



**ELF** EUROPEAN  
LOCATION  
FRAMEWORK

# ELF – unlocking the power of authoritative geographic information



**Presentation to:** Workshop on LADM

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**Date:** 17<sup>th</sup> of March, 2017, Delft, the Netherlands



the Competitiveness and Innovation framework Programme (CIP)  
ICT Policy Support Programme (PSP) Call 6 Grant 325140

EUROPEAN LOCATION FRAMEWORK

## The European Location Framework ...

- ★ a response to the ever growing demands and expectations for highly detailed, authoritative, harmonised, cross-border geospatial information for evidence-based decisions;
- ★ a foundation for new and innovative solutions and applications;
- ★ enabled by, and based on, INSPIRE;
- ★ contributing the Digital Agenda and Digital Single Market in Europe;
- ★ contributing to a European geospatial vision and strategy!





# A Single Point of Access to ...

Unique  
Selling  
Points

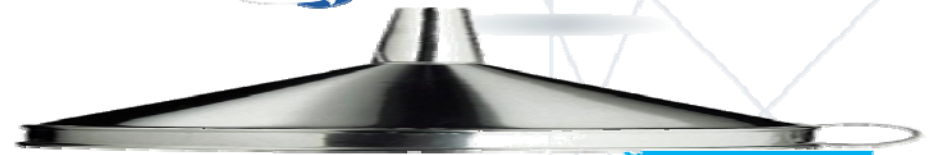


- ★ pan-European data
- ★ authoritative public national sources
- ★ web services for flexibility and optimal currency
- ★ national services in real time
- ★ quality assured and documented
- ★ edge-matched across national boundaries (some themes)
- ★ a foundation for evidence-based decisions
- ★ a foundation for innovative applications

ELF platform



ELF cloud platform



# ELF builds on INSPIRE ...

|   |                             |   |
|---|-----------------------------|---|
|    | <b>Cadastral Parcels</b>    | <b>CP</b>                                 |
|    | <b>Addresses</b>            | <b>AD</b>                                 |
|    | <b>Administrative Units</b> | <b>AU</b>                                 |
|    | <b>Hydrography</b>          | <b>HY – phys &amp; network</b>            |
|    | <b>Sea regions</b>          | <b>SR</b>                                 |
|    | <b>Transport Networks</b>   | <b>TN – road, rail, air, cable, water</b> |
|    | <b>Geographical Names</b>   | <b>GN</b>                                 |
|   | <b>Elevation</b>            | <b>EL – grid &amp; vector</b>             |
|  | <b>Land Cover</b>           | <b>LC</b>                                 |
|  | <b>Buildings</b>            | <b>BU – 2D &amp; 2D extended</b>          |
|  | <b>Protected Sites</b>      | <b>PS</b>                                 |
|  | <b>Geology</b>              | <b>GE</b>                                 |



