



Role of National CLR Systems in the ELF-Cadastre Project

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Role of National CLR Systems in the ELF-Cadaastre Project

1- Introduction....Why?

- 2- What ELF is
- 3- ELF Cadastral Index Map
- 4- Other ELF services
- 5- ELF applications
- 6- Access to ELF products
- 7- Future
- 8- Conclusions

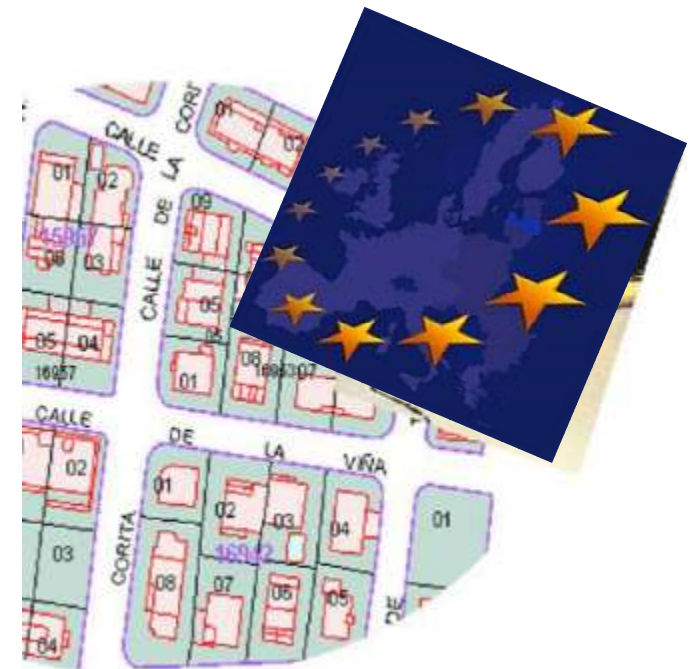
There are growing demands and expectations for

- highly detailed,
- authoritative,
- harmonised,
- cross-border

geospatial information for evidence-based decisions;

both from

- Institutions (CEE - UNGGIM)
- Citizens and companies



We must offer the information to the European society to promote added value **initiatives that encourage the development**

We need facilitate the access to information of real estate to make possible the **exchange of real estates between people of different countries.**

We should promote our information as **support to the European politics** that act on the territory, environmental, fiscal, safety and emergencies, etc ...

The PSI Directive

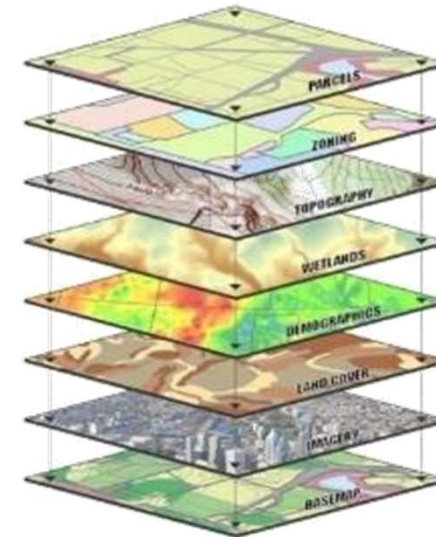


Agencia Europea de Medio Ambiente



Society needs authoritative, high resolution dataset

The United Nations Committee of Experts
on Global Geospatial Information
Management



Decision 5/103,

There is an urgent **need for a set of global fundamental geospatial data themes that could be harmonized** in order to enable the measurement, monitoring and management of sustainable development in a consistent way over time and to facilitate evidence-based decision-making and policymaking.

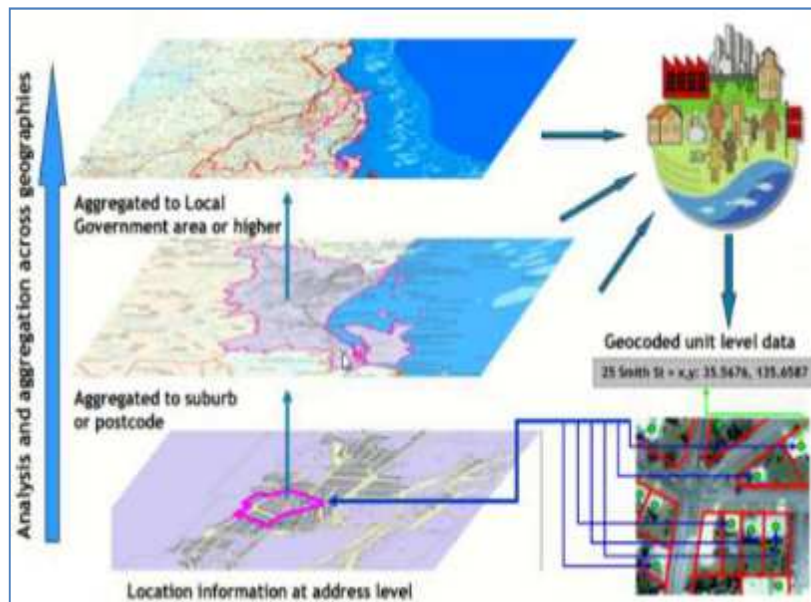
To do it



connection between statistical and geographical information is essential

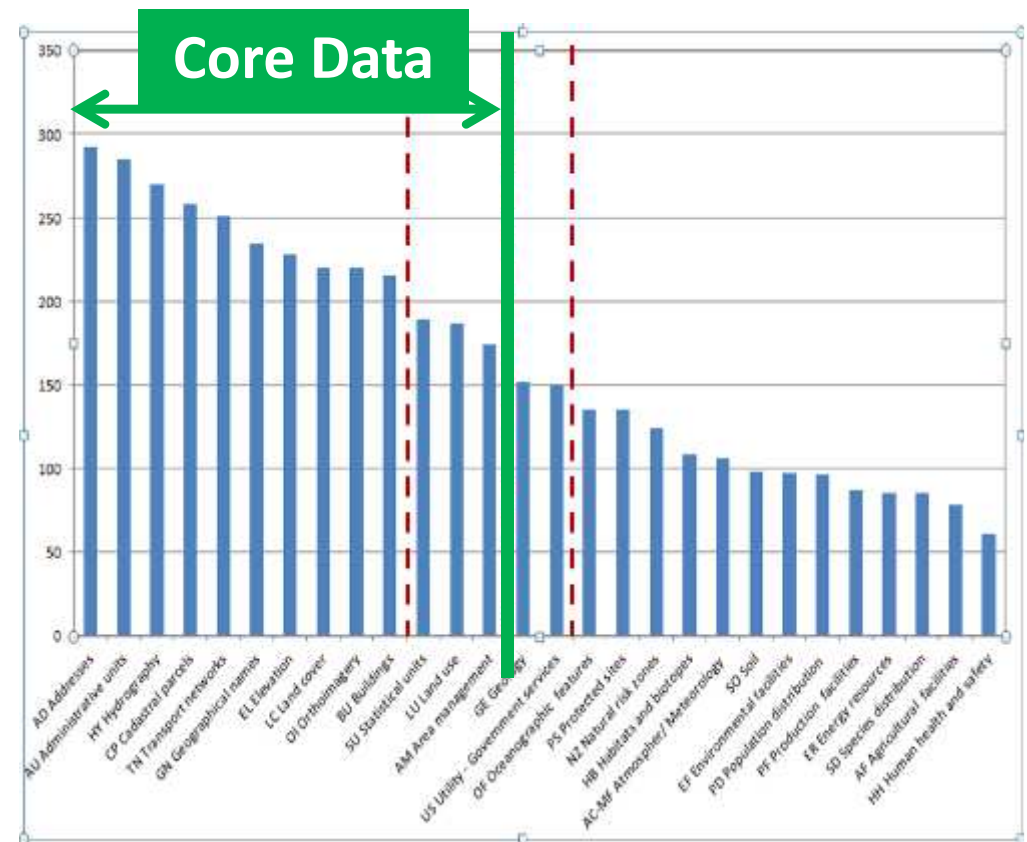
- To conduct high-quality (demographic, economic, environmental, health, etc.) surveys,
- To do monitoring and spatial analysis
- as well as to represent and disseminate statistical data

UN wants integrate information from the National Statistical Institutes and Eurostat with geographic information of the IGN and cadastral organizations of each country, and combine it with other information in the territory.



Source: http://unstats.un.org/unsd/envaccounting/ceea/meetings/ninth_meeting/UNCSEA-9-8j.pdf

Geospatial data more required by the use cases



There are another policies that oblige us to provide our data

The PSI Directive

2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the reuse of Public Sector Information

“public data such as geographical,.....should be made available for innovative products”

Digital Agenda



- Digital Single Market



- Interoperability & Standards



- Trust & Security



- Very Fast Internet



- Research & Innovation

- Enhancing e-skills

- ICT for Social Challenges



Also growing exchange of real estates between people of different countries. They need information

ABC Inmobiliario

SÍGUENOS EN    

ESPAÑA INTERNACIONAL ECONOMÍA OPINIÓN DEPORTES CONOCER MOTOR FAMILIA GENTE&ESTILO CULTURA&OCIO MULTIMEDIA SERVICIOS EDICIONES MADRID ABCSEVILLA

INMOBILIARIO

Publicitat

Barcelona Meeting Point: Cita inmobiliaria global del 19 al 23 de octubre

Los extranjeros compran uno de cada cinco pisos que se venden

» El 80% de las viviendas son de segunda mano y una de cada tres se venden a precio de saldo

foreigners buy one of each 5 flats that are sold

           Compartido 26 veces



JOAN CARLES VALERO / Barcelona

17/10/2016 21:26h - Actualizado: 18/10/2016 01:42h

CONTENIDOS RELACIONADOS



El Barcelona Meeting Point crece un 15% y potencia el enfoque social



Las hipotecas a tipo de interés fijo son ya el 20% del total



Vivienda: los datos de recuperación

eulis



The European e-Justice Portal is conceived as a future electronic one-stop-shop in the area of justice.

As a first step it strives to make your life easier by providing information on justice systems and improving access to justice throughout the EU, in 23 languages.

Log in to the portal to personalise your content

Login

Login information

Land registers

Land registers are a very important source of information due to their legal nature.



Land registers help to facilitate land-related administrative tasks of citizens, legal professionals, state authorities, private companies and other interested parties. The official register information is open (in a majority of EU countries) to banks, creditors, business partners and consumers in order to enhance transparency and legal certainty in European Union markets.

Please consult relevant subpages to find more information on the [land registers at European level](#) and [national land registers](#).

