

## Cadastral Index Map

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**Diección General del Catastro. Spain**

There are growing demands and expectations for

- **highly detailed,**

- authoritative,

- harmonised,

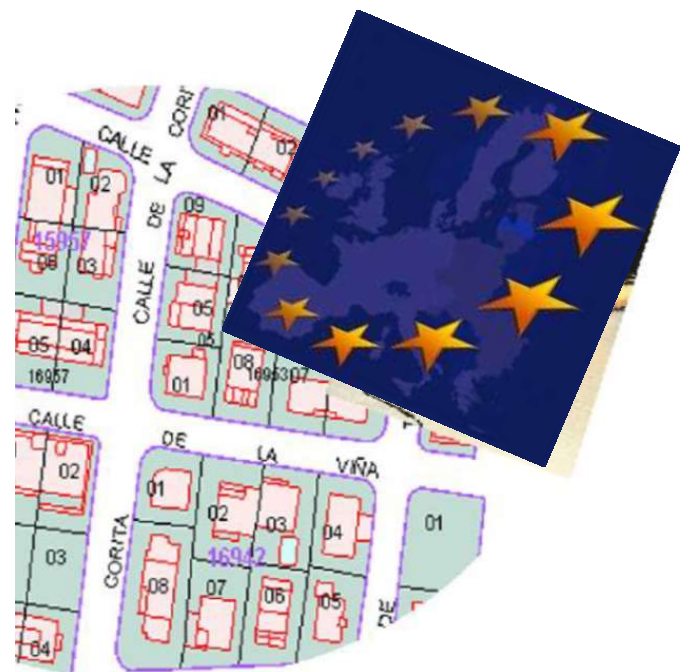
- cross-border

geospatial information for evidence-based decisions;

both from

- Institutions (CEE - UNGGIM)

- Citizens and companies



# The Cadastral Index Map



The first ever pan-European map showing cadastral parcels, addresses and buildings



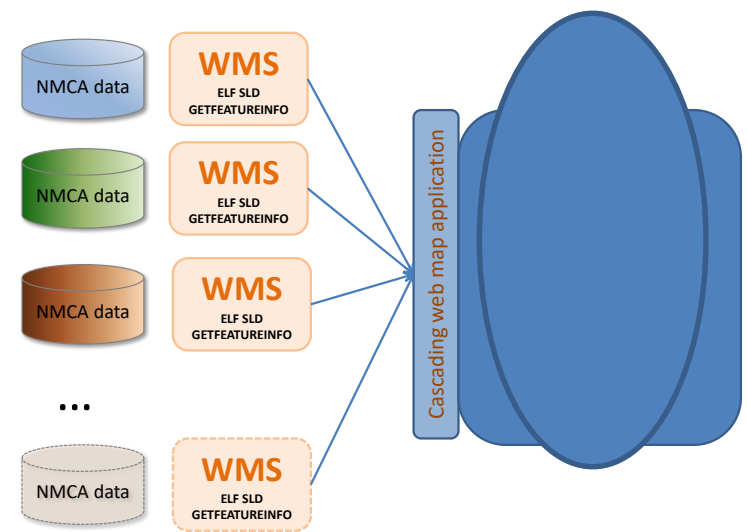
Fragment from Madrid, Madrid Atocha station area



This service can only be provided by the NMCA's!

# Cadastral Index Map

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.



