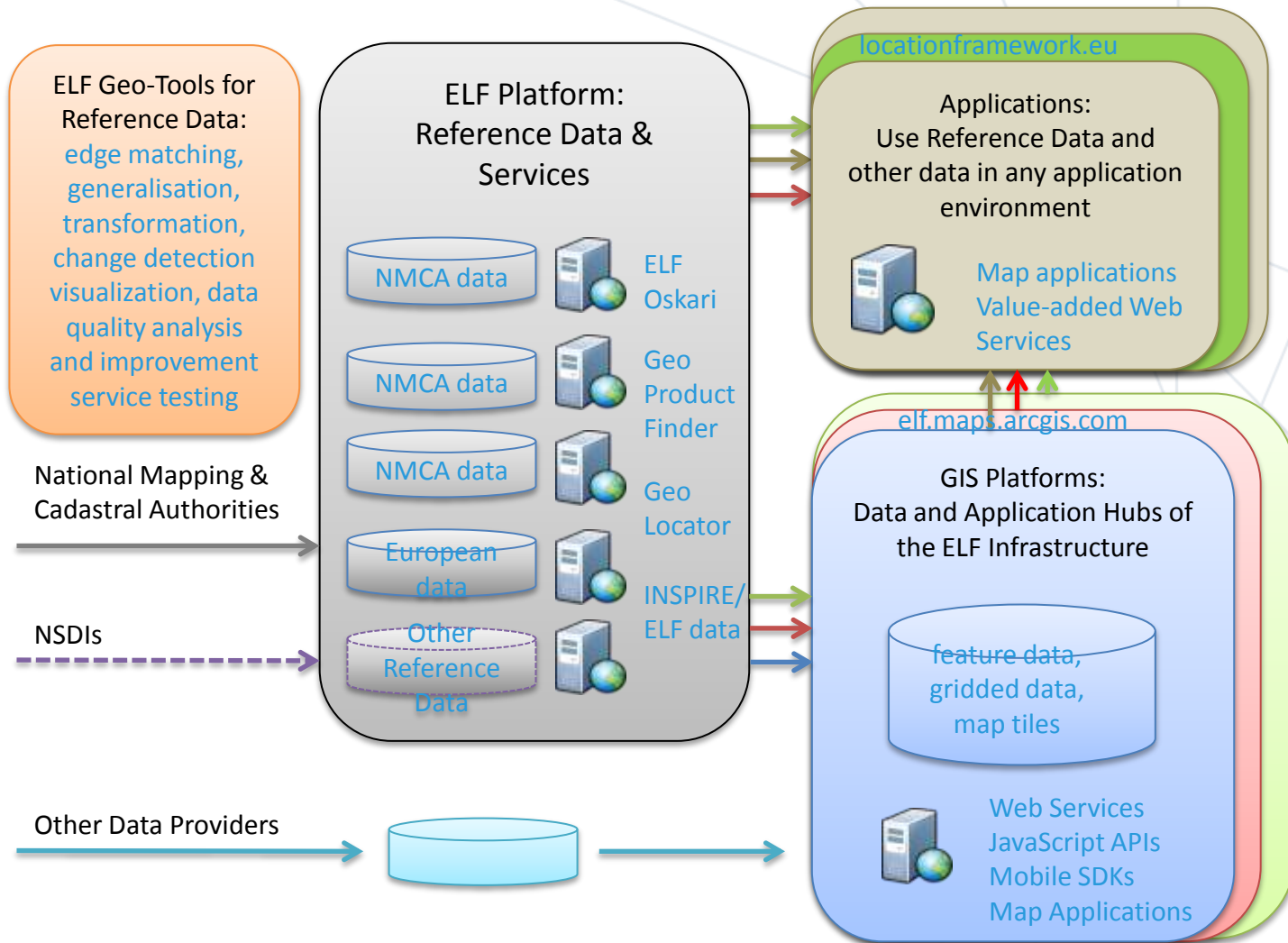
National Service

EUROPEAN LOCATION FRAMEWORK

ELF project in a nutshell

- **30 partners, 13 National Mapping Authorities + 10 more joining**

- **19 countries**

- **Part funded by the ICT-PSP budget , 13 million euro**

- **Runs between 2/2013-2/2016 (8/2016 proposed)**