## ELF highlights

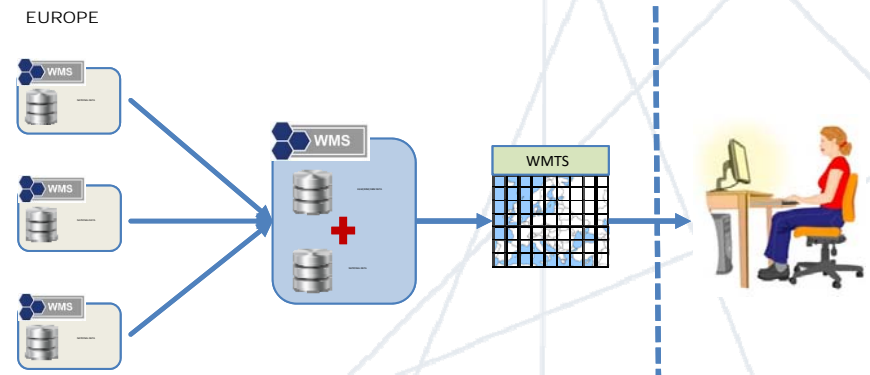
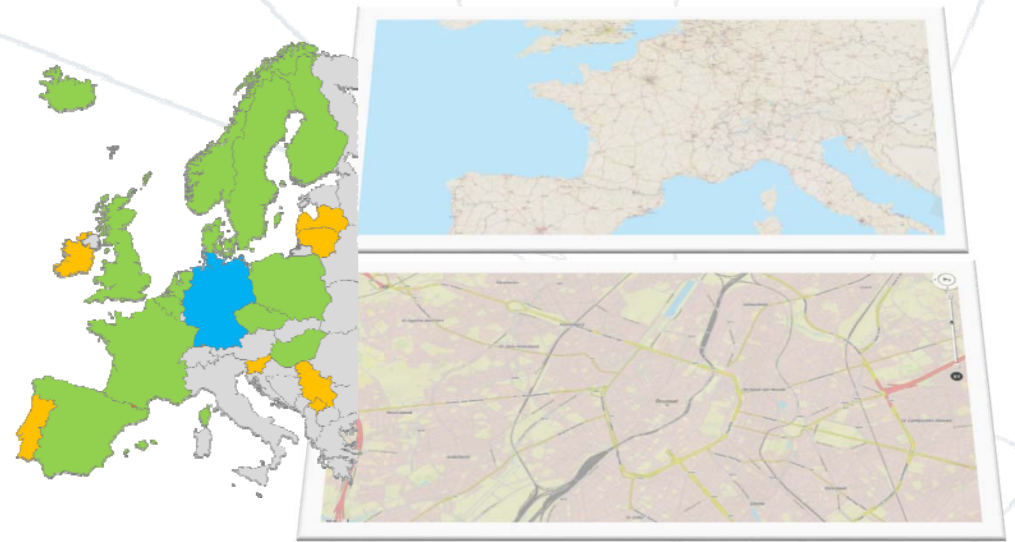
- ★ The ELF Basemap – administrative and topographic
- ★ The Cadastral Index Map – including parcels, addresses and buildings
- ★ The ELF national download services
- ★ The Cascaded Download Services
- ★ The GeoLocator
- ★ The Geo Product Finder
- ★ The GeoTools



# The Basemap

(topographic)

- ★ The first pan-European basemap with authoritative content
- ★ High level details for 14 countries – more on its way!
- ★ Harvested from national basemap services







# The Cadastral Index Map

- ★ The first ever pan-European map showing cadastral parcels, addresses and buildings
- ★ Currently includes 10 countries, more to come ...
- ★ This service can only be provided by the NMCAs!



Fragment from Madrid, Madrid Atocha station area







# The main ELF Cadastre features are:

- **Cadastral Parcel:**
  - ★ This basic component represents the area of a cadastral parcel
- **Address:**
  - ★ This component represents the position of the access point from the thoroughfare, or the entrance door or gate of the address
- **Building:**
  - ★ This component combines the building with the building parts to represent the whole building.
- **Administrative Unit:**
  - ★ This component represents the areas of the administrative units
- **Optional features - Cadastral Zoning:**
  - ★ This component represents intermediary areas in order to divide the national territory into cadastral parcels. Cadastral parcels can be municipality, section, parish, district, block etc.