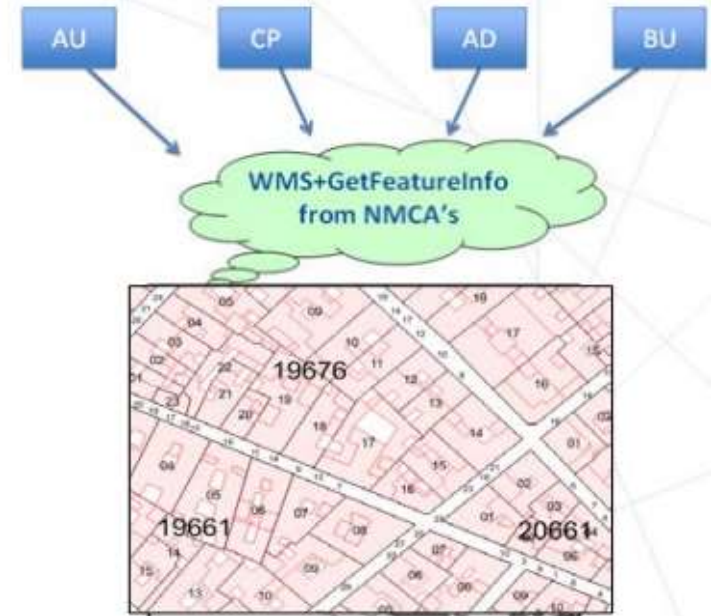
CP, BU, AD, AU

Access from a single point  
Continuous map of cadastral data for the  
whole of Europe.

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 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 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 ELS 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 ELS Cadastral Index Map **to identify the objects and obtain the national reference**.

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



**ELS 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.

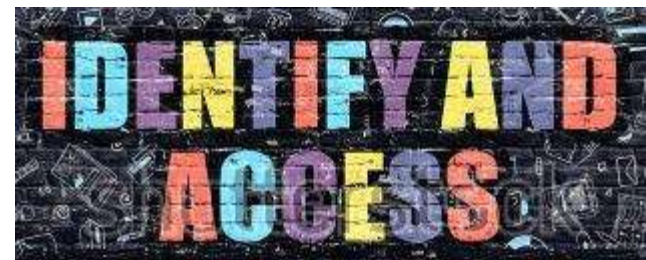
Approximation in two steps



## GetFeatureInfo



The national ELS 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	<a href="#">1907401VK4810H</a>

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 ELS 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

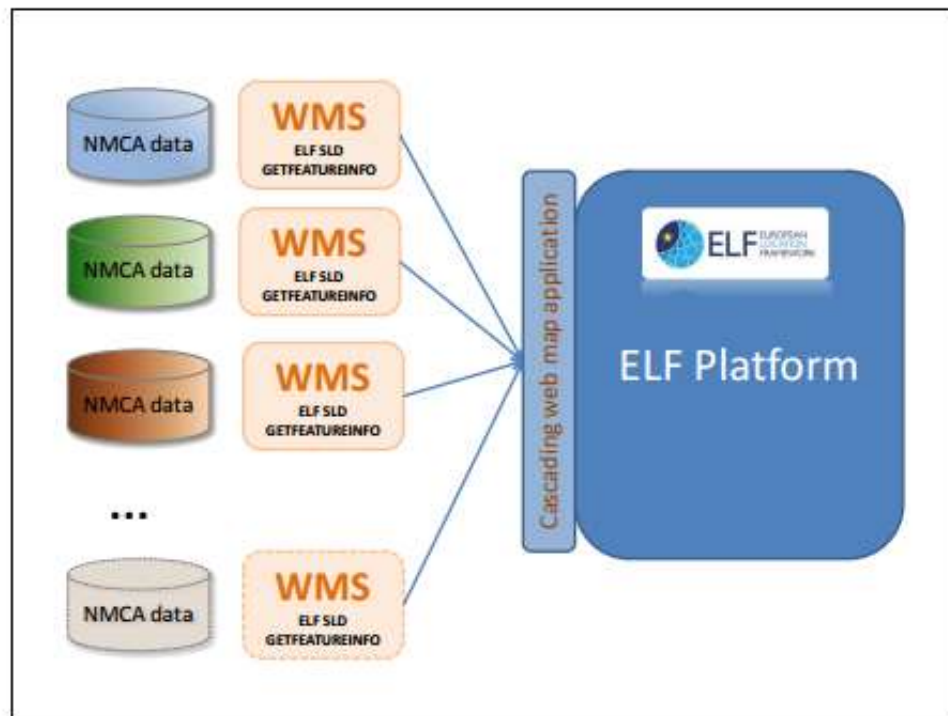
Update frequency is a key for cadastral data. NMCA should put efforts to offer up-to-date content.