- **To deliver the European Location Framework (ELF) required to provide up-to-date, authoritative, interoperable, cross-border, reference geo-information for use by the European public and private sectors**
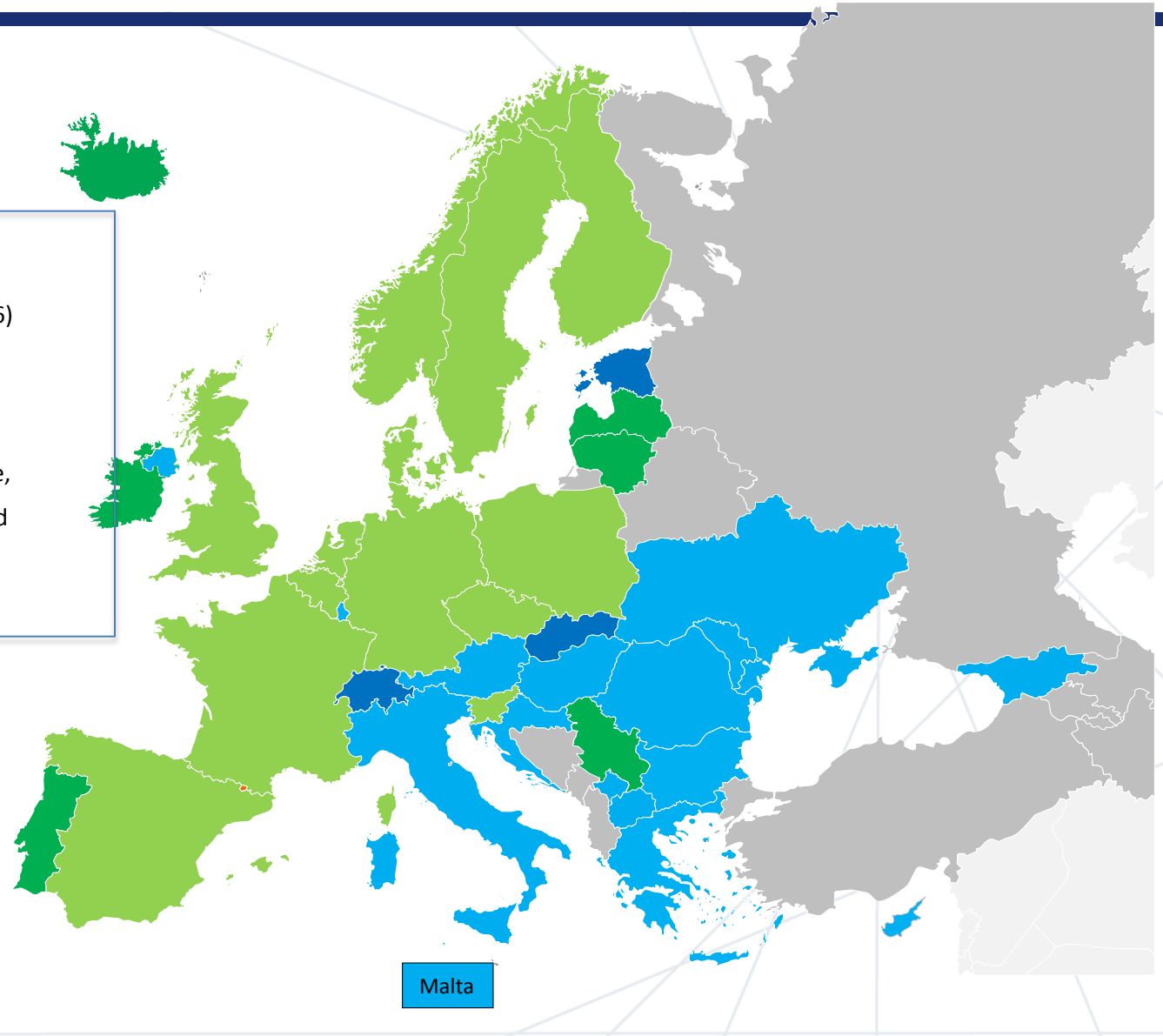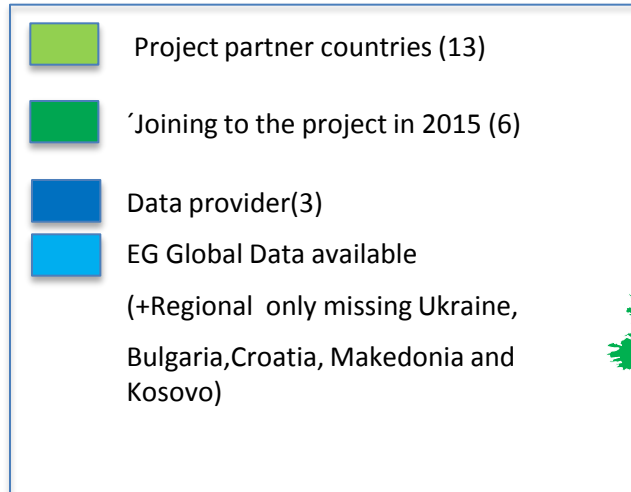