# The Geocator

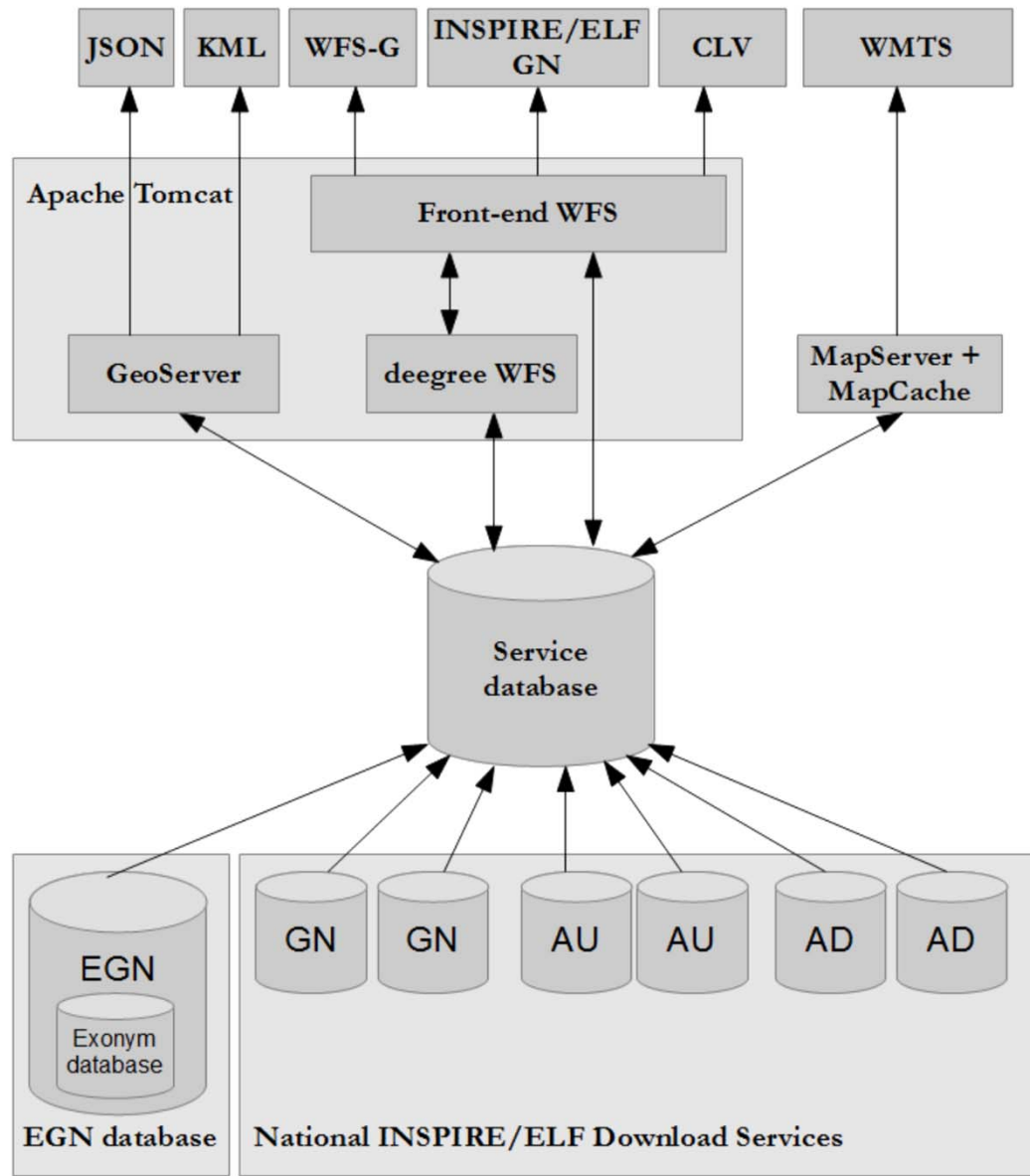
- ★ European gazetteer++ service including place names, addresses and administrative units
- ★ Exonym database included
- ★ Candidate for the common EU Gazetteer proposed in ELISE ( ISA<sup>2</sup>-action)

Pariisi  
Parísi  
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Paříž  
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## GeoLocator output

- ★ **GML output that is compliant with the schema defined in the OGC Gazetteer Service Application Profile of the Web Feature Service (WFS-G AP) Best Practice document**
- ★ **The output of the GeoLocator service is provided mainly as SI\_LocationInstance features, defined in the Gazetteer Service AP.**
- ★ **Other supported GML-based output forms are the INSPIRE/ELF GN output and the Core Location Vocabulary (CLV) output.**
- ★ **Other supported output formats are JavaScript Object Notation (JSON), Keyhole Markup Language (KML).**
- ★ **The place name contents of the GeoLocator Service are also provided in visual form as a Web Map Tile Service (WMTS).**