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

ELS Cadastral Index Map must fulfill **INSPIRE requirements for view services.**

# 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

## Portayal

The representation of the ELS 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



# Portayal

ELS 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 Cadastral Index Map style
Style Abstract	<p>The building reference geometry is represented by following style:</p> <p>Style for surface geometries: red light with dark red outline</p> <ul style="list-style-type: none"> <li>• Fill colour: light red (#ffebeb)</li> <li>• Outline colour: red (#ff0000)</li> <li>• Outline width: 1 px</li> </ul>
Minimum & maximum scales	from 1:100 to 1:10,000

#### Style BU.BuildingPart.ELFCadastre

Style Name	BU.BuildingPart.ELFCadastre
Style Title	BuildingPart ELF Cadastral Index Map style
Style Abstract	<p>The building part reference geometry is represented by following style:</p> <p>Style for surface geometries: hollow with red outline</p> <ul style="list-style-type: none"> <li>• Fill colour: none</li> <li>• Outline colour: red (#ff0000)</li> <li>• Outline width: 1 px</li> </ul>
Minimum & maximum scales	from 1:100 to 1:2,000

#### Style CP.CadastralParcel.ELFCadastre

Style Name	CP.CadastralParcel.ELFCadastre
Style Title	CadastralParcel ELF Cadastral Index Map style
Style Abstract	<p>Style for surface geometries: hollow with black outline</p> <ul style="list-style-type: none"> <li>• Fill colour: none</li> <li>• Outline colour: black (#000000)</li> <li>• Outline width: 1 px</li> </ul> <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 Cadastral Index Map style
Style Abstract	<p>Cadastral zoning outline carried by the attribute geometry+ text with attribute label</p> <ul style="list-style-type: none"> <li>• Fill colour: none</li> <li>• Outline colour: black (#000000)</li> <li>• Outline width: 2 px</li> </ul> <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	<p>The address number is rendered in Arial 7 black (#000000).</p> <p>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.</p>
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	<p>Style for surface geometries: hollow with red outline</p> <ul style="list-style-type: none"> <li>• Fill colour: none</li> <li>• Outline colour: red (#ff0033)</li> <li>• Outline width: 4 px</li> </ul> <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

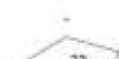
Default



BoundariesOnly



ReferencePointOnly

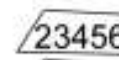


ELFCadastre



## CP.CadastralZoning

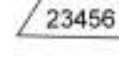
Default



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 IGN Instituto Geográfico Nacional de España. IGN 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 to 1:5.000



## 1:2.000 rural and urban zones

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



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MAP LAYERS




SELECTED LAYERS 2





MY DATA



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USER GUIDE









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English

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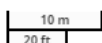
administration