www.elfproject.eu

ELF Components

ELF Geo-Tools for Reference Data:
edge matching, generalisation, transformation, change detection visualization, data quality analysis and improvement service testing

National Mapping & Cadastral Authorities

NSDIs

Other Data Providers

ELF Platform: Reference Data & Services

- NMCA data — ELF Oskari
- NMCA data — Geo Product Finder
- NMCA data — Geo Locator
- European data — INSPIRE/ELF data
- Other Reference Data

locationframework.eu

Applications:
Use Reference Data and other data in any application environment

Map applications
Value-added Web Services

elf.maps.arcgis.com

GIS Platforms:
Data and Application Hubs of the ELF Infrastructure

feature data, gridded data, map tiles

Web Services
JavaScript APIs
Mobile SDKs
Map Applications

ELF Data in 2017

Project partner countries (13)

´Joining to the project in 2015 (6)

Data provider(3)

EG Global Data available

(+Regional only missing Ukraine,

Bulgaria,Croatia, Makedonia and

Kosovo)

Malta

EuroGeographics EBM/ERM and EGM

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)	

EUROPEAN LOCATION FRAMEWORK

www.locationframework.eu
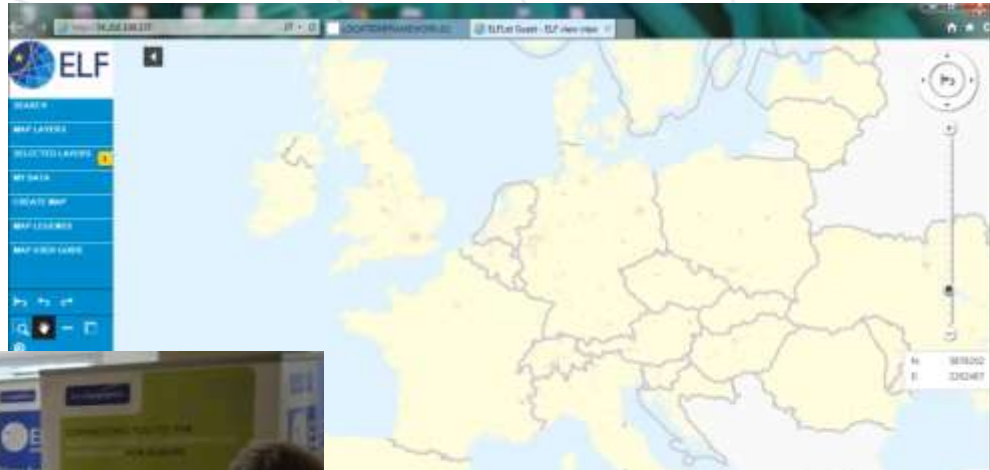
ELF preoperational launch at the INSPIRE conference June 2014

EUROPEAN LOCATION FRAMEWORK

Locationframework.eu

- **Showcase Application demonstration what is available**

- **ArcGIS Online access point**

- **Documentation (access point to services)**

- **(Registration)**

- **(GeoProductFinder)**

Oskari Showcase app

Available services

Possibility to add thematic
Data (now for
example EEA
Services)

