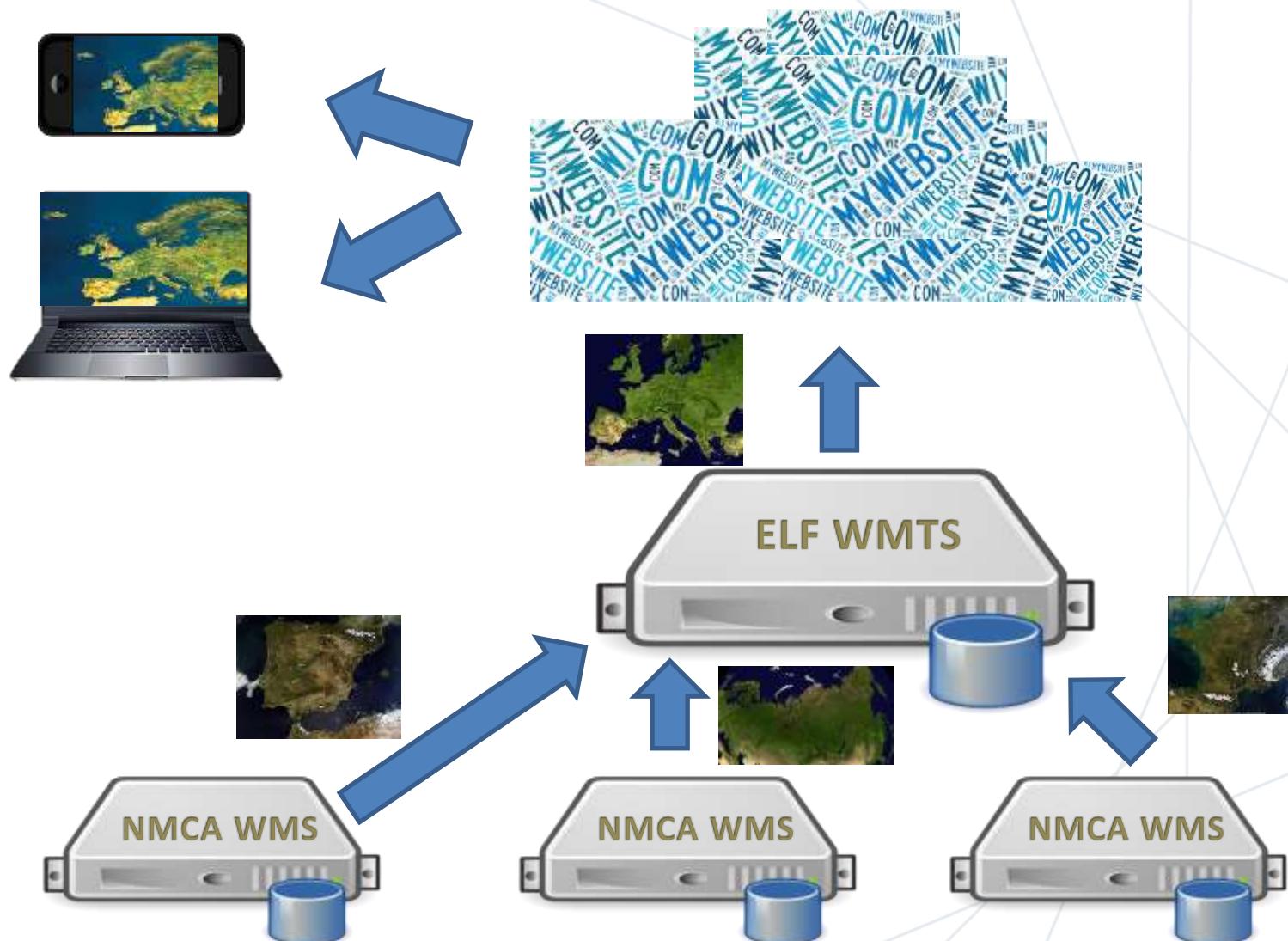


# The prototype of the ELF Imagery Viewing Service

**Presentation to:** INSPIRE KEN workshop

**Author:** Saulius Urbanas, EuroGeographics; Emilio Lopez (IGN Spain)

**Date:** 29<sup>th</sup> September



# Questions prior starting the test

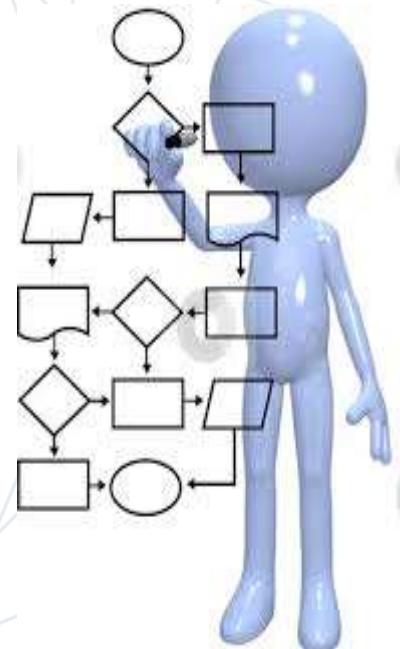
- ★ How and if national web viewing services (WMS, WMTS) from NMCAs could be joined to the central ELF webservice?
- ★ If yes, what are the requirements for the central service (software, IT requirements)?
- ★ What are the requirements from the side of data providers (data formats, tiling, edge-matching, actions by NMCAs, „how to connect“ instructions, etc.)
- ★ What are requirements for central management of the view web service?
- ★ What are the major issues/constraints for setting up the central ELF view service for orthophotos, aerial photos and satellite images

## ★ Software

- ★ Degree
- ★ GeoServer
- ★ MapServer and MapCache

## ★ Chosen technology

- ★ Distribution CentOS (Red Hat Enterprise Linux RHEL), version 6.4 and 64-bit architecture.
- ★ Java Virtual machine: JDK 1.6
- ★ Apache HTTP Server version 2.2
- ★ MapServer version 6.2.1
- ★ MapCache



## ★ MapServer

- ★ Have the ability to connect to remote WMSs.
- ★ Support the following WMS versions when connects to them:  
1.0.0, 1.0.7, 1.1.0, 1.1.1
- ★ Have the ability to mask out one or more layers so that only the features that intersect another set of features are rendered in the response to a GetMap request.

## ★ MapCache

- ★ has the ability to generate WMTS (according to OGC spec) from a remote WMS. Can also generate other services like WMS-C, TMS from connections to other WMS services

1. Creation of WMS with MapServer.
  1. Connection to each of the NMCA's WMS.
  2. Setting up each layer of each service.
  3. Setting up a group of layers from the aggregation of different layers of different services
  4. Publication via WMS of the layer group.
2. Creation of the WMTS with MapCache
  1. Connection to WMS layer group
  2. Setting up the cache.
3. Publication via WMTS

## ★ Requirements for remote (national) Imagery View services

- ★ Comply with OGC WMS version 1.1.0
- ★ Documented CRS for transition to EPSG:4258 (ETRS89 latitude, longitude).