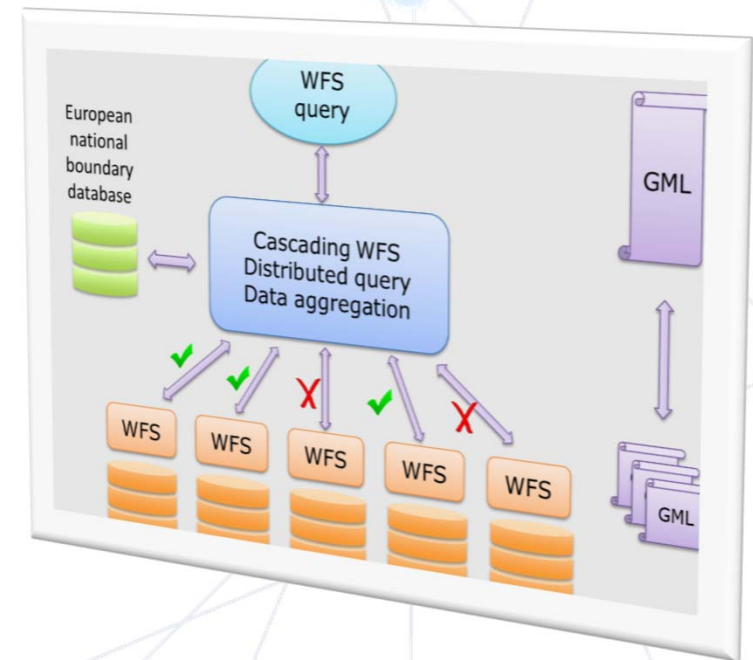


# The Cascaded Services

- ★ Download structured data across national boundaries  
WFS – GML output
- ★ Single point of access –  
single query – transparent access
- ★ Uses national services in real time

*... they said it couldn't be done ...*

*... ELF did it!*



# ELF services summary



|                               | BE          | CZ         | DK                                   | FI      | FR  | GE      | HU      | IS      | EI      | LV     | LT        | NL          | NO     | PL     | PT       | RS     | SL       | ES     | SE     | GB    |       |        |
|-------------------------------|-------------|------------|--------------------------------------|---------|---|---------|---------|---------|---------|--------|-----------|-------------|--------|--------|----------|--------|----------|--------|--------|-------|-------|--------|
|                               | Belgium     | Czech Rep. | Denmark                              | Finland | France  | Germany | Hungary | Iceland | Ireland | Latvia | Lithuania | Netherlands | Norway | Poland | Portugal | Serbia | Slovenia | Spain  | Sweden | GB    |       |        |
| ELF Basemap - regional/global | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green | +      |
| ELF Basemap - master          | Green       | Green      | Green                                | Green   | Green   | Blue    | Green   | Green   | Yellow  | Yellow | Yellow    | Green       | Green  | Green  | Yellow   | Yellow | Yellow   | Green  | Green  | Green | Green |        |
| ELF Cadastral Index Map       | Green       | Green      | Green                                | Green   | Green   | Green   | Yellow  | Yellow  | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Yellow | Green    | Green  | Green  | Green | Green |        |
| Geolocator                    | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Yellow  | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green | +      |
| ELF Regional Themes           | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green | +      |
| Addresses                     | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Yellow    | Green       | Green  | Green  | Green    | Green  | Yellow   | Yellow | Green  | Green | Green |        |
| Administrative Units          | Green       | Green      | Green                                | Green   | Green   | Green   | Yellow  | Green   | Green   | Green  | Yellow    | Green       | Green  | Green  | Green    | Green  | Yellow   | Yellow | Green  | Green | Green | Yellow |
| Buildings                     | Green       | Green      | Yellow                               | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Yellow   | Yellow | Green  | Green | Green | Yellow |
| Cadastral Parcels             | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Yellow    | Green       | Green  | Green  | Green    | Green  | Yellow   | Yellow | Green  | Green | Green |        |
| Elevation                     | Green       | Green      | Yellow                               | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Yellow    | Green       | Green  | Green  | Green    | Yellow | Yellow   | Green  | Green  | Green | Green | Yellow |
| Geographical Names            | Green       | Green      | Green                                | Green   | Green   | Green   | Yellow  | Green   | Green   | Yellow | Green     | Green       | Green  | Green  | Green    | Yellow | Yellow   | Green  | Green  | Green | Green | Yellow |
| Geology                       | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green |        |
| Hydrography                   | Green       | Green      | Green                                | Green   | Green   | Green   | Yellow  | Green   | Green   | Yellow | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green |        |
| Land Cover                    | Green       | Green      | Green                                | Green   | Green   | Green   | Yellow  | Green   | Green   | Yellow | Green     | Green       | Green  | Green  | Green    | Yellow | Green    | Green  | Green  | Green | Green | Yellow |
| Protected Sites               | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Green     | Green       | Yellow | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green |        |
| Sea regions                   | Green       | Green      | Green                                | Yellow  | Green   | Green   | Green   | Green   | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green |        |
| Transport Networks            | Green       | Green      | Green                                | Green   | Green   | Green   | Yellow  | Green   | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green | Yellow |
|                               | Green       | Green      | Green                                | Green   | Green   | Green   | Green   | Green   | Green   | Green  | Green     | Green       | Green  | Green  | Green    | Green  | Green    | Green  | Green  | Green | Green |        |
|                               | = available |            | = will be implemented by project end |         | = implemented, but restricted for consortium use only |         |         |         |         |        |           |             |        |        |          |        |          |        |        |       |       |        |

*NB! Status in September/October 2016*



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# ... and it's much more ...