Also other national
Data (now for example
Finnish postal code areas)

Bring your own data (for registered users)

Currently 40 national services available -> 104 by end 2015

EUROPEAN LOCATION FRAMEWORK

Basemap – *a WMTS service populated from national WMS services*
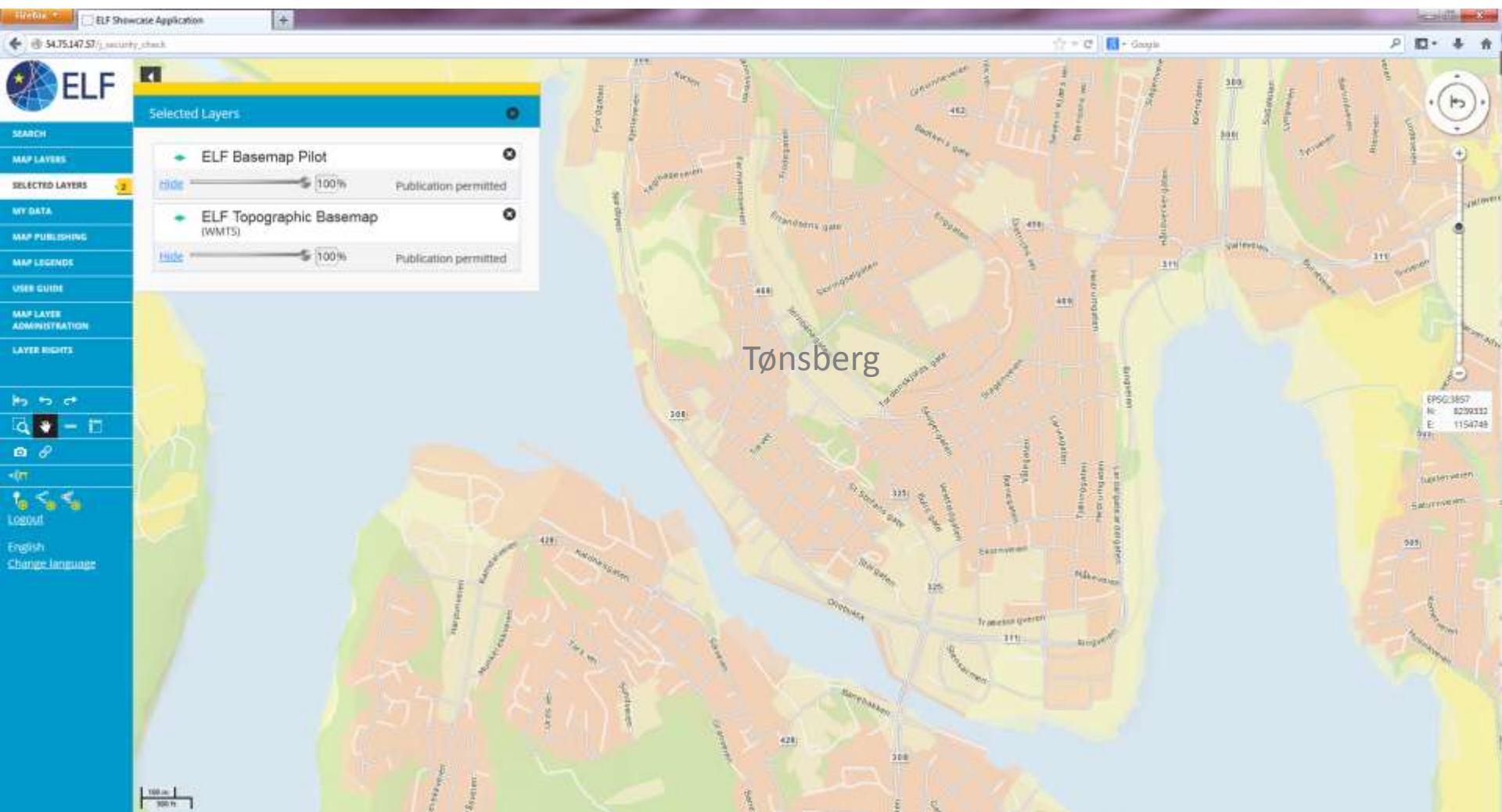
Master level now piloted – Norway, Finland, Sweden and Netherlands