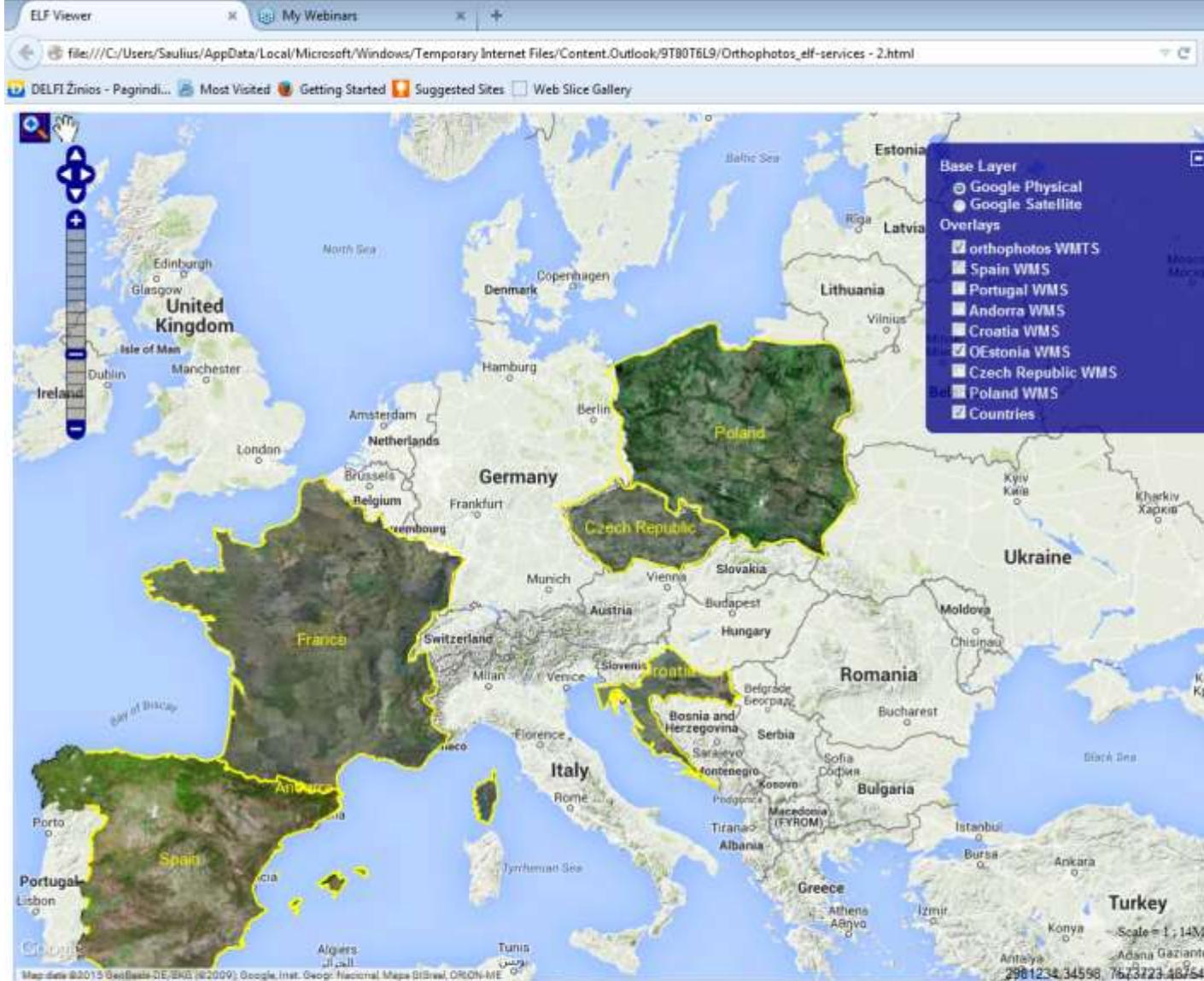
## ★ Store images in a central cache

- ★ the provisional estimation for storing 1:1,000 scale imagery (orthophotos in JPG format) shows