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Last update: 27/04/2016

European E- justice Portal



Stakeholders



- All 28 EU Member States and especially the institutions that are legally competent for administering data related to land management, whether juridical, regulatory, fiscal or merely informational
- The Land Register associations or networks (EULIS, ELRA, ELRN)
- DG Justice
- JRC (Joint Research Centre) – INSPIRE Directive

Society has discovery of geographic information;

There are new challenges many of them related to cadastre:

- Geo-location services
- Citizen science and crowdsourcing
- New ways of monitoring emerging issues
e.g. human bio-monitoring
- Data from new providers
e.g. mobile phone operators
- Big data
- Data protection and information security



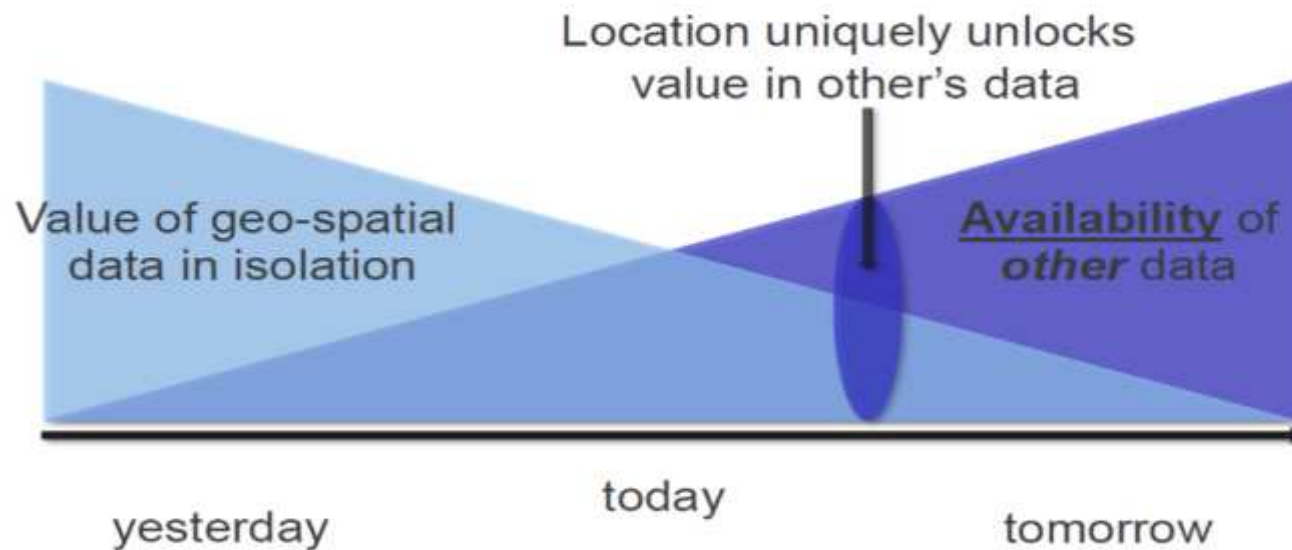
Economic and social globalization

- Smart Cities development needs also authoritative reference data –



It is necessary also cadastral data that can be combined with other data

VALUE FROM GEOSPATIAL DATA IS CHANGING



For this reason it is important:

**Colaboration,
Standars
and mainly clear accesibility conditions**



Agencia Europea de Medio Ambiente

Copernicus Programme
Europe's eyes on Earth



Programme Manager

Is Cadastral data necessary?

Space component
+
In situ data providers

Copernicus services



The Land Monitoring Service

Essential geospatial data sets



Land monitoring Service

- ✓ Ortho-imagery
- ✓ Buildings
- ✓ Administrative units
- ✓ Hydrographic network
- ✓ Land cover/use
- ✓ Transport networks
- ✓ Digital elevation models



Preferably delivered via web services

The Emergency Management Service

Essential geospatial data sets

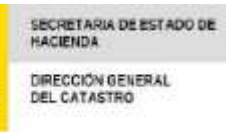


Emergency Management
Service

- ✓ Ortho-imagery
- ✓ Assets at risk
 - ✓ Building footprints and blocks
 - ✓ Built-up areas
- ✓ Hydrographic network
- ✓ Land cover/use
- ✓ Transport networks
- ✓ Digital elevation models



Preferably delivered via web services



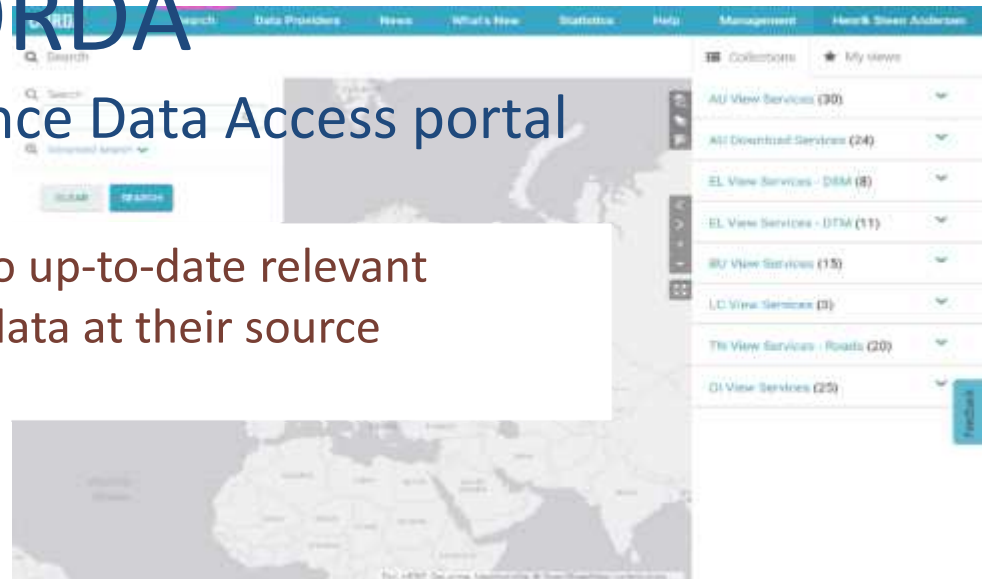
EEA would like being able to use the official information of the member countries, but it meets problems:

- still not standardized information
- different models of access to the information
- different regulatory requirements

CORDA

Copernicus Reference Data Access portal

- ★ Single access node providing links to up-to-date relevant authoritative geospatial reference data at their source

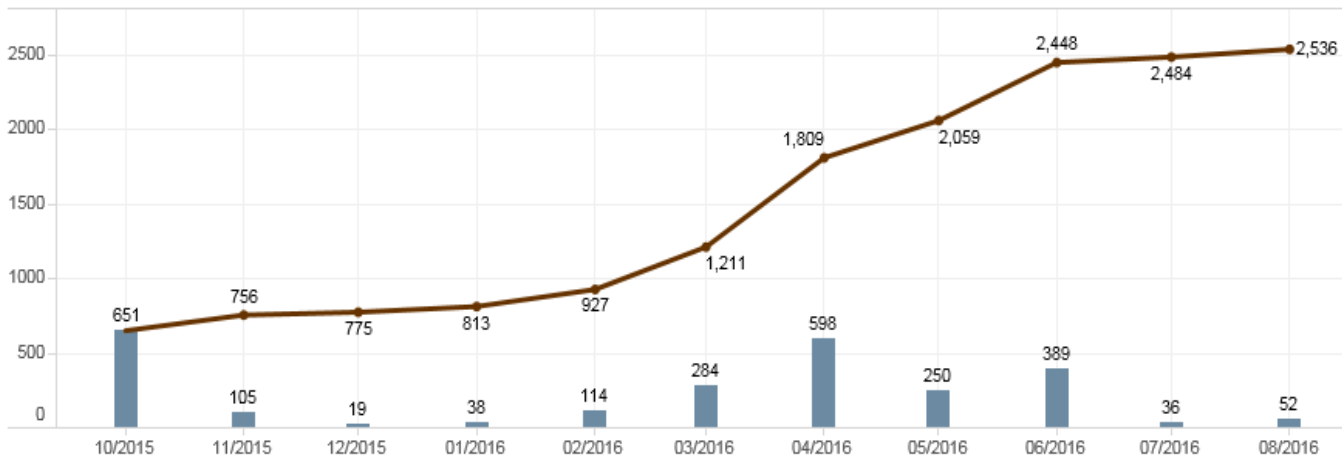
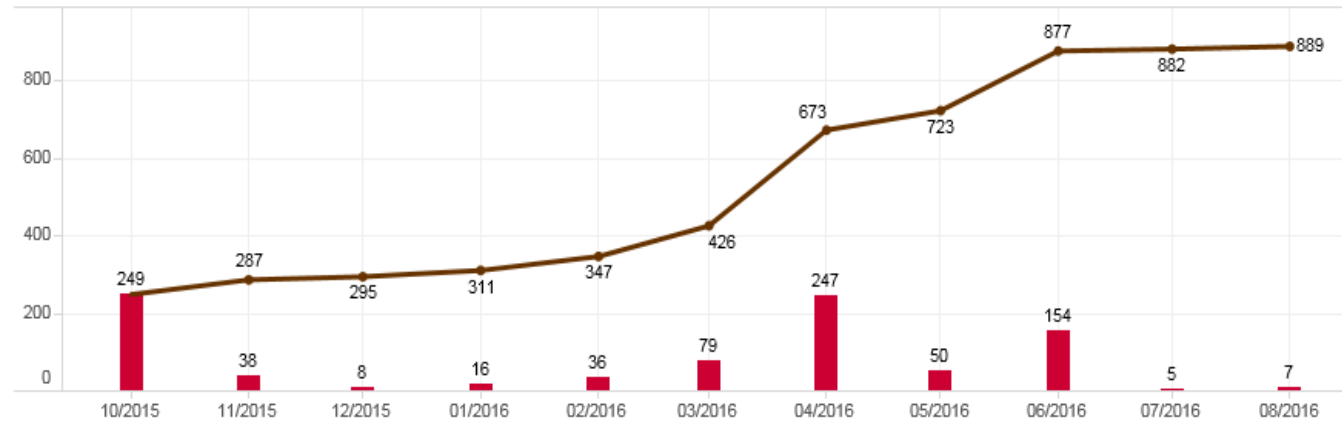


CORDA

Datasets & Spatial Data Services



Themes



Administrative units
Transport networks
Elevation
Land cover
Ortho-imagery
Buildings
Land use

Geographical names
Cadastral parcels
Hydrography
Statistical units
Demography
Natural risk zones

New

- Imagine some flooding
What is needed to monitoring the damages and to make fast mapping?
 - Cadastral data (for example buildings)
 - Other dataand it should be possible to combine these data with other information



Is flooding stoping at the border?