EUROPEAN LOCATION FRAMEWORK

1 Automated sync from ELF Platform services provided by NMCAs to ArcGIS Online using FME; includes optimization of the data for use in ArcGIS
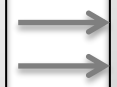
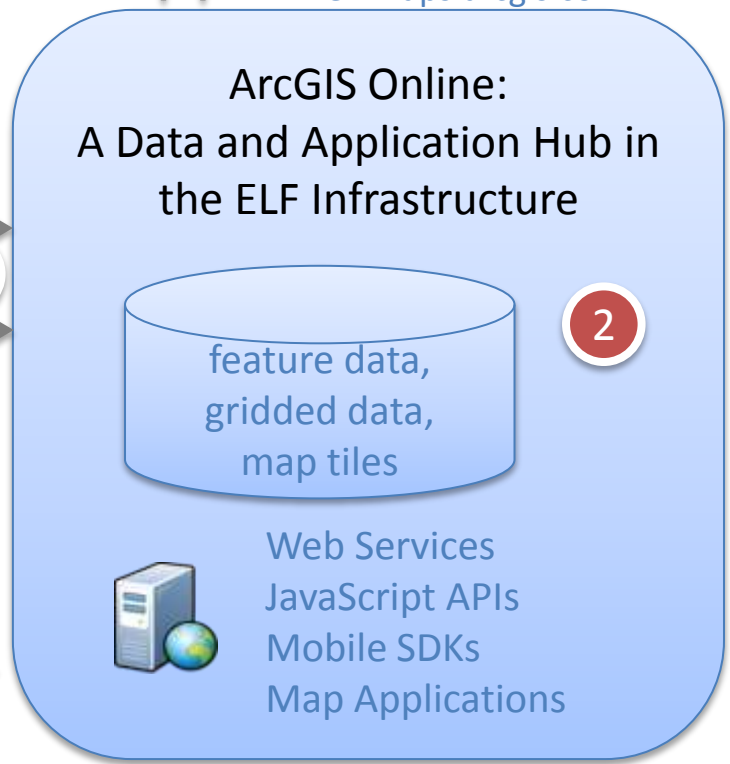**2** Publish the data as Hosted Feature Service in ArcGIS Online

ELF Platform: Reference Data & Services

INSPIRE Network Services

Reference data

Reference data

Reference data

Reference data

National Mapping & Cadastral Authorities

NSDIs

Other Data Providers

Applications: Use Reference Data and Other Data in any Application Environment

Map Applications
Value-added Web Services

elf.maps.arcgis.com

ArcGIS Online: A Data and Application Hub in the ELF Infrastructure

feature data, gridded data, map tiles

2

Web Services
JavaScript APIs
Mobile SDKs
Map Applications

1

EUROPEAN LOCATION FRAMEWORK

ELF in ArcGIS Online

http://elf.maps.arcgis.com/

European Cross-Border Users
European Data Providers

Enablers

OPEN/PAID   Statistics

ELF Platform

GPF   GeoLocator   Basemap   Cadastral Map   Donwnload and View Services (Themes)   TJS