that the demand for cache space is about 29 TB

# ELF Imagery service (prototype)



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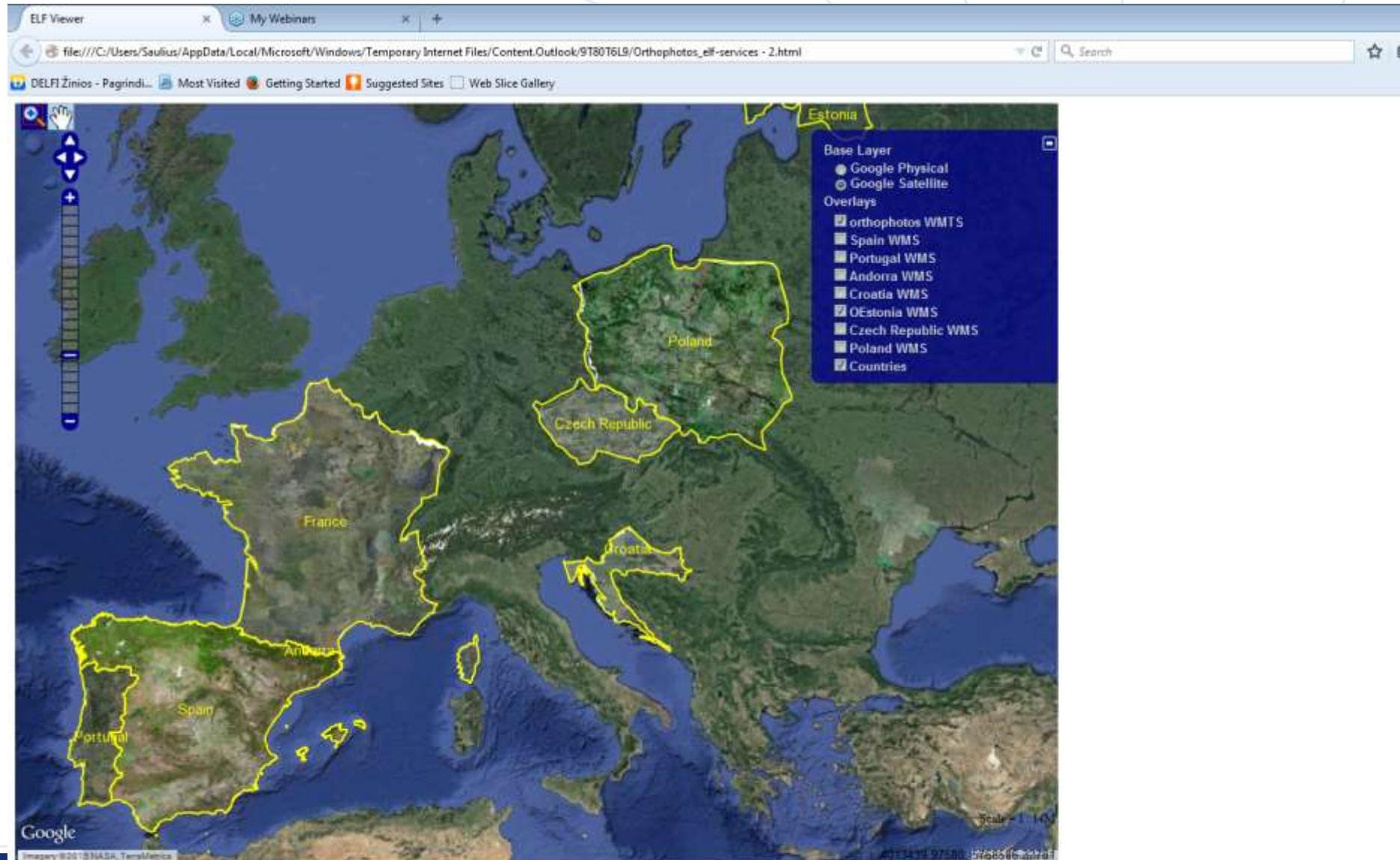


