

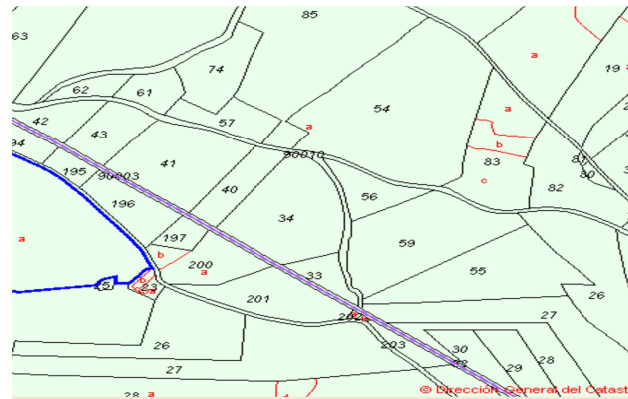
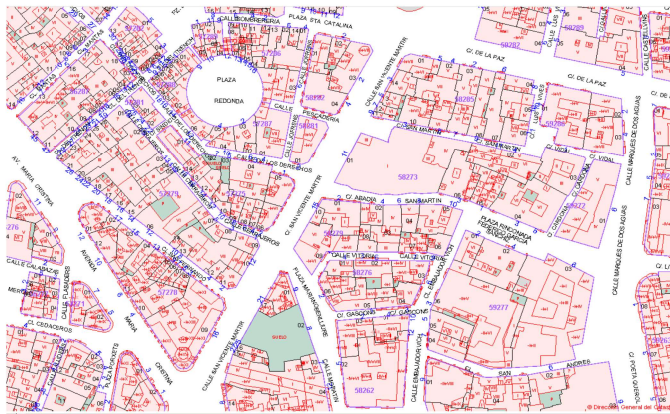


Consensus Model for Spain of INSPIRE Building data



The Spanish Cadastre is a register describing rural and urban real estates.

*This description includes **physical, legal and economic characteristics**, location, cadastral reference, address, areas, uses, class of crop, buildings, time attributes, cadastral value data of title holders (name, national identity number, address, type of title)..... and many other data*