## GeoTools

Transformation, Data Quality Validation,  
Generalisation, Edge Matching, Visualisation,  
Change Detection, Table Joining Service



## Affiliated platform – ArcGIS Online



## Security and License Manager



## Testing environment

... and



## Innovative applications!



## Collaboration with other LA activities

★ Discussions with EULIS

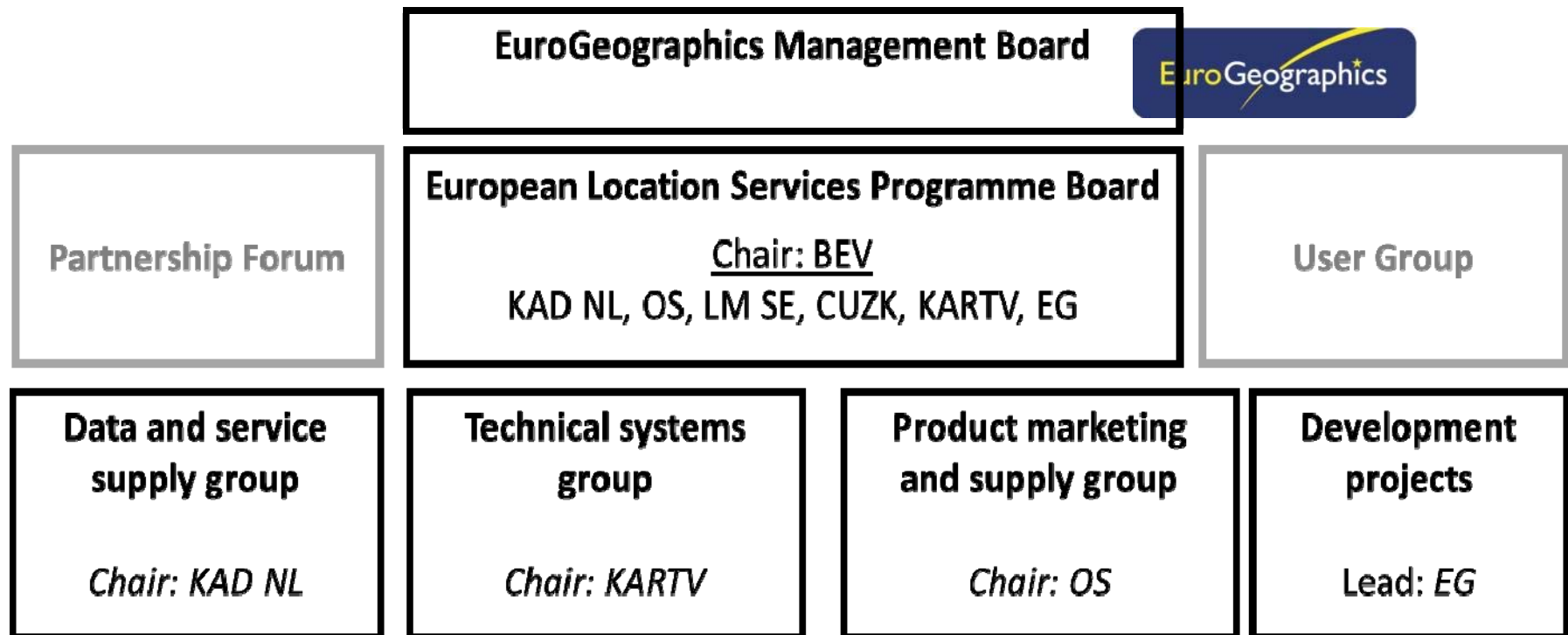


★ Discussion with DG Justice  
and the LRI project



★ In both cases enhancing the solutions with a map interface  
and the other aspects of the ELF services

# The sustained operation



*Thank you!*



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