The screenshot shows a web browser window displaying a map of Europe. The map is a composite of orthophotos WMTS (represented by green and yellow textures) overlaid on Google Satellite imagery (represented by blue and white textures). A legend box is open on the right side of the map, titled "Overlays". It contains a list of options with checkboxes, many of which are checked:

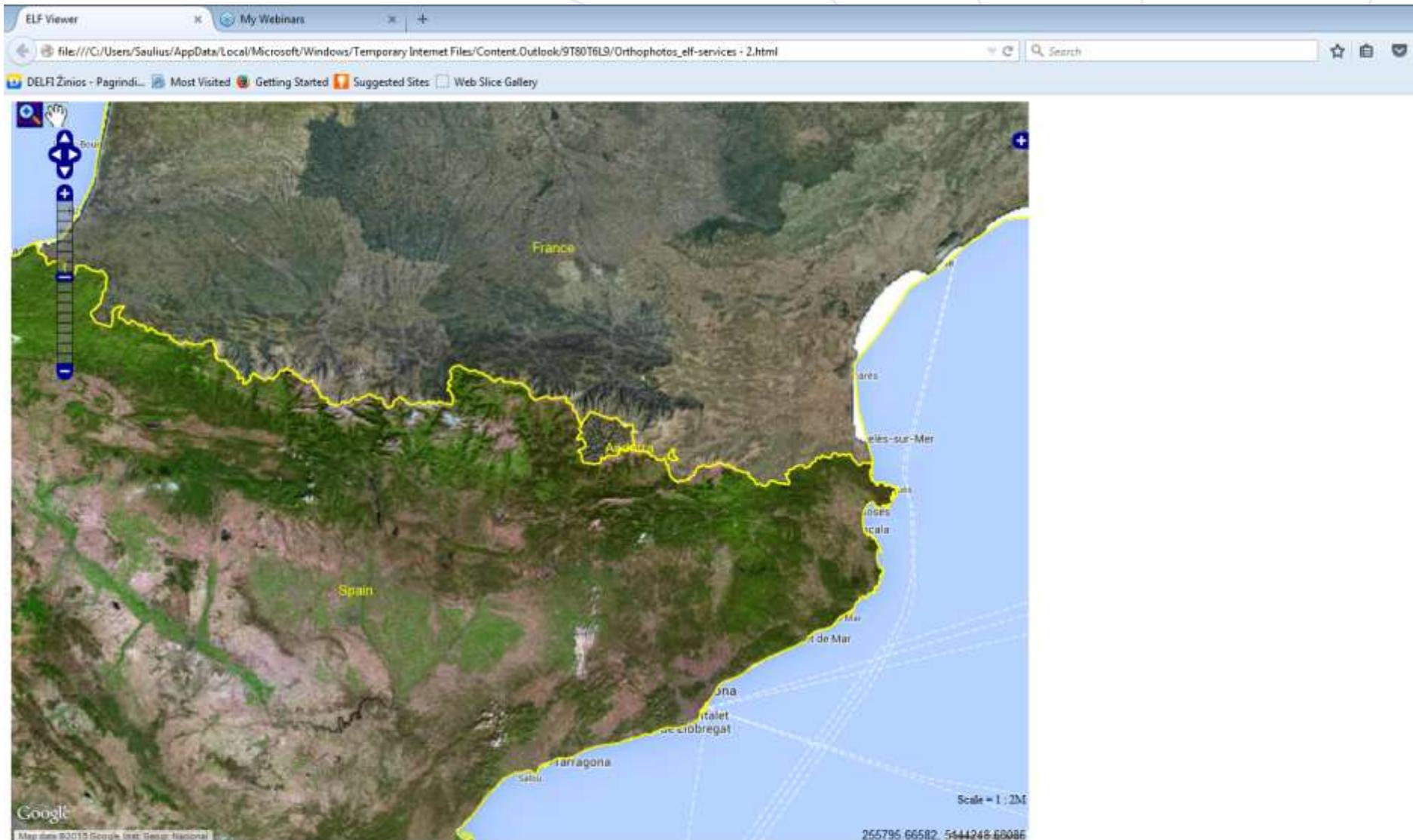
- orthophotos WMTS
- Spain WMS
- Portugal WMS
- Andorra WMS
- Croatia WMS
- Estonia WMS
- Czech Republic WMS
- Poland WMS
- Countries