EuroGeographics

European Broker role

Edge-matched, Joined-up, Singe Access Point, Quality Checked, Security

Other Directives

ISA

MS

Authoritative Reference Data   Other Data   Statistics
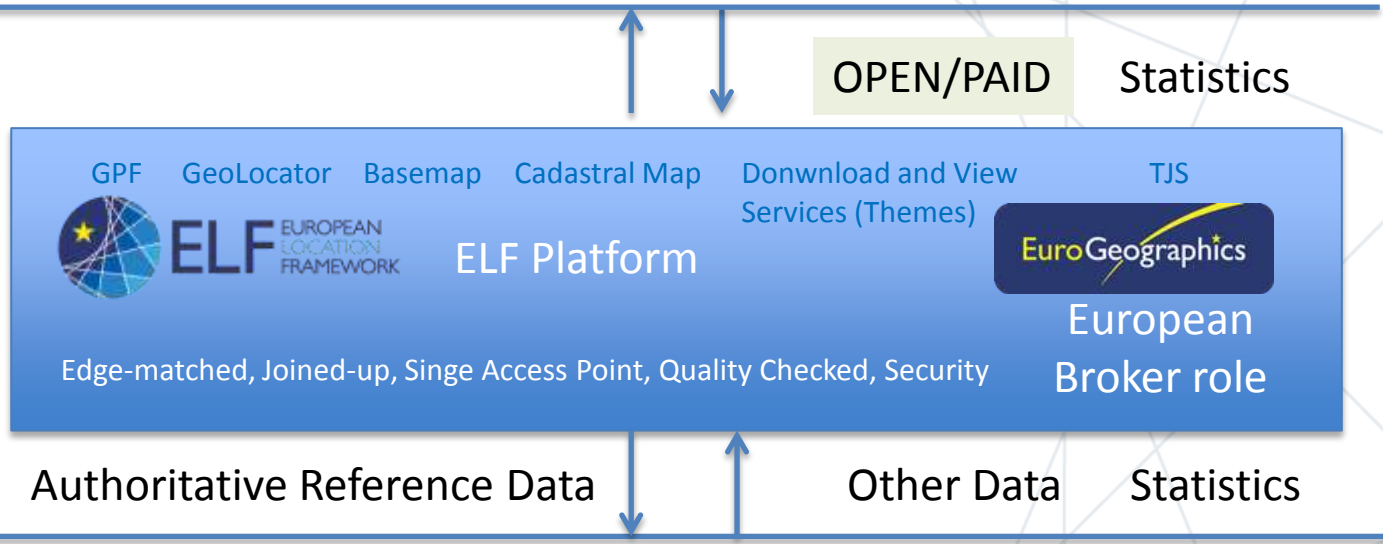
NMCAS (National Broker Role)

National Users
National Data Providers

A scenario – ELF-EULF-ITS

compelling transportation pilot(s)
ITS map providers – application providers

ELF (INSPIRE) TN
information
as WFS, WMS

pan-European
seamless
platform

or, not necessarily
pan-European
seamless platform
for the pilot

TN-ITS
(enhanced
ROSATTE)
feed

ELF EUROPEAN LOCATION FRAMEWORK platform

TN-ITS services ...

NO   SE   FI   ...   xx

NO   SE   FI   ...   xx

TN data coming from mapping agencies and
road administrations - combined
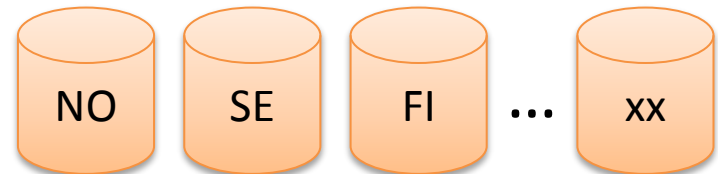
national road databases