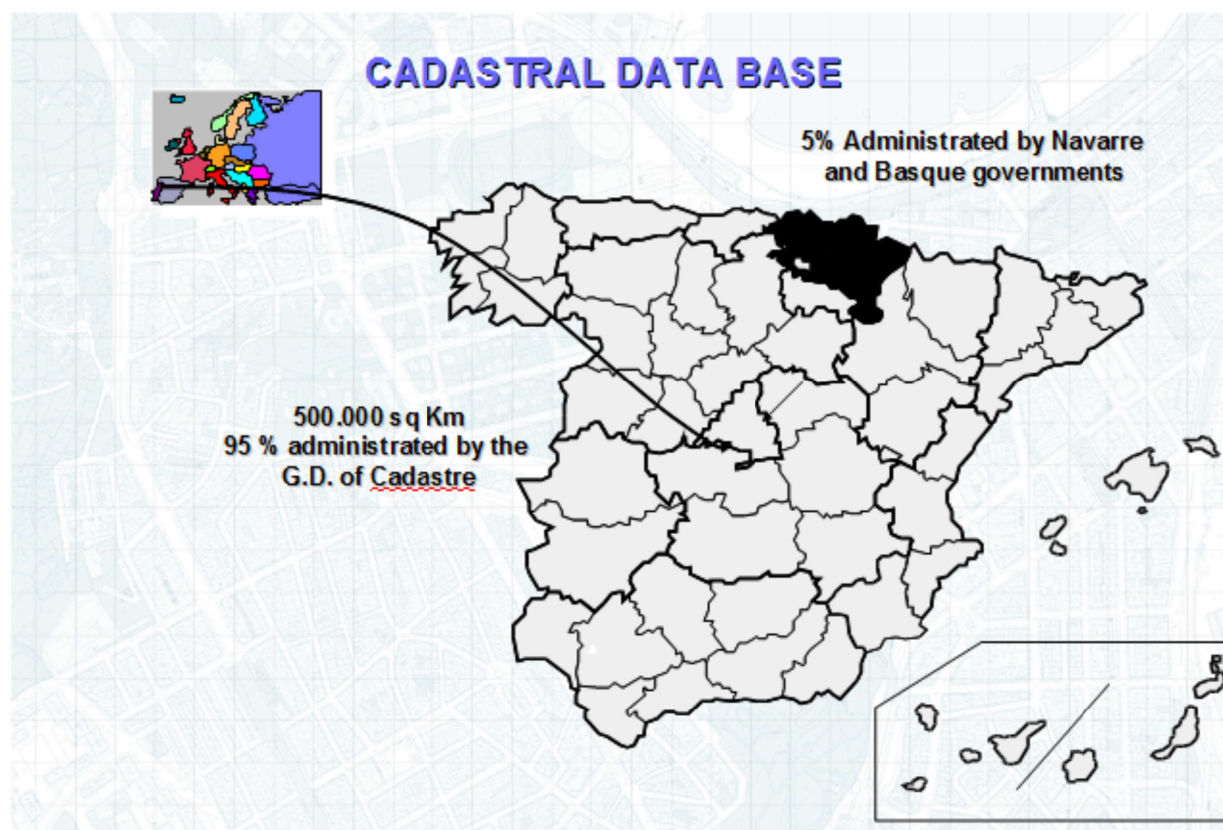


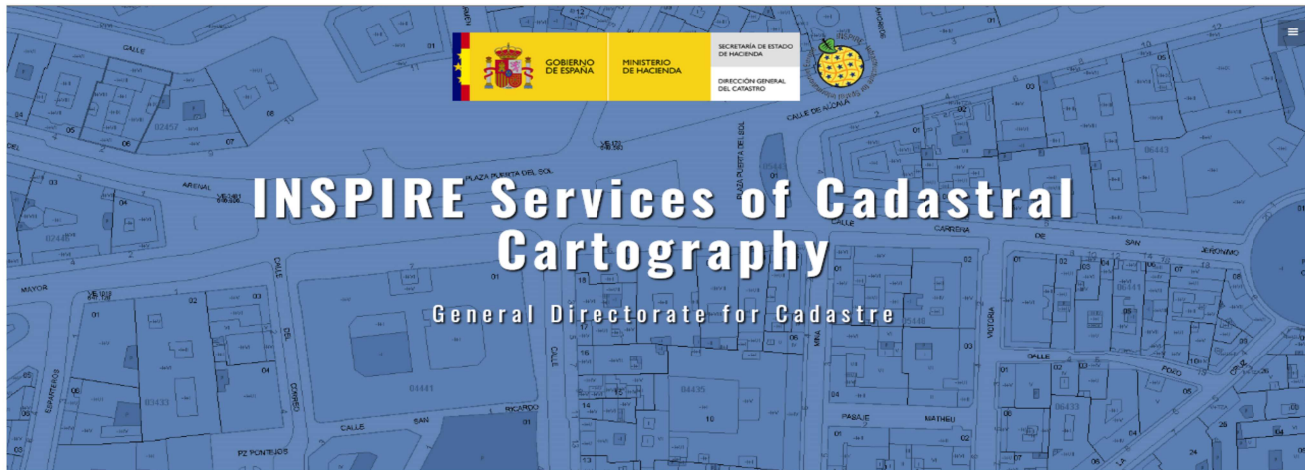
The Spanish Cadastre is principally a fiscal cadastre, whose databases of cadastral values of rural and urban real estate are the basis for the calculation of real estate tax and other local, regional and national taxes.

At cadastral level:

- **95%** of the Spanish Territory is cover by the General Directorate for cadastre (SDGC)
- The rest **5%** is cover by the Bask land and Navarra's cadastres.

*5 cadastral
data set
in total.*





Data Sets



The General Directorate for Cadastre, in fulfilment of the INSPIRE Directive, contributes to the Spatial Data Infrastructure of Spain (IDEE), offering the transformed data and services of the following data sets, within the scope of their competence:

Description of the Data Sets



CADASTRAL PARCEL
(CP Cadastral Parcel)
METADATA



ADDRESSES
(AD Addresses)
METADATA



BUILDINGS
(BU Buildings)
METADATA

http://www.catastro.meh.es/webinspire/index_eng.html

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



View Service WMS



INSPIRE WMS of the DG for Cadastre

<http://ovc.catastro.meh.es/cartografia/INSPIRE/spadgcwms.aspx>

This service allows get updated information like the Cadastral Electronic Office.