The map itself shows major European countries with their names labeled: United Kingdom, Ireland, France, Spain, Portugal, Italy, Greece, Monaco, Andorra, San Marino, Vatican City, Malta, Austria, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Serbia, Kosovo, Macedonia (FYROM), Albania, Romania, Bulgaria, Turkey, Ukraine, Moldova, and Kyiv. Major cities like London, Paris, Rome, and Berlin are also marked. The legend also includes "Base Layer" options for "Google Physical" and "Google Satellite". A scale bar at the bottom right indicates "Scale = 1 : 14M".

# ELF Imagery service (prototype)



# ELF Imagery service (prototype)



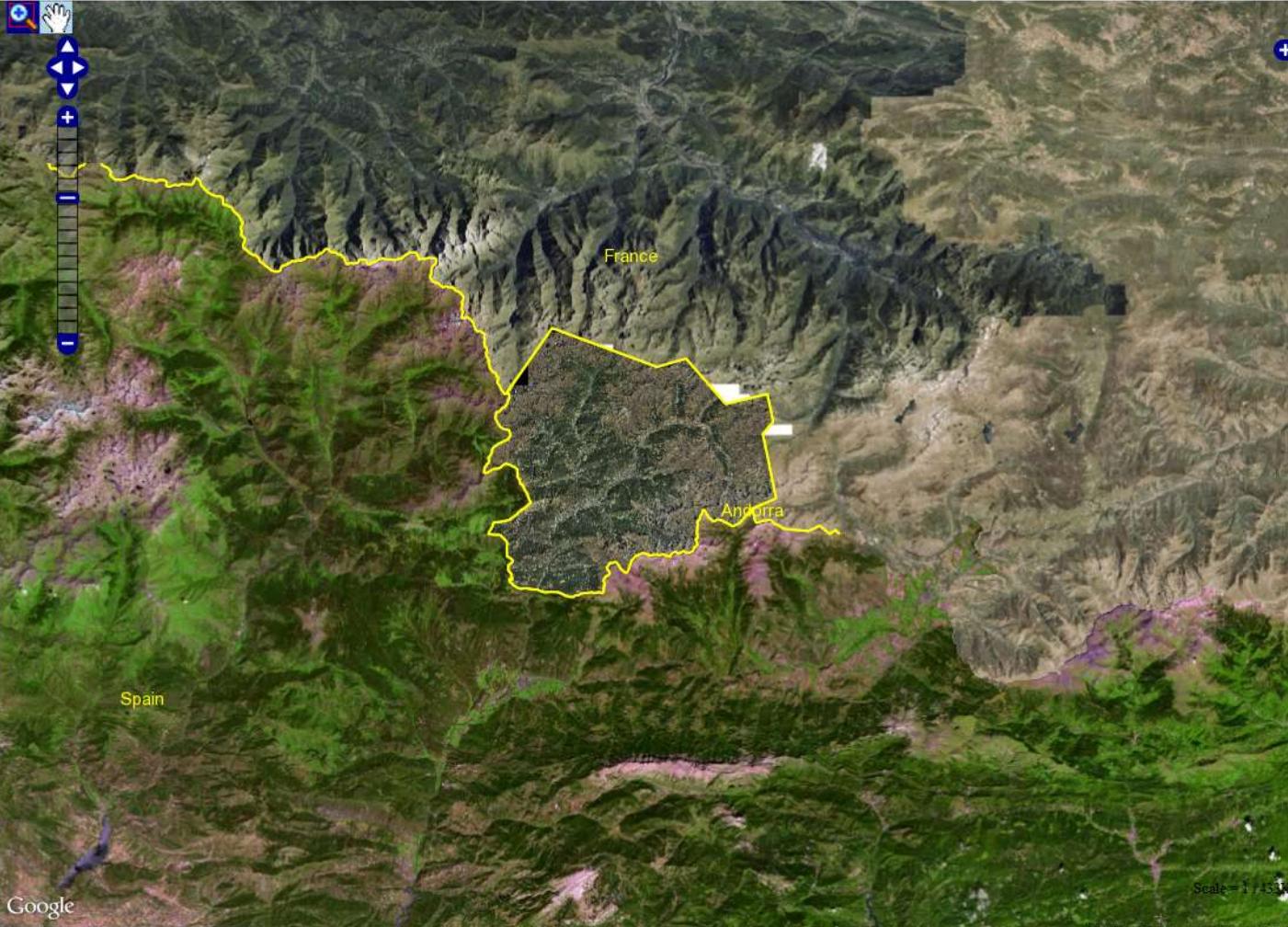
# ELF Imagery service (prototype)