It is necessary to:

- Harmonize data and services.
- Describe them in a common semantics.
- Establish agreements between the institutions.
- Harmonize the access

Would it not be better to can achive the data with a unique access?



... is ELF the answer?



ELF EUROPEAN
LOCATION
FRAMEWORK



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ELF EUROPEAN
LOCATION
FRAMEWORK



ELF EUROPEAN
LOCATION
FRAMEWORK

cloud-based and cascade-
supporting architecture
platform that provides
INSPIRE compliant geo-
information






The goal of this project has been to deliver
up-to-date,
authoritative,
interoperable,
cross-border,
reference geo-information for use by the
European public and private sectors.

The objectives are :

- to build a high performance platform and associated cloud services that **support multiple national feeds** and a wide spectrum of value-added services
- to **demonstrate the usability** of the ELF platform and cloud services for key European policy areas and other users including SMEs
- to develop **sample applications**
- to **integrate of 3rd party** thematic datasets and National Spatial Data Infrastructures for service implementations **based on specific user needs**

ELF brings INSPIRE to the practice

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



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



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The Cadastral Index Map

- ★ The first ever pan-European map showing cadastral parcels, addresses and buildings
- ★ 14 Countries, currently includes 8 countries, more to come ...
- ★ This service can only be provided by the NMCA's!



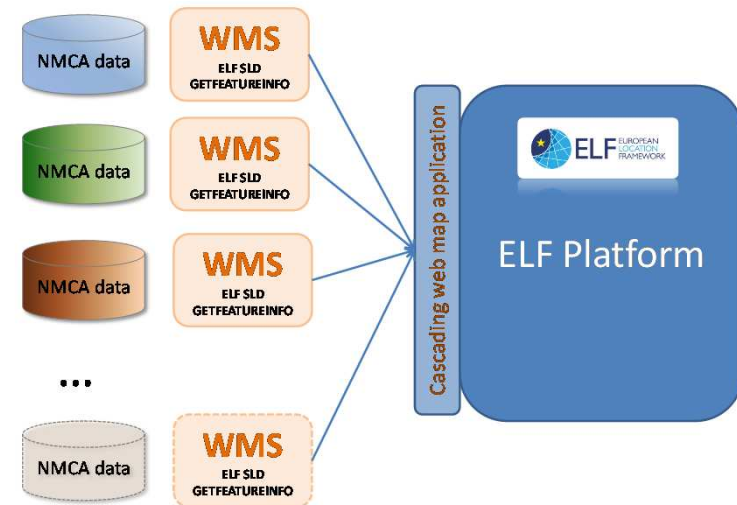
Fragment from Madrid, Madrid Atocha station area

Norway, Finland, Denmark, the Netherlands, Poland, Czech Republic, Slovenia, Spain, Lithuania, Latvia, Ireland, Hungary



Cadastral Index Map

ELF Cadastral Index Map is a view service that provides a simplified and harmonised view of footprints of cadastral parcels geometry combined with other basic information as administrative units, addresses and buildings for pan-European use.



Service of Cascade

Access from a single point

Continuous map of cadastral data for the whole of Europe.

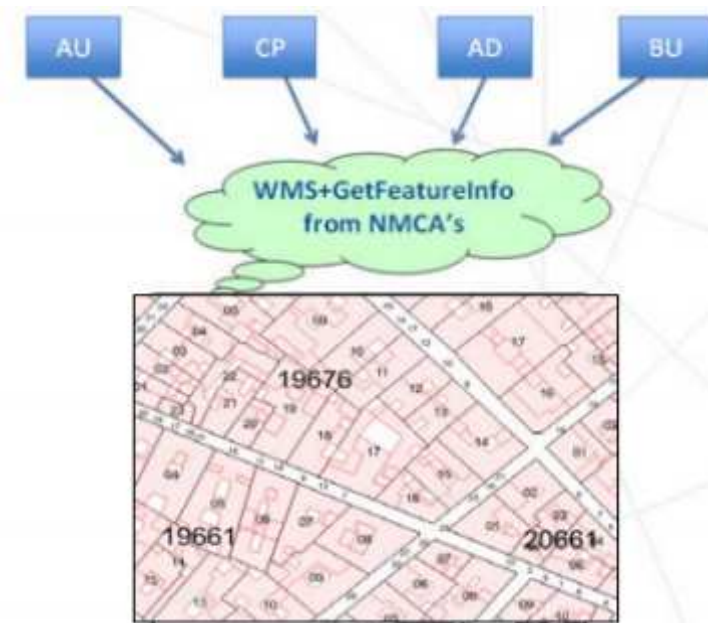
CP, BU, AD, AU

An European Cadaster!!

ELF Cadastral Index Map is not one single map layer. **It is composed by theme-specific map layers**

As data comes from different INSPIRE themes and **could be provided by different NMCA's**; occasionally some of them may be missing.

Each theme has its layers and the **styles are defined for each layer.**



This will also make the ELF Cadastral Index Map visualization more flexible, as the **layers can be individually switched on and off.**

By still keeping the combined layers included we ensure the most simple possible **inclusion of the ELF cadastral information in various client environments.**

Totally conform with INSPIRE

Only is necessary to provide INSPIRE CP, BU, AD, AU WMS

The European national Cadastre are very different between them
It is impossible to seek the harmonization of all aspects of European Cadastres
With INSPIRE only the minimum common data has been harmonized

areaValue - superficie

beginLifespanVersion – alta de la versión

endLifespanVersion – baja de la versión

Geometry - geometría

inspireId – Identificador de Inspire

Label - etiqueta

nationalCadastralReference - referencia catastral nacional

referencePoint - centroide

validFrom – validez desde

validTo – validez hasta

Zoning

basicPropertyUnit

administrativeUnit

obligatorios

En el caso de que se tengan

In the ELF context, (as in INSPIRE) cadastral parcels will be mainly used only as **locators for geoinformation**.

National cadastral registers generally contain much more data and users will be able through ELF Cadastral Index Map **to identify the objects and obtain the national reference**.

to obtain **other valuable information through the national services**.



ELF opens the door to the national cadastres and via cadastral reference, as key attribute, may allow to find other information as owners, values, uses etc. , taking into account the **differences of the legal regulations** of such a data in the different Member States.

Approximation in two steps

GetFeatureInfo



The national ELF services shall support the **GetFeatureInfo** functionality for Cadastral Parcel and Addresses.



With it CIM permits to identify the features and to obtain both

- the national **cadastral reference** of the cadastral parcel, that gives users the opportunity to get more information through the cadastral national services,
- and the **complete address** of the cadastral parcel or building.

Two GFI-capable layers are expected: Cadastral Parcels and Addresses

CP.CADASTRALPARCEL: 1907401VK4810H	
Attribute	Value
InspireId.namespace	ES.SDGC.CP
InspireId.localId	1907401VK4810H
areavalue	4558 m2
Begin lifespanVersion	2015-04-28T00:00:00
national cadastral reference	1907401VK4810H
Link to national cadastre reference	1907401VK4810H

link

GetFeatureInfo (GFI) for cadastral parcel must return at least the national cadastral reference and **if possible a hyperlink (URL)** to access the national system.

INSPIRE cadastral parcel has few attributes. Therefore could be possible to provide the table with the attributes and the national value of them, or leave it blank if the data-provider does not have it.

AD.ADDRESS	
	Value
	PS CASTELLANA, 272 28046 MADRID

Also identify each address that is displayed in the ELF Cadastral Index Map with the **GetFeatureInfo for address**.

A template for the recommended GFI style in XML and HTML formats is provided at <http://locationframework.eu/portrayal/>

These two layers can be provided either by one single WMS instance or by two separate WMS instances.

Information might be provided by two different organisations.

Data Quality



Only INSPIRE requirements

The layers are those provided by NMCAs and will contain the authoritative information that shows legal or official boundaries that cannot be subjected to a process of cross-border edge-matching; **it may show cadastral gaps and overlaps.**

Update frequency

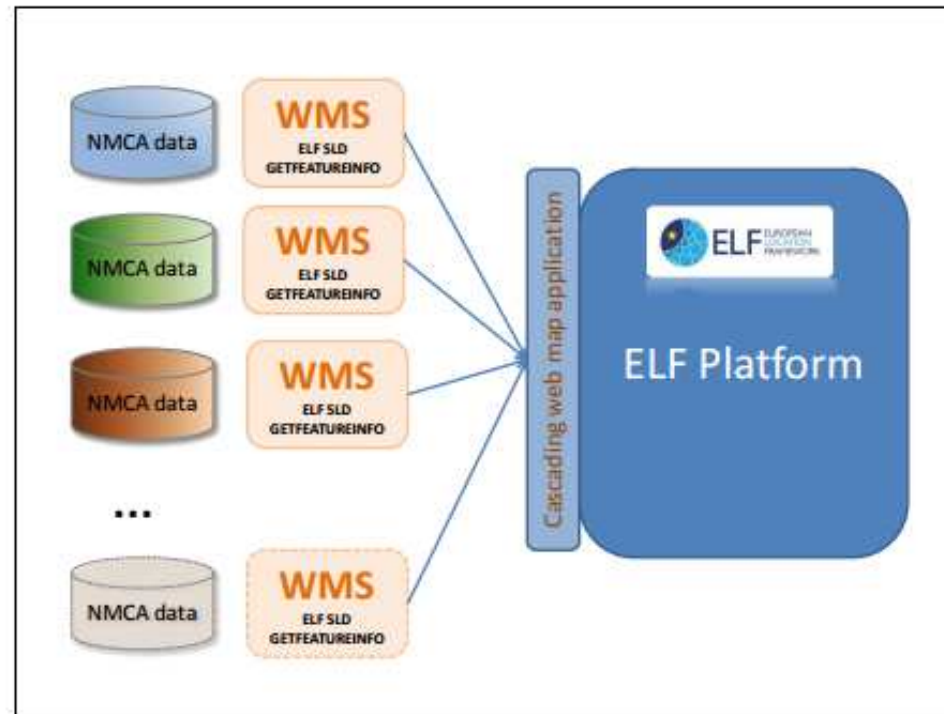
Update frequency is a key for cadastral data. NMCA should put efforts to offer up-to-date content.