English

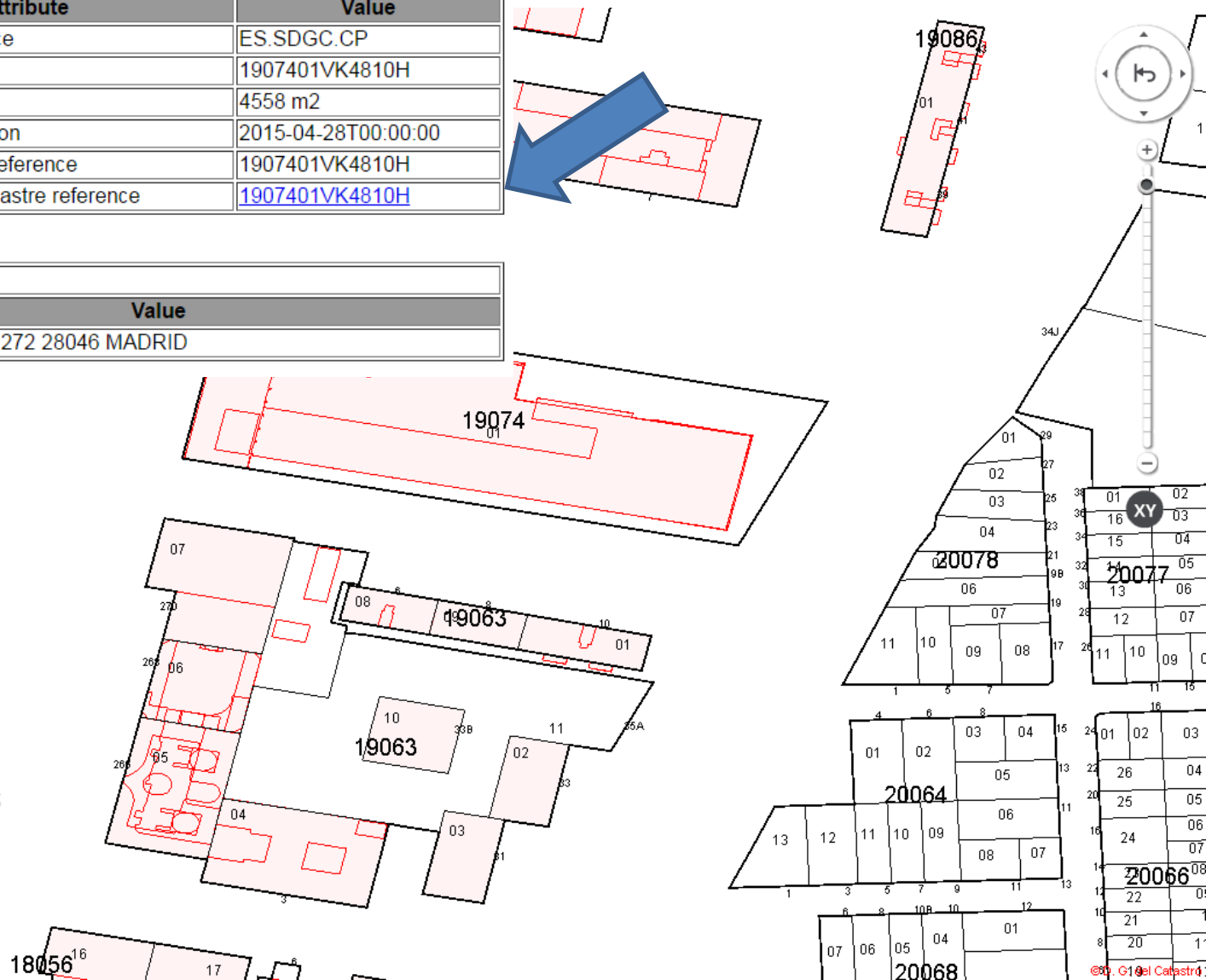
Change language

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	<a href="#">1907401VK4810H</a>

AD.ADDRESS	
	Value
	PS CASTELLANA, 272 28046 MADRID



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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



SECRETARÍA DE ESTADO DE HACIENDA  
DIRECCIÓN GENERAL DEL CATASTRO



## CONSULTA DE DATOS CATASTRALES

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

AD ADDRESS
PS CASTELLANA, 272

Cartografía  
Consulta Descriptiva y Gráfica  
Imprimir Datos

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

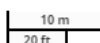
Referencia catastral	1907401VK4810H0001WI
Localización	PS CASTELLANA 272 28046 MADRID (MADRID)
Clase	Urbano
Superficie (*)	12.718 m <sup>2</sup>
Coefficiente de participación	100,000000 %
Uso	Oficinas
Año construcción local principal	1996

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

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

### Elementos Construidos del Bien Inmueble

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



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Castellano Galego Català English

19086

01 02  
16 03  
15 04  
24 05  
13 06  
12 07  
11 10 09 08  
01 02 03  
26 04  
20 25 05  
16 24 06  
14 22 07  
12 21 08  
10 20 09  
8 17 10  
20066  
20068