ELF Viewer    My Webinars    +

file:///C:/Users/Saulius/AppData/Local/Microsoft/Windows/Temporary Internet Files/Content.Outlook/9T80T6L9/Orthophotos\_elf-services - 2.html

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Search



France

Andorra

Spain

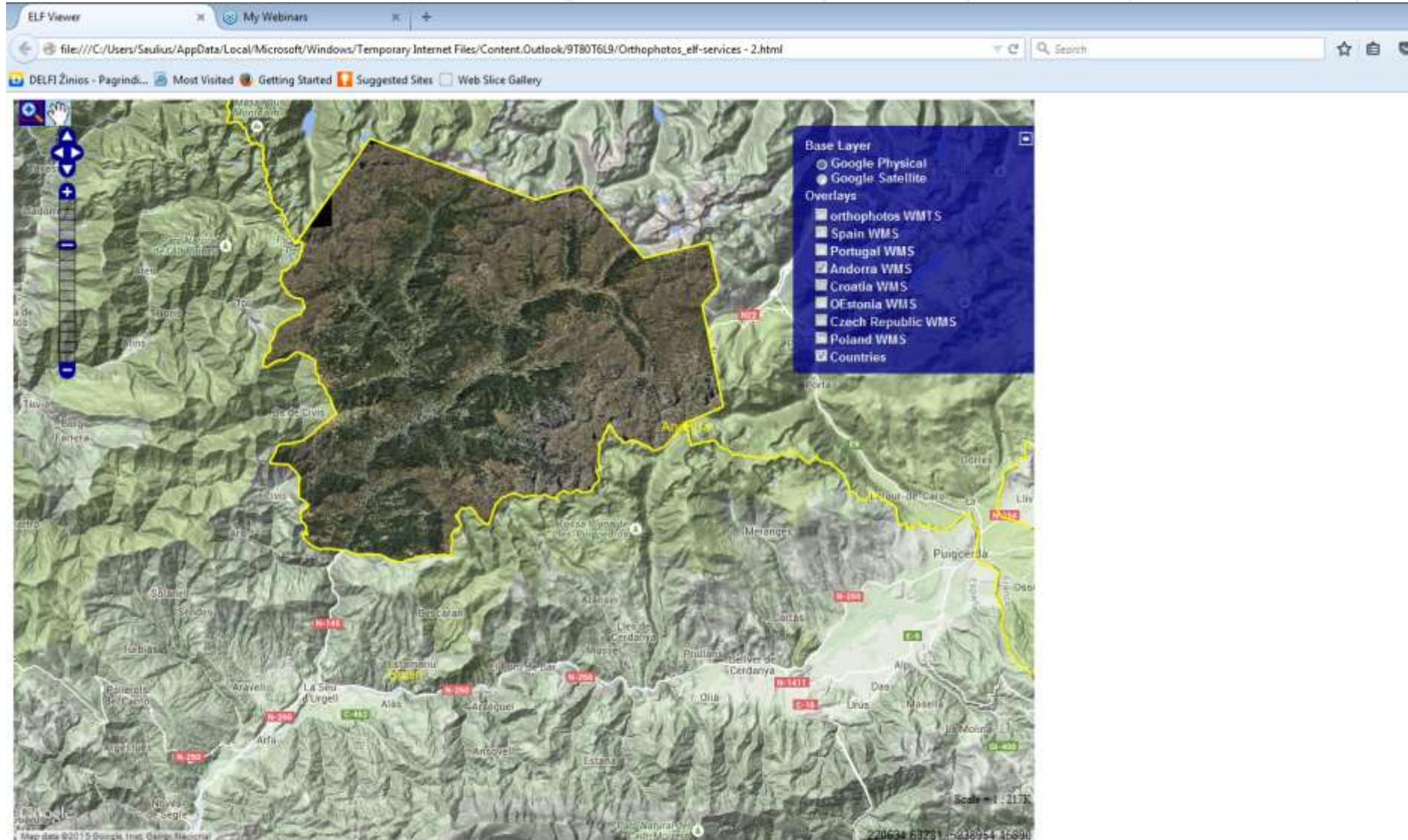
Scale = 1:13,146

192658 68047 5217933 97612

Google

Map data ©2015 Google, Inst. Geogr. Nacional

# ELF Imagery service (prototype)



ELF Viewer    My Webinars

file:///C:/Users/Saulius/AppData/Local/Microsoft/Windows/Temporary Internet Files/Content.Outlook/9T80T6L9/Oriophotos\_elf-services - 2.html