Recommendation: If it is not possible to provide updates on a daily basis, it is recommended to provide data updated within a month of period as maximum.

Quality characteristics of the services

ELF Cadastral Index Map must fulfill **INSPIRE requirements for view services.**
ELF Service Level Agreements are managed centrally through **Data Provider Agreements (DPA).**

Display



ELF Cadastral Index Map production process

There are 2 possibilities to display ELF style

1. The national services that cannot support SLD, they will provide directly the ELF styles.
2. for the others that can support SLD, the ELF platform is responsible to display correctly

Portaya

The representation of the ELF CIM is based on INSPIRE data specifications of each of the layers

- CP.CadastralParcel, CP.CadastralZoning,
- AD.Address
- AU.Administrative Unit,
- BU.Building, BU.BuildingPart

Minimum
changes
to improve
representation

In case that there are buildings or buildings parts below ground, the building is represented **by over ground part**.

Address is displayed by the locator designator in the access entrance as a black text and it is recommended to locate it in the access (portal) of the building or parcel and not in the centroid of the parcel since it would overlap the parcel label.

The complete address is got by getfeature info

Portugal

ELF defines the object to be represented in each range of scales and defines the size of the text.

Scale range	Style name	
1:5.000 to 1:10.000	BU	BU.Building.ELFCadastre
	CP	CP.CadastralParcel.ELFCadastre
	AU	AU.AdministrativeUnit.ELFCadastre
1:2.000 to 1:5.000	BU	BU.Building.ELFCadastre
	CP	CP.CadastralParcel.ELFCadastre
	CP	CP.CadastralZoning.ELFCadastre
	AU	AU.AdministrativeUnit.ELFCadastre
1:100 to 1:2.000	BU	BU.Building.ELFCadastre
	BU	BU.BuildingPart.ELFCadastre
	CP	CP.CadastralParcel.ELFCadastre
	CP	CP.CadastralZoning.ELFCadastre
	AD	AD.Address.Number.ELFCadastre
	AU	AU.AdministrativeUnit.ELFCadastre



for example CP:

For scales 1: 2.000 to 1:10. 000
the boundaries of the Cadastral
parcel are represented but
without to display labels

and for scales 1:100 to 1:2000
boundaries plus labels

Equally, for the Administrative units
layer the symbology changes for each
scale range

Style BU.Building.ELFCadastre

Style Name	BU.Building.ELFCadastre
Style Title	Building ELF Cadastre Index Map style
Style Abstract	The building reference geometry is represented by following style: Style for surface geometries: red light with dark red outline <ul style="list-style-type: none"> • Fill colour: light red (#ffebeb) • Outline colour: red (#ff0000) • Outline width: 1 px
Minimum & maximum scales	from 1:100 to 1:10.000

Style BU.BuildingPart.ELFCadastre

Style Name	BU.BuildingPart.ELFCadastre
Style Title	BuildingPart ELF Cadastre Index Map style
Style Abstract	The building part reference geometry is represented by following style: Style for surface geometries: hollow with red outline <ul style="list-style-type: none"> • Fill colour: none • Outline colour: red (#ff0000) • Outline width: 1 px
Minimum & maximum scales	from 1:100 to 1:2.000

Style CP.CadastralParcel.ELFCadastre

Style Name	CP.CadastralParcel.ELFCadastre
Style Title	CadastralParcel ELF Cadastre Index Map style
Style Abstract	Style for surface geometries: hollow with black outline <ul style="list-style-type: none"> • Fill colour: none • Outline colour: black (#000000) • Outline width: 1 px <p>Text labels for the parcel 'label': in Arial 9 black (#000000), positioned at the parcel 'referencePoint'.</p> <p>For scale from 1:100 to 1:2000 both the parcel outlines and the labels are shown.</p> <p>For scale from 1:2000 to 1:10000 only the parcel outlines are shown.</p>
Minimum & maximum scales	from 1:100 to 1:10.000

Style CP.CadastralZoning.ELFCadastre

Style Name	CP. CadastralZoning.ELFCadastre
Style Title	CadastralZoning ELF Cadastre Index Map style
Style Abstract	Cadastral zoning outline carried by the attribute geometry+ text with attribute label <ul style="list-style-type: none"> • Fill colour: none • Outline colour: black (#000000) • Outline width: 2 px <p>Text labels for the Zone 'label': in Arial 15 black (#000000).</p>
Minimum & maximum scales	from 1:100 to 1:5.000

Style AD.Address.Number.ELFCadastre

Style Name	AD.Address.Number.ELFCadastre
Style Title	Address Number
Style Abstract	The address number is rendered in Arial 7 black (#000000). If needed a Filter must be applied so that the address label ('designator' property) is displayed only if its type is 'addressNumber' and its position is: the postal delivery point, a point of utility service, the access point from the thoroughfare, or the entrance door or gate.
Minimum & maximum scales	from 1:100 to 1:2.000

Style AU.AdministrativeUnit.ELFCadastre

Style Name	AU.AdministrativeUnit.ELFCadastre
Style Title	Administrative Unit
Style Abstract	Style for surface geometries: hollow with red outline <ul style="list-style-type: none"> • Fill colour: none • Outline colour: red (#ff0033) • Outline width: 4 px <p>Text label for the Administrative Unit name: red (#ff0033), font is Arial, font size 20 (When the layer is portrayed at scales above 1:10.000 the font size should be reduced to Arial font size 12.)</p> <p>If needed a Filter must be applied so that the level of the administrative units is: municipality level.</p>
Minimum & maximum scales	from 1:100 to 1:10.000

CP.CadastralParcel

Default



BoundariesOnly



ReferencePointOnly

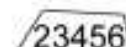


ELFCadastre

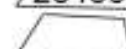


CP.CadastralZoning

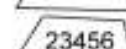
Default



BoundariesOnly



ELFCadastre



AD.Address

Default



Number.ELFCadastre



BU.Building

Default



ELFCadastre



BU.BuildingPart

Default



ELFCadastre



AU.AdministrativeBoundary

Default



ELFCadastre



AU.AdministrativeUnit

Default

Madrid
Scales 1:2.000
1:10.000



ELFCadastre

Madrid
Scales 1:10.000



AU layer is imported from the data published by IGN as part of the national reference data and it is produced by EuroGeographics Association in Spain. SDGIC is not the legal mandatory organization responsible for AU layer.

1:100 to 1:2.000



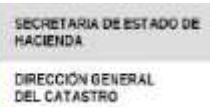
1:1.000 rural and urban zones



1:2.000 rural and urban zones



1:2.000 rural and urban zones

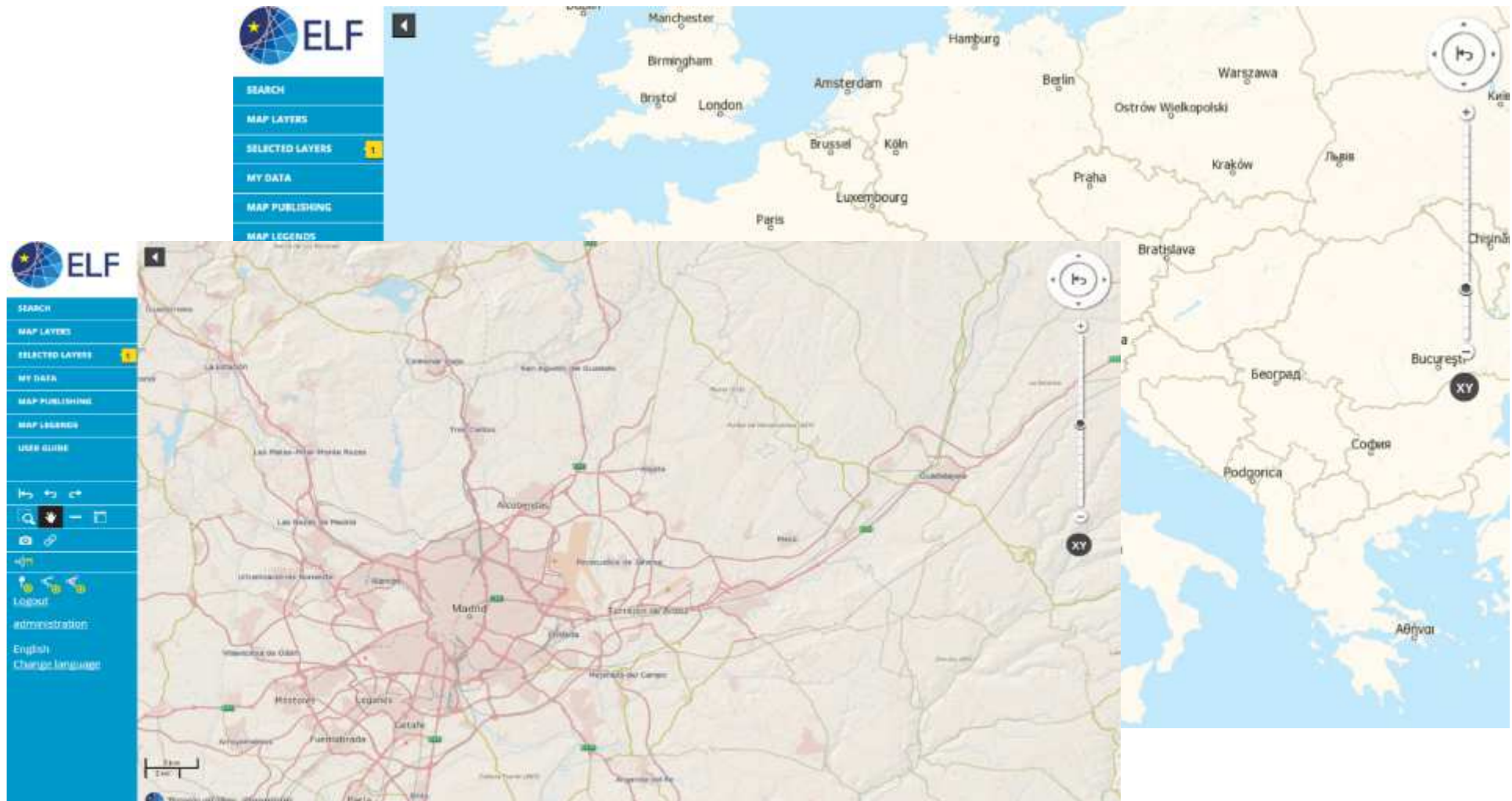


ELF EUROPEAN
LOCATION
FRAMEWORK



- Portrayal consolidated and published at ELF
portrayal repository
http://www.locationframework.eu/portrayal/cadastralmap_2.1/
- GetFeatureInfo
<http://www.locationframework.eu/getFeatureInfo>

ELF cadastre is the more detailed map, is accessed from other topographic maps with harmonized information for other topics of inspire as geographical names, hydrography and transport network, etc..