[METADATA](#)

[Description of the service](#)

Download Services

Download services with INSPIRE information offered by General Directorate for Cadastre are:



WFS INSPIRE Services



WFS Cadastral Parcel (CP)

<http://ovc.catastro.meh.es/INSPIRE/wfsCP.aspx?>

[METADATA](#)

[Description of the service](#)



WFS Addresses (AD)

<http://ovc.catastro.meh.es/INSPIRE/wfsAD.aspx?>

[METADATA](#)

[Description of the service](#)



WFS buildings (BU)

<http://ovc.catastro.meh.es/INSPIRE/wfsBU.aspx?>

[METADATA](#)

[Description of the service](#)



ATOM Services INSPIRE of Predefined Data Sets

This services allow the completed download by municipality of the INSPIRE data set.

[Description of the service](#)



ATOM Cadastral Parcel (CP)

<http://www.catastro.minhap.es/INSPIRE/CadastralParcel/ES.SDGC.CP.atom.xml>

[METADATA](#)



ATOM Addresses (AD)

<http://www.catastro.minhap.es/INSPIRE/Addresses/ES.SDGC.AD.atom.xml>

[METADATA](#)



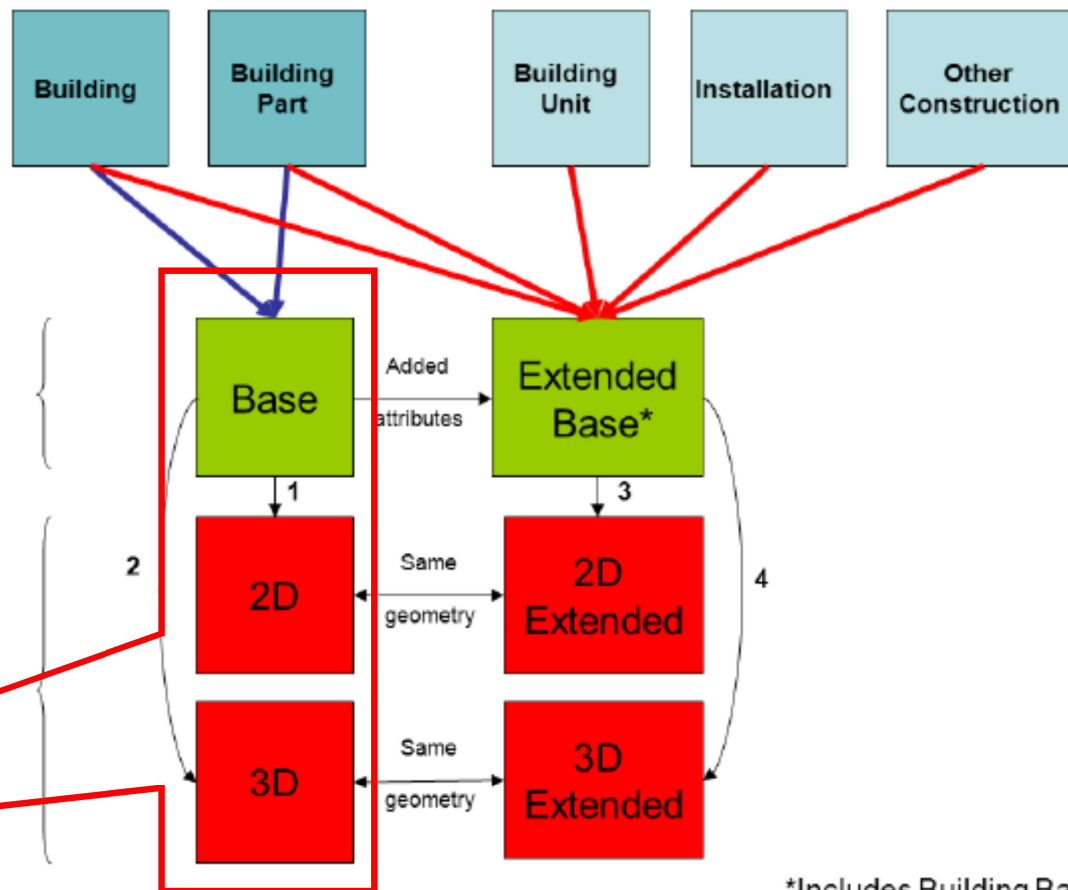
ATOM buildings (BU)