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Base Layer

- Google Physical
- Google Satellite

Overlays

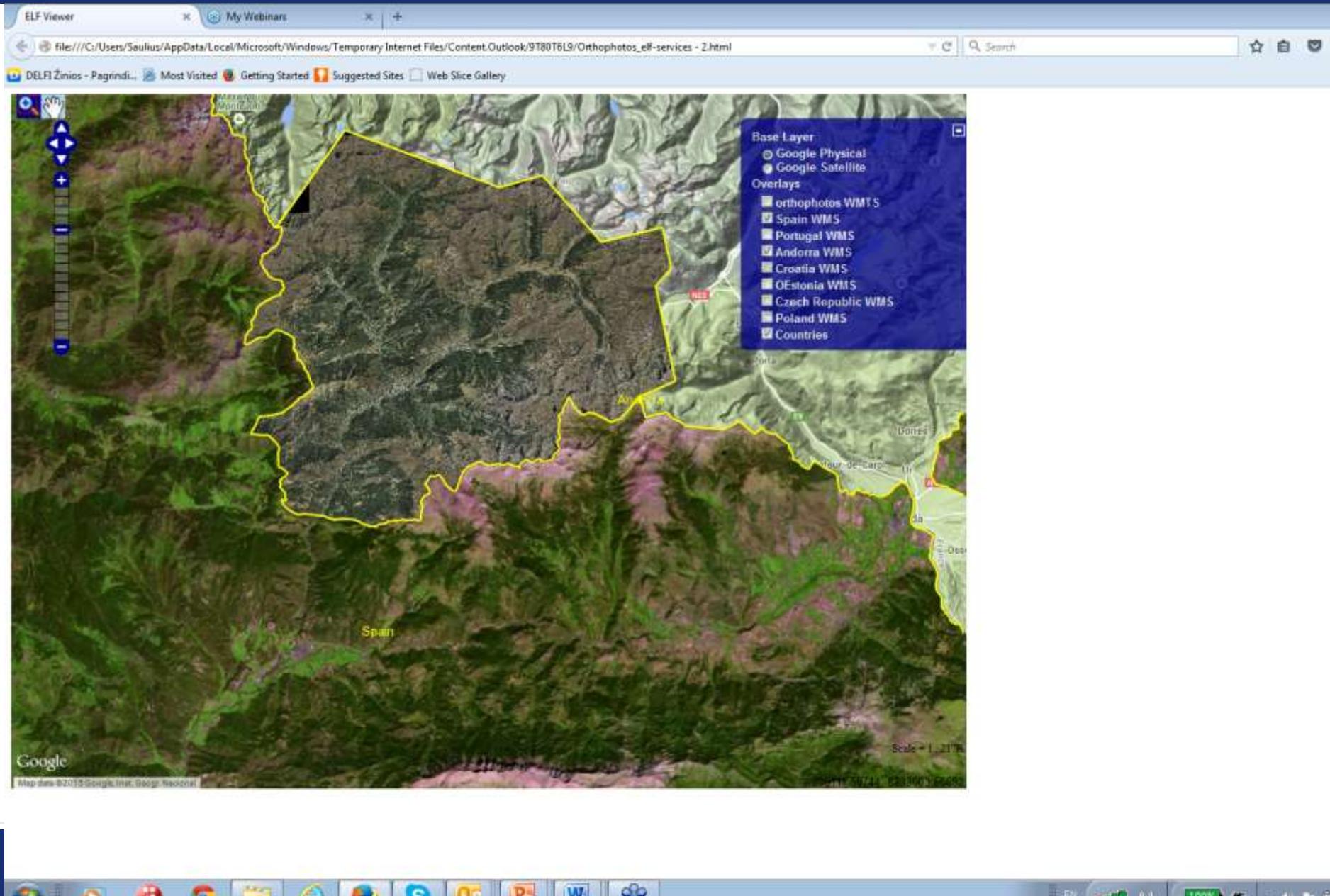
- orthophotos WMTS
- Spain WMS
- Portugal WMS
- Andorra WMS
- Croatia WMS
- Estonia WMS
- Czech Republic WMS
- Poland WMS
- Countries

Scale: 1:217K

220634 63281, -238954 46890

Map data ©2015 Google, IGN, GeoBae, National

# ELF Imagery service (prototype)



The screenshot shows a satellite map of the Pyrenees mountain range, with the border between Spain and Andorra highlighted by a yellow polygon. A legend box on the right side of the map lists the following layers:

- Base Layer
  - Google Physical
  - Google Satellite
- Overlays
  - orthophotos WMTS
  - Spain WMS
  - Portugal WMS
  - Andorra WMS
  - Croatia WMS
  - OEstonia WMS
  - Czech Republic WMS
  - Poland WMS
  - Countries