<http://demo.locationframework.eu/>



- SEARCH
- MAP LAYERS
- SELECTED LAYERS **2**
- MY DATA
- MAP PUBLISHING
- MAP LEGENDS
- USER GUIDE
- Logout
- administration
- English
- Change language





SEARCH

MAP LAYERS

SELECTED LAYERS

MY DATA

MAP PUBLISHING

MAP LEGENDS

USER GUIDE



Logout

administration

English

Change language

CP.CADASTRALPARCEL: 1907401VK4810H

Attribute	Value
InspireId.namespace	ES.SDGC.CP
InspireId.localId	1907401VK4810H
areavalue	4558 m2
Begin lifespanVersion	2015-04-28T00:00:00
national cadastral reference	1907401VK4810H
Link to national cadastre reference	1907401VK4810H

AD ADDRESS

Value
PS CASTELLANA, 272 28046 MADRID



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SEARCH

MAP LAYERS

SELECTED LAYERS 2

MY DATA

MAP PUBLISHING

MAP LEGENDS

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English

Change language

CP.CADASTRALPARCEL: 1907401VK4810H

Attribute	Value
Inspired.namespace	ES.SDGC.CP
Inspired.localId	1907401VK4810H
areavalue	
Begin lifespanVersion	
national cadastral refer	
Link to national cadastral	

Consulta y certificación de Bien Inmueble

AD ADDRESS

PS CASTELLANA, 272

Cartografía

Consulta Descriptiva y Gráfica

Imprimir Datos

CONSULTA DE DATOS CATASTRALES

INFORMACIÓN PROPORCIONADA POR LA DIRECCIÓN GENERAL DEL CATASTRO DEL MINISTERIO DE HACIENDA Y ADMINISTRACIONES PÚBLICAS

HASTA EL 01/04/2017, EL PROCEDIMIENTO DE REGULARIZACIÓN CATASTRAL ES DE APLICACIÓN EN EL MUNICIPIO EN EL QUE SE ENCUENTRA ESTE INMUEBLE

Datos del Bien Inmueble

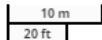
Referencia catastral	1907401VK4810H0001WI
Localización	PS CASTELLANA 272 28046 MADRID (MADRID)
Clase	Urbano
Superficie (*)	12.718 m ²
Coefficiente de participación	100,000000 %
Uso	Oficinas
Año construcción local principal	1996

Datos de la Finca en la que se integra el Bien Inmueble

Localización	PS CASTELLANA 272 MADRID (MADRID)
Superficie construida	12.718 m ²
Superficie suelo	4.602 m ²
Tipo Finca	Parcela construida sin división horizontal

Elementos Construidos del Bien Inmueble

Uso	Escalera	Planta	Puerta	Superficie catastral (m ²)	Tipo Reforma	Fecha Reforma
OFICINA		00	01	427		



Terms of Use Copyright

Castellano Galego Català English

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SEARCH

MAP LAYERS

SELECTED LAYERS 2

MY DATA

MAP PUBLISHING

MAP LEGENDS

USER GUIDE

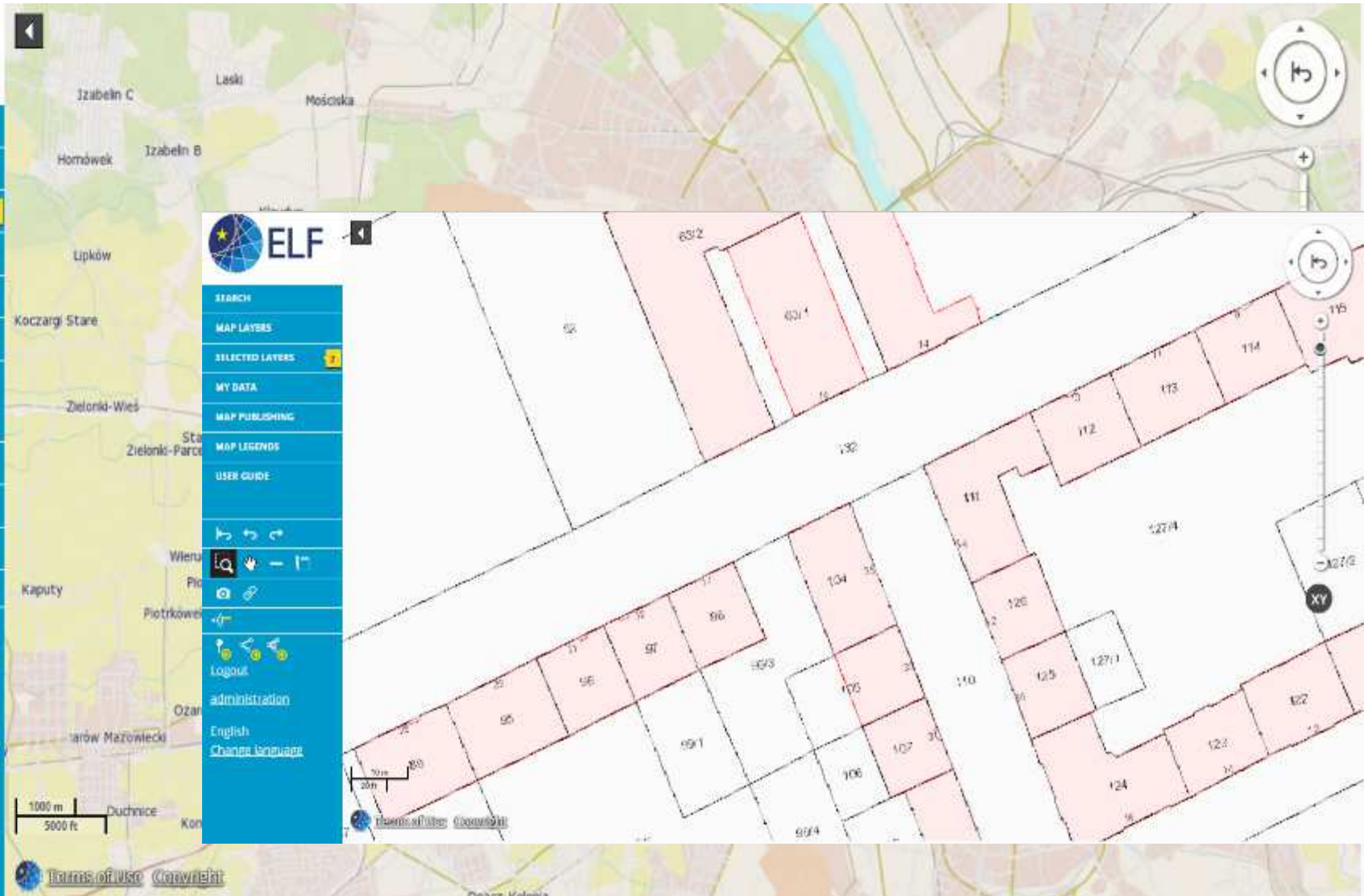


Logout

administration

English

Change language

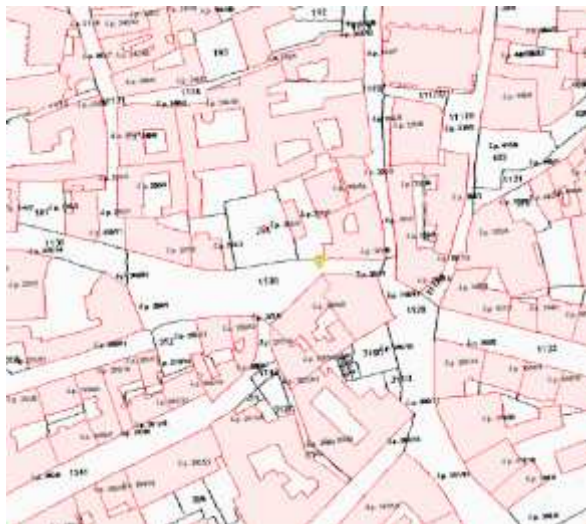




Eslovenia Liubliana



Holanda: Amsterdam



R CZ: Praga



Dinamarca: Copenhagen



Role of National CLR Systems in the ELF-Cadastral Project

- 1- Introduction....Why?
- 2- What ELF is?
- 3- ELF Cadastral Index Map
- 4- Other ELF products and services
- 5- ELF applications
- 6- Access to ELF products
- 7- Future
- 8- Conclusions

Other ELF products and services

The Basemap (topographic)

- ★ Specification and technical guidelines
- ★ ELF Topographic Basemap
- ★ ELF Administrative Basemap



The Geolocator

★ European gazetteer++ service including place names, addresses and administrative units

★ Candidate for the common EU Gazetteer proposed in ELISE (ISA²-action)

Pariisi
Parísi
Párizs
Paryžius
Parīze
Paríž
Pariz
Parigi
Παρίσι
Paříž
París
París
Parijs
Pariis
Parys
Pariz
Pariz



georeferencing service that serves multilingual European geographical names data

Themes: AD, AU

Use cases

- search functionality for place name or address

- returns the place name or address nearest to clicked location

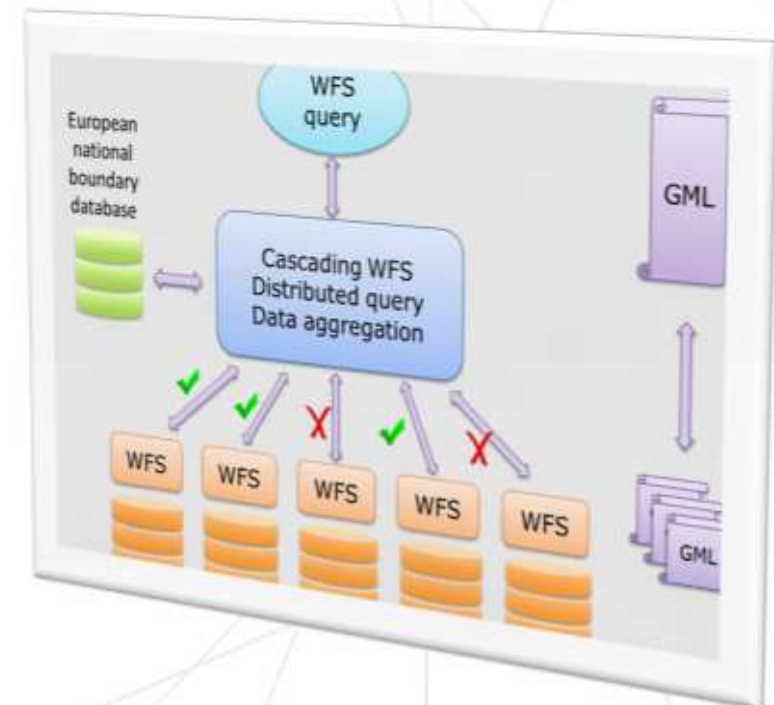
- place name content visualized on top of other content