<http://www.catastro.minhap.es/INSPIRE/buildings/ES.SDGC.BU.atom.xml>

[METADATA](#)

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

Main feature types



Alternative deliverys:

1 = simple semantics + 2D geometry

2 = simple semantics + 3D geometry

3 = extended semantics + 2D geometry

4 = extended semantics + 3D geometry + additional 3D feature types

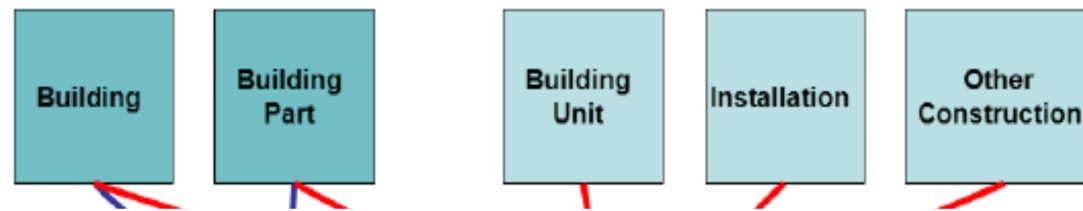
*Includes Building Base

Figure 3: Content and structure of application schemas for theme Buildings

Feature types are represented in blue. Abstract application schemas are represented in green. Instanciable application schemas are represented in red.



Main feature types



*The main feature is **BU.Building** that contains attributes relating to conservation status, uses, dates of construction, number of units, number of dwellings, external reference to cadastral data and photographs of facade,...*

BU:BuildingPart

Contains number attributes of plants and estimated heights, on and below the ground level.

BU.OtherConstruction

In the case of the cadastral maps we can only provide the geometry and surface of openairpool

Regional geographical institutes and local organization have much more information about this feature

Spanish Cadastre provide the INSPIRE BU services

with the cadastral attributes :

Geometry 2d

Footprint Surface

Current use

number of floors

Conservation status

Year of construction

Number of dwellings

Cadastral reference

Address

Linked information

BUILDING

BUILDING PART

Temporal attributes



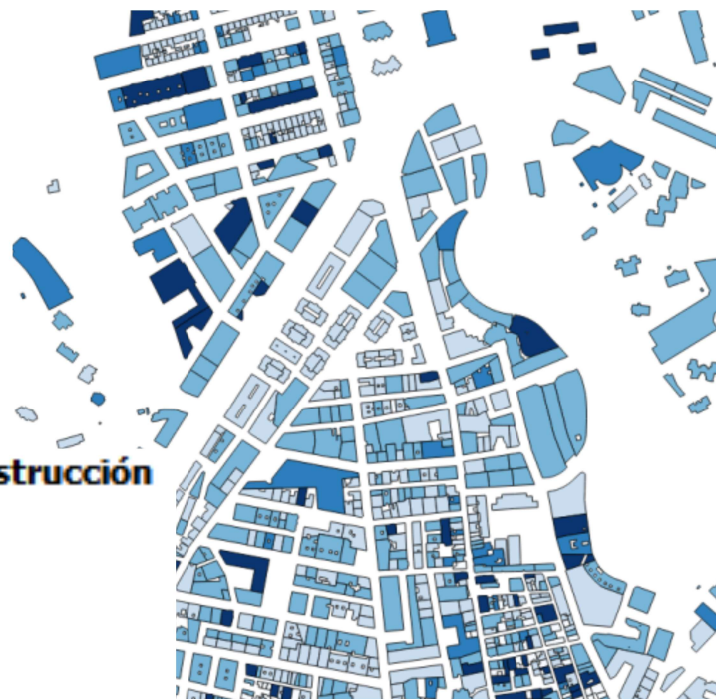
beginLifespanVersion

```
<bu-core2d:beginLifespanVersion>2005-11-21T00:00:00</bu-core2d:beginLifespanVersion>
```