Heath Statistics application - CASPER Client
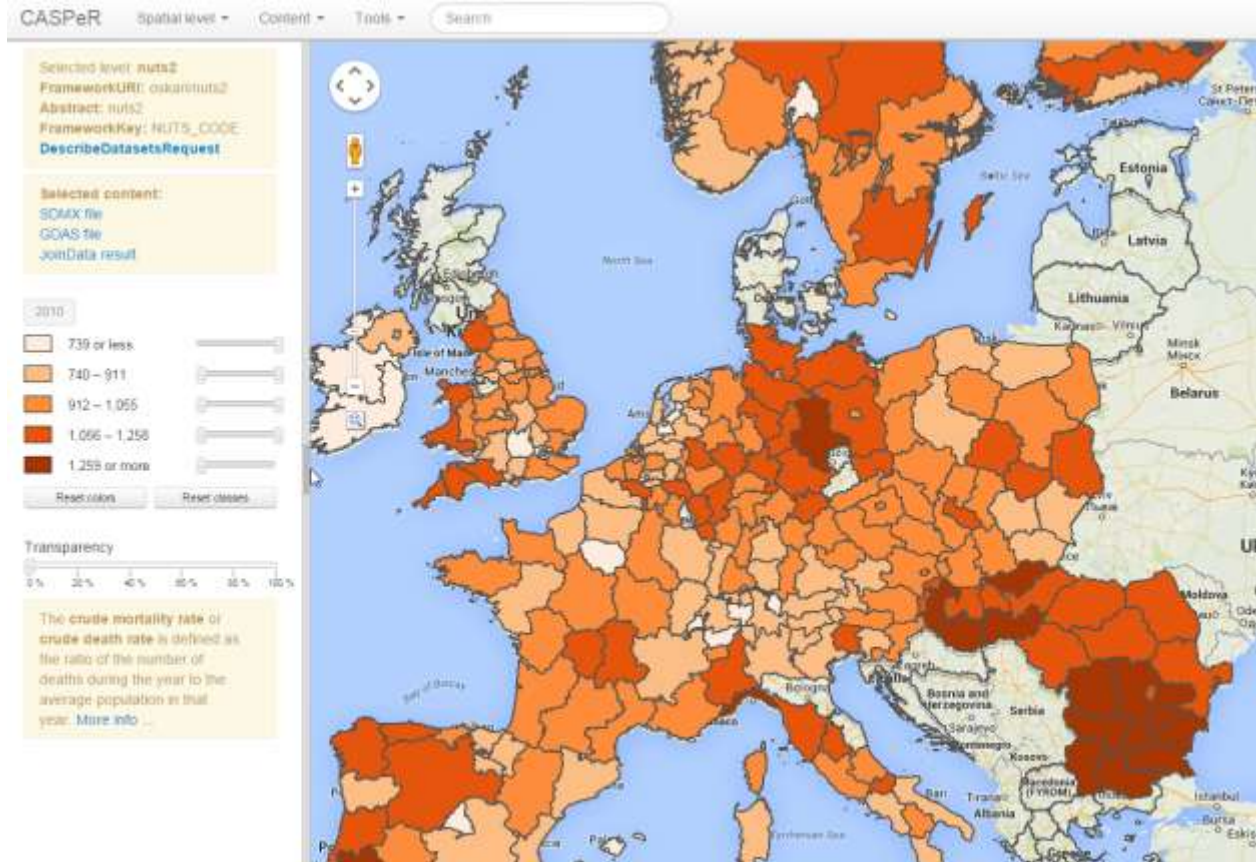
Architecture final deployment

Casper (GINST)

Other clients

TJS test demonstrator (Kadaster)
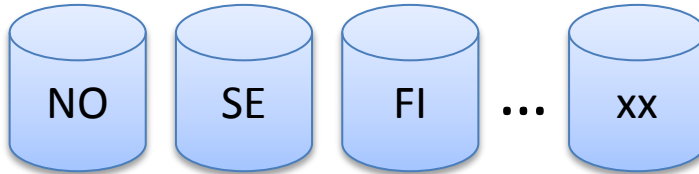
TJS — Join Service

WMS — Download Service

WFS — Download Service

Health statistics

SDMX REST — Download Service

data tables (SDMX)