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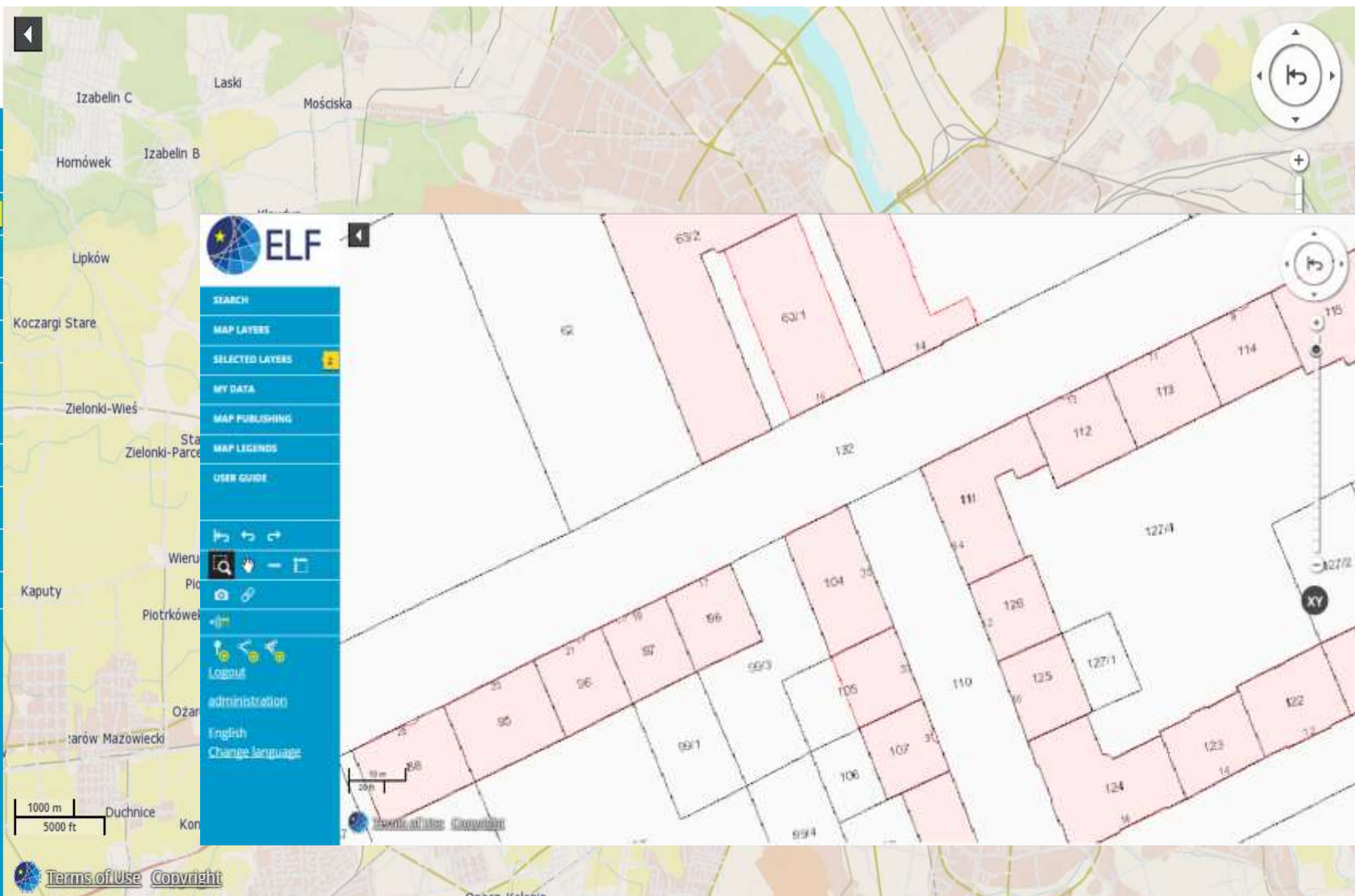