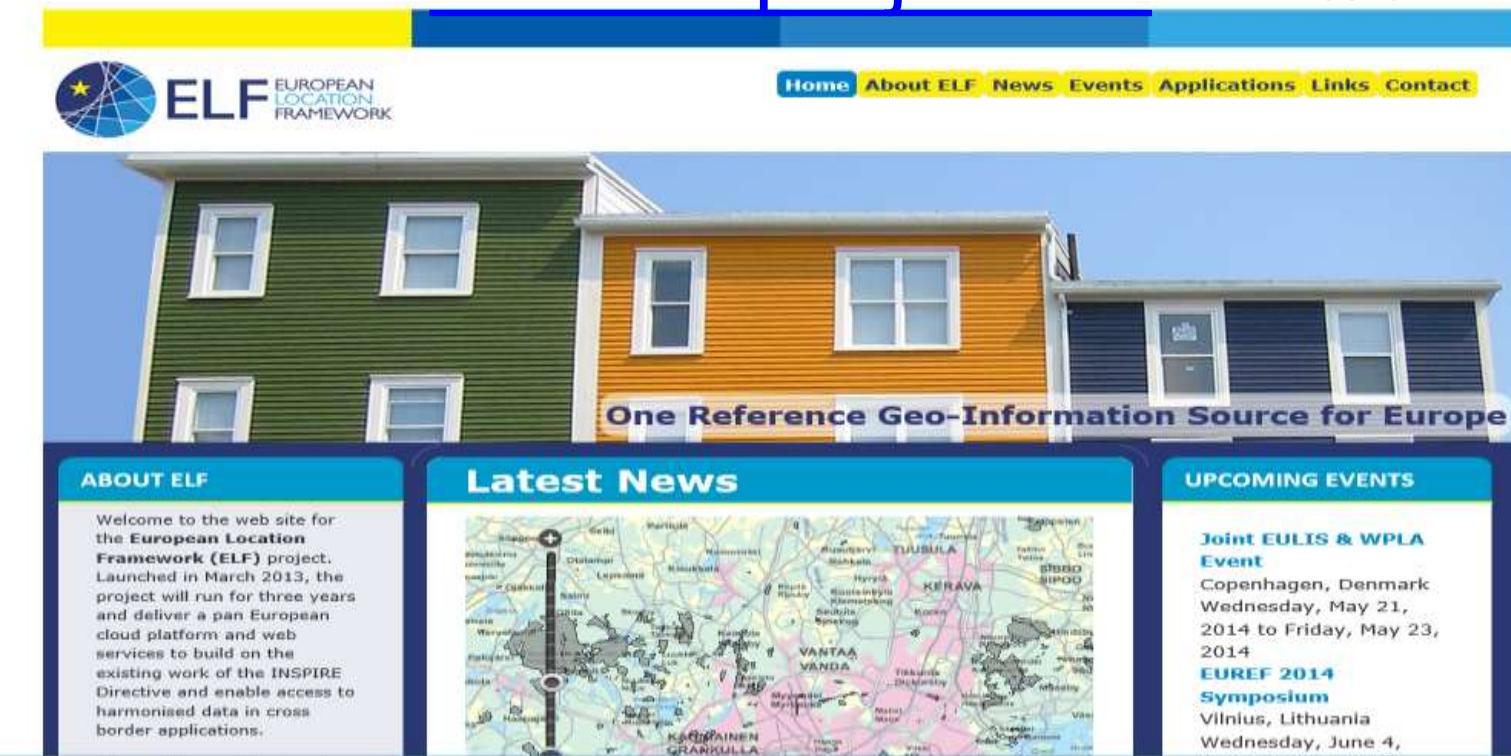
Other visible elements include a compass rose, zoom controls, and a scale bar indicating a scale of 1:217K.

# What's next?

- ★ Tests/evaluation of the ELF Imagery View Service in combination with other ELF products
  - ★ Possibly hosting from the same premises
  - ★ Harmonise tiles to ELF BaseMap tiles (scales)
- ★ Contact NMCAs for arranging access to the national view services
- ★ Licensing and pricing arrangements

# Thank you for the attention!

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



The screenshot shows the ELF European Location Framework website. At the top, there's a yellow header bar with the ELF logo and a blue bar with the menu: Home, About ELF, News, Events, Applications, Links, and Contact. Below the header is a large image of a modern building facade with green, orange, and blue panels. Overlaid on the building is the text "One Reference Geo-Information Source for Europe". The main content area is divided into three columns:

- 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**: A map showing the ELF project's scope across Europe, with specific locations like Helsinki, Stockholm, Copenhagen, and Berlin marked.
- 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,