The Cascaded Services

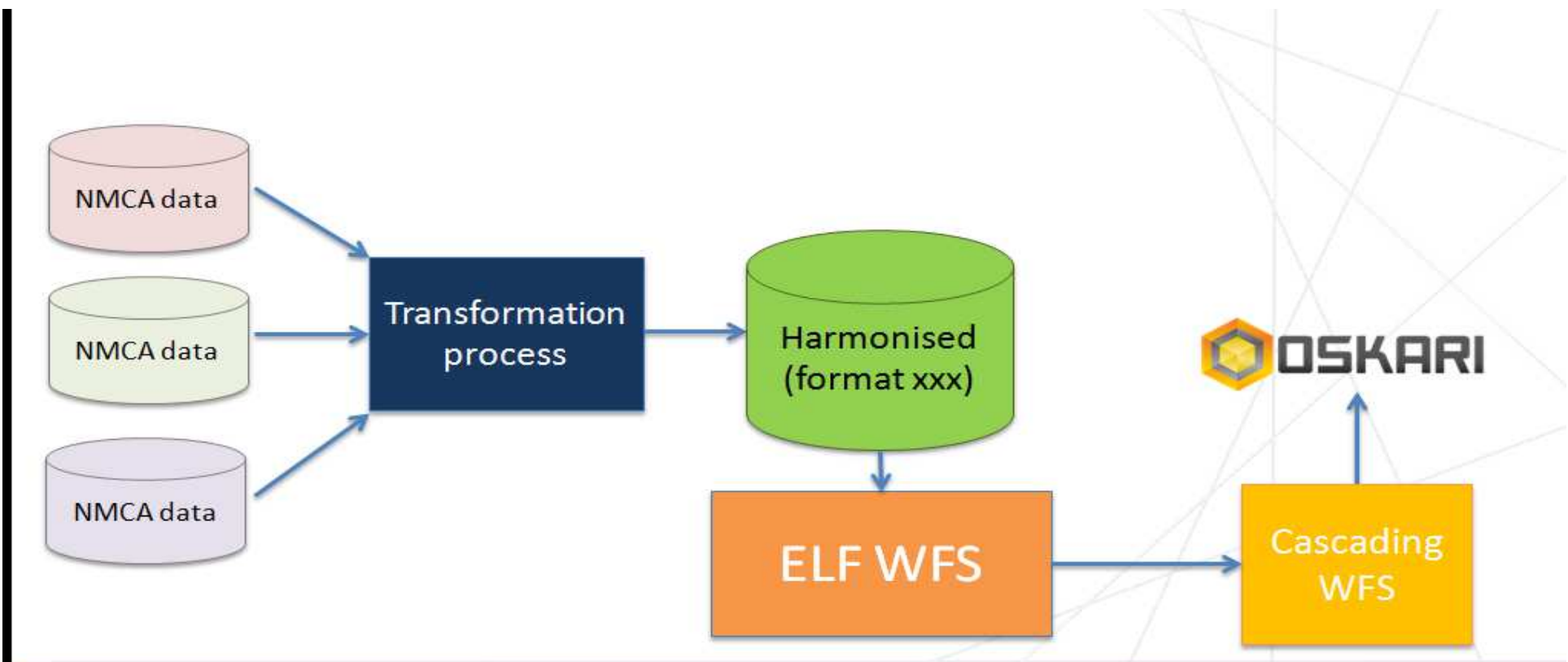
- ★ Download structured data across national boundaries
- ★ Single point of access – single query – transparent access
- ★ Uses national services in real time

WFS



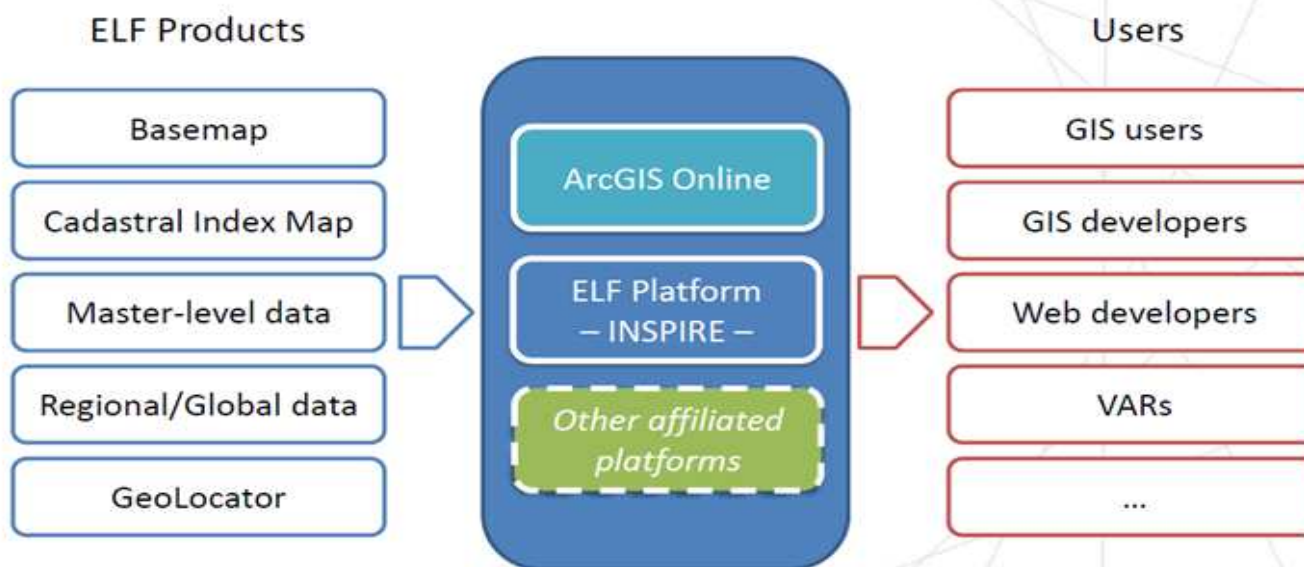


- ★ ELF Direct Download services
 - ★ Cascades/Single access points
 - ★ 102 National direct download services(WFS), 30+ in the pipeline



Affiliated platform

Delivery of ELF products to users



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



GeoTools

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



Security and License Manager



Testing environment



... and

Innovative applications!





Role of National CLR Systems in the ELF-Cadaastre Project

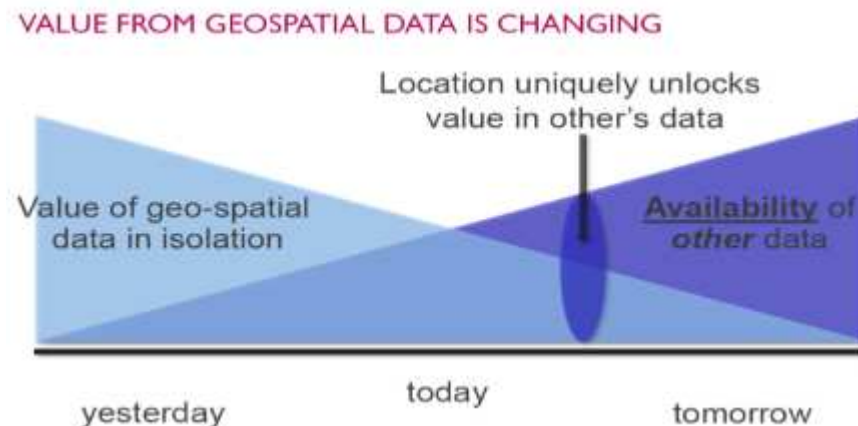
- 1- Introduction....Why?
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- 4- Other ELF services
- 5- ELF applications
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- 7- Future
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The ELF Cadastral Index Map and the WFS of CP, BU, AD,AU will meet the **requirements of the main use cases** that need CP, BU and AD as **geolocators** of human activities; for example:

- Real Estate Information
- Insurance risk assessment application
- Companies that utilize the ELF base map together with various reference data themes and hazard data layers
- E-justice Portal where ELF Cadastral Index Map can provide the geographic information that is needed to access to the legal information.
- European Land Information Service (EULIS)
- etc



- Much of the value for end users resides in products and services that **combine** this authoritative data from the NMCA's **with data from other sources** and possibly even derivative information arrived at through some intelligent processing.



- **Application developers** in five pilot areas were on board from the beginning of the project.
- The intention remains to **attract as many application developers as possible** and to encourage them in making use of the ELF products and services.

LOCATIONFRAMEWORK

[ELF Services Website](#)

APPLICATIONS MENU

[Overview](#)

[Health Statistics](#)

[Real Estate](#)

[Insurance](#)

[Emergency Mapping](#)

[Telecommunications](#)

SEARCH

[Search](#)

Real Estate



The Real Estate Application (REA), led by WirelessInfo, focuses on accessing public sector information on various governmental levels including local/municipal, regional, and national levels. The application is targeted mainly at real estate agencies. Other target groups include citizens, municipalities and investors.

REA is based on the developments and achievements of the Plan4business project while using the ELF platform as a source of geospatial data. The Plan4business project developed a platform for aggregation of spatial planning data, i.e. data related to spatial planning such as urban and spatial plans, land use data, protected areas, transport network and cadastral data. The application is focused also on non-spatial data such as economic, environmental and statistical data that can be linked to spatial planning data within the Plan4business application.

REA reuses data such as transport network, addresses and cadastral information provided through the ELF platform to enable pan-European services for real estate applications. REA not only offers data itself in an integrated, harmonized and thus ready-to-use form, but also offers rich analysis and visualization services via an API and an interactive web interface.