EuroSTAT

Transformation Service

SDMX to GDAS

TJS join

WFS — Download Service

Cached data

Geographic data

E.L.F. - Oskari Platform

Euroboundarymap
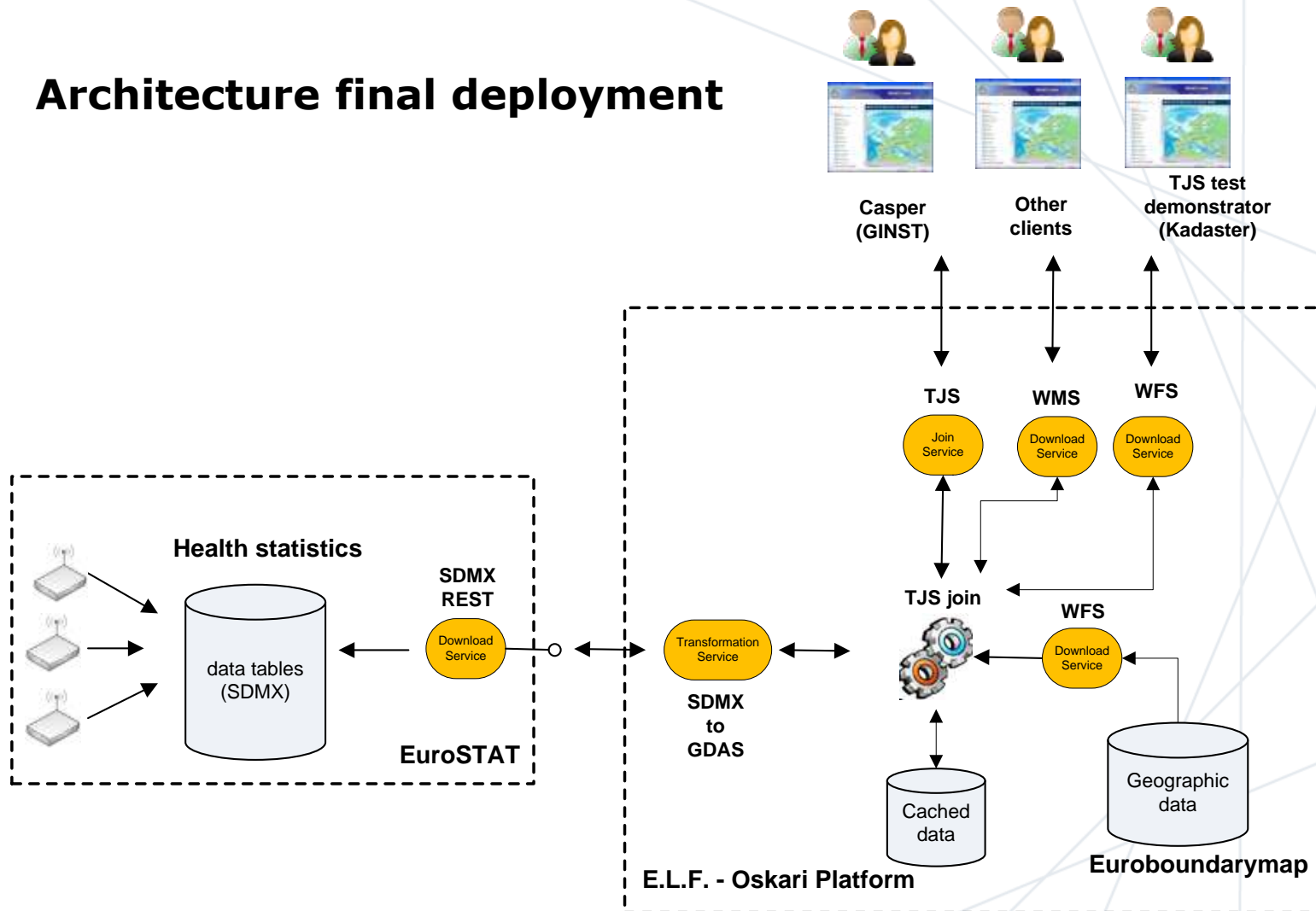
Additional features we are working on

- **Administrative (WMS) and Topographic Basemap (WMST)**

- **ELF Cadastral Map WMS supporting Feature Info, Service uses national CP,AU,BU,AD WMS**

- **Orthophoto inclusion**

- **More national download services**

- **National Tours and ELF Innovation Award 2016**

- **Thematic Data**

- **More features in Geo Product Finder (user feedback, licenses, quality)**

- **Publish own embedded maps (using Showcase app)**

- **TJS (using EuroBoundaryMap)**

What benefits does ELF provide?

- Creates business opportunities in Europe (startups, application developers, SMEs)
- Linking national INSPIRE services through ELF e.g. for EC / EEA Copernicus, PSI etc.
- Provides INSPIRE services on behalf of the MS;
- edgematching, combined services, access to services, licences, open data...
- Regional co-operation with neigbourging MSs
- Use ELF nationally when needed to use similar data from other countries e.g. Cross border security, migration trends, etc.
- Improves interoperability and quality of Public Sector Information
- ELF is already in the pre-operational phase (Applications using it already developed and extension for more applications will start 2016)

Follow the ELF project www.elfproject.eu
Twitter @ELFProjectEU
See what is available www.locationframework.eu

EUROPEAN LOCATION FRAMEWORK