Logout

administration

English

Change language

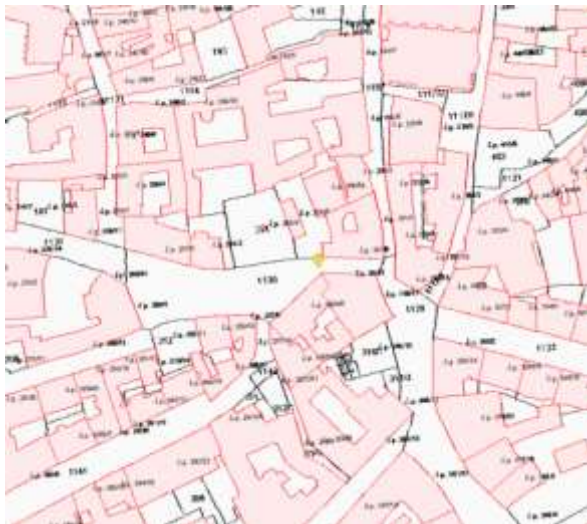




Eslovenia Liubliana



Holanda: Amsterdam



R CZ: Praga



Dinamarca: Copenhagen



The ELS **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 ELS base map together with various reference data themes and hazard data layers
- E-justice Portal where ELS Cadastral Index Map can provide the geographic information that is needed to access to the legal information.
- Agriculture Energy performing of buildings,  
Solar, wind and other industry  
Infrastructures





Someone is maybe thinking.....



It is not necessary.....

Yes It is

My data are protected.....

provide then only the index map

We don't know how

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

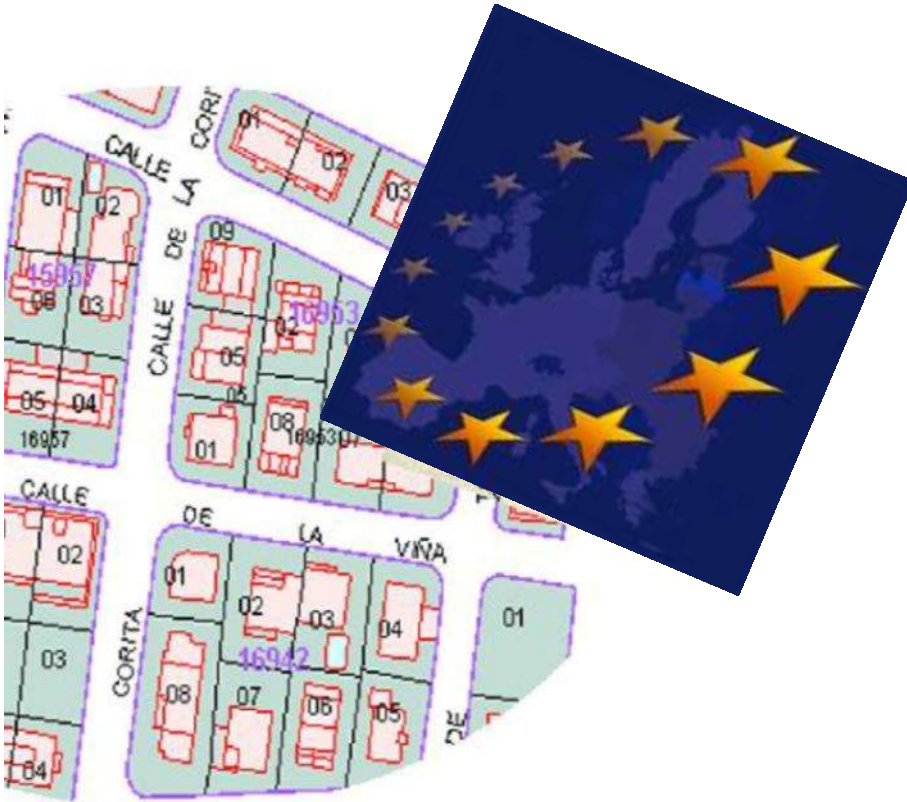
Why ELS,

Who else can do it?





## 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.





¿Questions?.....  
Thanks a lot.

**Amalia Velasco Martín-Varés**  
**Diección General del Catastro. Spain**