TWITTER

Tweets by
[@ELFProjectEU](#)

 ELF Project
Retweeted

 **Julian Cooper**
[@JC50](#)

Needs digital tools like
[@ELFProjectEU](#) but also
[business culture](#)

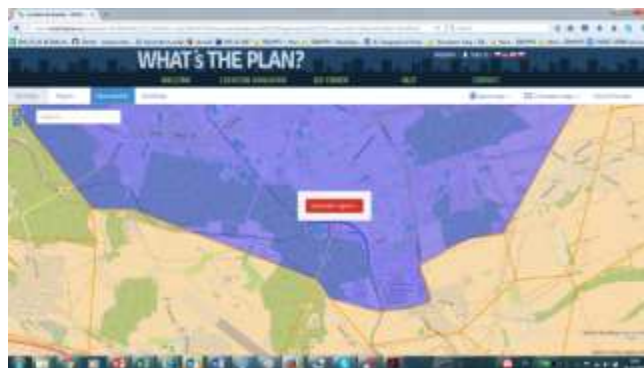
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[View on Twitter](#)



ELF – Real Estate Application

- Whatstheplan.eu update



- Leaflet E.L.F viewer

<http://wirelessinfo.cz/elf/>



- E.L.F. Mobile Apps
- Etc..

- E.L.F. Viewer is light thematic viewer of Thematic Maps with information relevant for **spatial planning**, decision process, investment and real estate .
- allows access maps everywhere from computers and mobiles

LOCATIONFRAMEWORK

[ELF Services Website](#)

APPLICATIONS MENU

[Overview](#)
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[Insurance](#)
[Emergency Mapping](#)
[Telecommunications](#)

SEARCH

[Search](#)

Insurance



Europa Technologies has used the ELF platform to engineer an insurance risk assessment application making use of its extensive network of contacts in this sector in the UK and around the world to ensure that it has industry feedback and support for the application.


The risk assessment model, ELF Risk Insight, utilises various sources of authoritative and third party data to provide a natural catastrophe risk assessment score for new and existing policies in a sample region of Europe. By implementing this service instance, the ELF platform provides a consistent and accurate way for insurance and re-insurance companies across Europe to assess the risk of natural catastrophe and the insurance claims that follow. This is of benefit to insurers who will be more competitive and consumers who will appreciate competitive premiums.

Europa Technologies applied its combination of geospatial and domain knowledge to the integration of ELF services within the insurance risk assessment application, specifically the GeoLocator and ELF Topographic Basemap services. In particular the insurance and re-insurance companies will appreciate the ability to use reliable data in their decision making process, without having to make separate licensing arrangements with each NMCA.

TWITTER

Tweets by
[@ELFProjectEU](#)

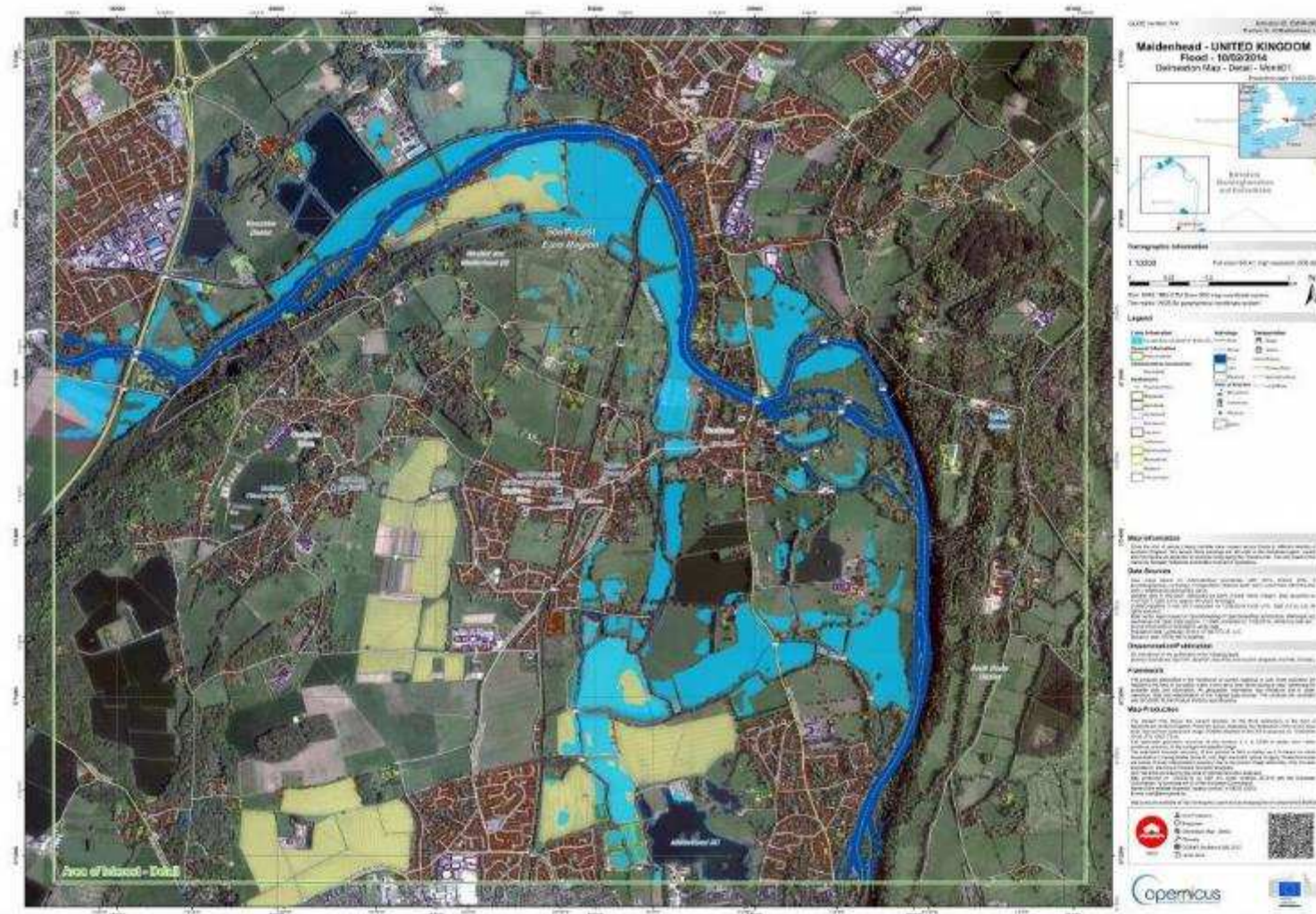
ELF Project
Retweeted

 **Julian Cooper**
[@JCSO](#)

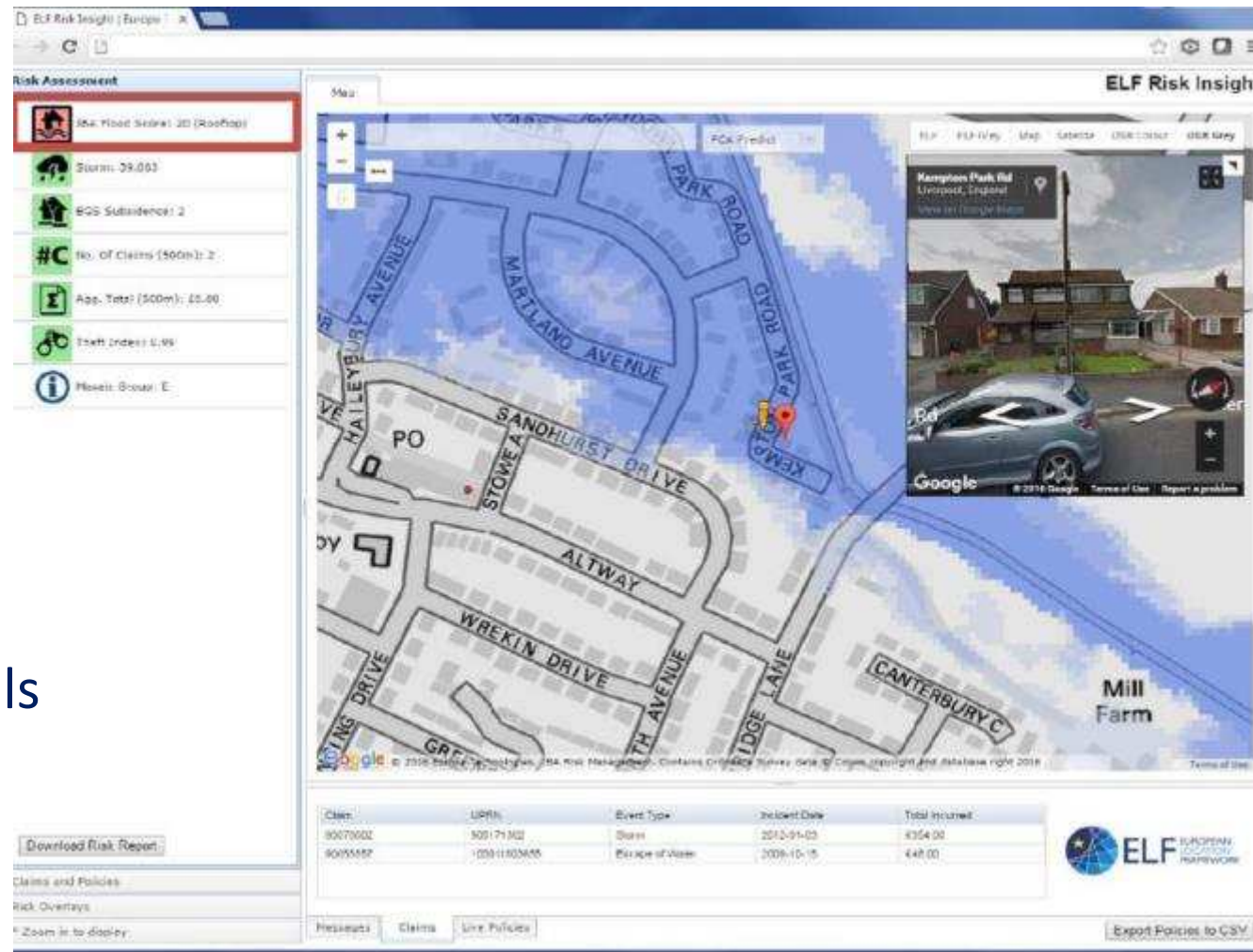
Needs digital tools like
[@ELFProjectEU](#) but also
business culture...

[Embed](#) [View on Twitter](#)

Europa Technologies: ELF Risk Insight: Risk model



Europa Technology: ELF Risk Insight: Risk Model combined with other data



Also for mobiles



LOCATIONFRAMEWORK

[ELF Services Website](#)

APPLICATIONS MENU

Overview
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Insurance
Emergency Mapping
Telecommunications

SEARCH

[Search](#)

Emergency Mapping



This work was led by ITHACA, which currently acts as 24/7 available Emergency Mapping service provider. In the arena of emergency response, saving time and working with accurate, up-to-date mapping information can improve the emergency response coordination and effectiveness.

Most of the standard products to be delivered are based on reference geospatial datasets such as selected topographic features of the area affected by the disaster, in particular exposed assets. Often these reference datasets exist at the local level but cannot be retrieved in a short time frame and therefore are useless in the contest of rapid emergency response activities.

Based on comparisons with real and simulated activations, the ELF platform has proven to minimise the current time-consuming digitising operations based on the visual interpretation of suitable satellite images, thus drastically reducing the delivery time for data. Furthermore, the geometric and thematic accuracy of standard digital maps and raster topographic maps available at local level is generally higher than that achievable through digitising ortho-corrected satellite imagery. Naturally, the benefits depend heavily on the completeness of the NMCA datasets/themes as well as on the level of detail and up-to-dateness.

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 **Julian Cooper**
[@JC50](#)

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Emergency Mapping use case (ELF WP7)

Emergency Mapping exercise Main outcomes and findings



Fabio GIULIO TONOLO

EMERGENCY MAPPING EXERCISE

Industrial Accident in Vrbětice (Czech Republic)

Copernicus Emergency Management Service (© 2015 European Union), EMSR113

On December 3rd, 2014, a series of blasts took place in a munitions depot at Vrbětice in south Moravia (Zlinsky Region), which was already affected in mid-October by a devastating explosion.





ELF EUROPEAN
LOCATION
FRAMEWORK

[EMSR113] Vrbětice: Reference Map (Detail)

Main input datasets: **open data** manually refined exploiting the NMCA orthoimagery



Enter translation

SECRETARIA DE ESTADO DE
HACIENDA
DIRECCIÓN GENERAL
DEL CATASTRO



ELF EUROPEAN
LOCATION
FRAMEWORK

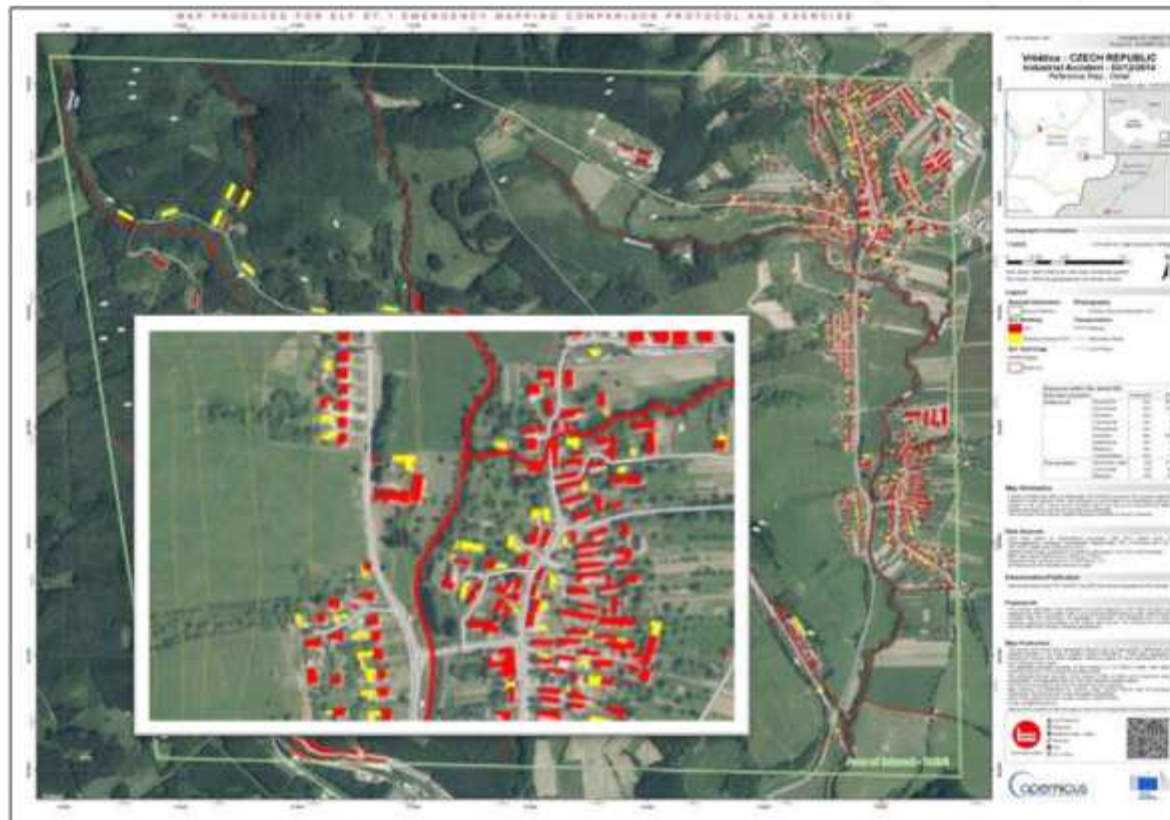
EuroGeographics

Bratislava 2016



SAME MAP WITH ELF DATASETS

Main input datasets: **ELF download services (CZ-BU, CZ-HY)**



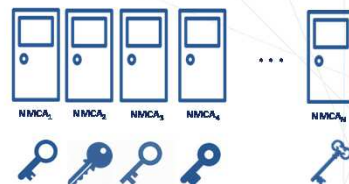
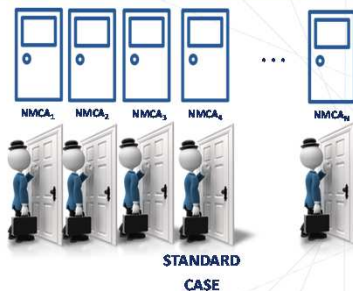
Not only
cartography but
also thematic
information: use
of the building,
number of
dwellings etc...

Main outcomes

Possible improvements produced by the exploitation of ELF NMCA dataset and web services mainly classified in terms of:

- **reduction of time** required for the execution of the expected activities
- **reduction of operational steps** to be carried out
- **streamlined workflow**

Therefore → **reduction of time required to produce reference cartographic products**, allowing then a **faster delivery of final products to the users**



European E-justice Portal



Do they need an map interface ?
Do they need access data through the map?.
With the ELF cadastral Index Map?



- **A pilot project**
 - To study the opportunity to embed mapping functionality through the use of ELF Services in the online application
- additional functionality to the existing E-Justice Portal
- The inclusion of mapping will provide a richer experience to the user and allow them to validate that they are accessing the correct information



Role of National CLR Systems in the ELF-Cadaastre Project

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Sustainable access and use

Simplify licensing and access to pan-European data.

Unique access to all data



Simplicity

Licensing must be easy to understand and apply to the user's needs

Harmonised terms and conditions

Principles of ELF Licenses

Incorporating the data providers national requirements

ELF viewing products (WMS, WMTS)

Pricing, when required, will be based on transactions (tile) or subscription

ELF download products (WFS)

Pricing, when required, will be based on features downloaded -

Access to the ELF Products

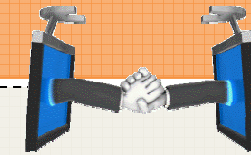
Applications and affiliated platforms



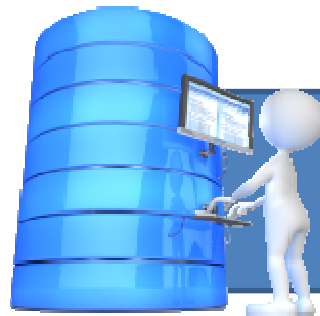
Geo Product Finder (Discovery and Metadata)

Licensing

Pricing



Authentication, authorisation and accounting



**ELF Data
and Services**

ELF Products





Role of National CLR Systems in the ELF-Cadaastre Project

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- 8- Conclusions

A lot has been achieved

- ★ Without ELF, there would be very few advanced INSPIRE services over reference data around!
- ★ The only large-scale cross-border integration and harmonisation activity!



But – still much to do

- ★ Missing data and coverage for some use cases; e.g. European Union
- ★ ELF national services quality should be improved
- ★ Data license terms and conditions
- ★ Change only updates required, but not yet available



1 November ELF has moved into a transition phase which starts to transfer responsibility for the future of ELF to EuroGeographics.

Data content providers will continue to deliver to ELF

Software providers will cover license fees and support to allow the architecture to continue beyond the project for a period of 2 years (After which new contracts will have to be made)

In the early stages of the transition, EG will be supported by key members of the ELF Project Management Group to ensure effective continuity with the work of the project.

Over time, ELF and its future development will be fully managed by EuroGeographics and its members.

Continue to explore funding opportunities - likely to be a mix of
funding from EU Institutions
and commercial streams

It is all about the Content!



Data content providers in 2016/17

-  Project partner countries (13)
-  Joined 2016 (7 countries)
-  Data provider outside project (4)
-  Contributors to ELF Global/Regional through EuroGeographics products ERM, EGM, EBM





Someone can be thinking.....



It is not necessary.....

My data are protected.....

We don't know how

We pircing

Why Eurogeographics,
why promote its business

Yes It is

provide then only the index map

ELF helps you and it is only inspire, that
anyway you need to do it.

It is ok. Elf would pircing in the same
conditions

technical infrastructure
Who else can do it?



Role of National CLR Systems in the ELF-Cadaastre Project

- 1- Introduction....Why?
- 2- What ELF is?
- 3- ELF Cadastral Index Map
- 4- Other ELF services
- 5- ELF applications
- 6- Access to ELF products
- 7- Future
- 8- Conclusions



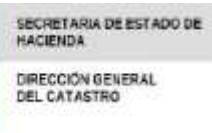
Conclusions



There is a demand for cadastral data by the EC and the European citizens and businesses .

Spite of the problems of heterogeneity of cadastral data in Europe, we have a solution that allow us to generate a European Cadastre that meets this demand.





ELF EUROPEAN
LOCATION
FRAMEWORK



European Location Framework (ELF): <http://www.elfproject.eu/>

<http://demo.locationframework.eu>

Servicios INSPIRE de Cartografía Catastral:

<http://www.catastro.minhap.es/webinspire/index.html>

CORDA: <http://insitu.copernicus.eu/corda>

UN-GGIM: <http://ggim.un.org/>

EuroGeographics: <http://www.eurogeographics.org>

E-justicia <https://e-justice.europa.eu/>



ELF EUROPEAN
LOCATION
FRAMEWORK

¿Questions?.....
Thanks a lot.

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