endLifespanVersion

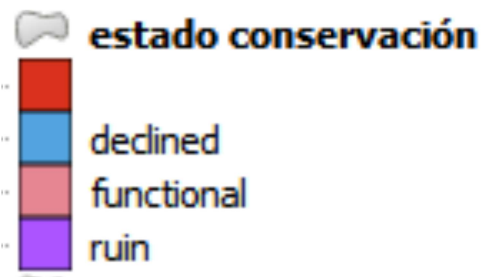
dateOfConstruction

```
<bu-core2d:dateOfConstruction>  
<bu-core2d:DateOfEvent>  
<bu-core2d:anyPoint>1997</bu-core2d:anyPoint>  
</bu-core2d:DateOfEvent>  
</bu-core2d:dateOfConstruction>
```



conditionOfConstruction

<bu-core2d:conditionOfConstruction>functional</bu-core2d:conditionOfConstruction>



schemes XSD for Buildings:

BuildingCore2D.xsd

BuildingCore3D.xsd

BuildingExtended2D.xsd

BuildingExtended3D.xsd



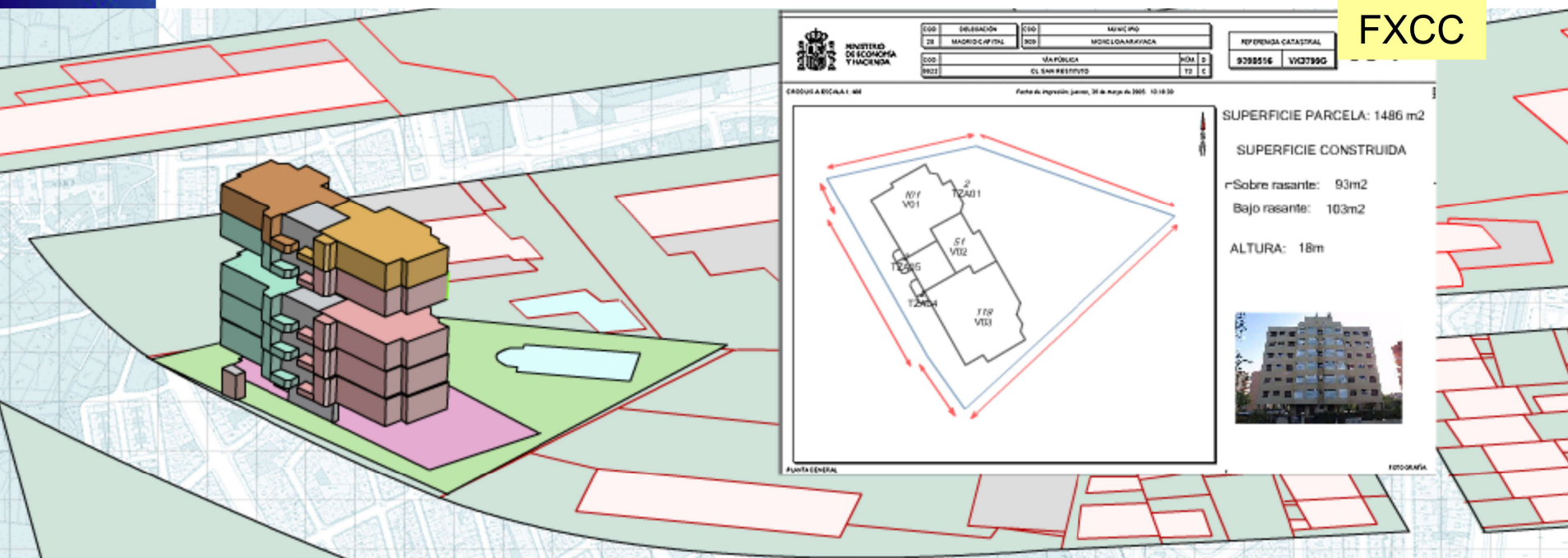
BuildingExtended2D

*Core data is not enough for us because there are attributes as **number of floors below ground** , **values of proprieties** etc... that are important in cadastre .*

*And **other constructions** are important for us*



*We can not have only information about the parcel or the building ,
we need more information inside the building,
the distribution of each property, the common areas etc...*

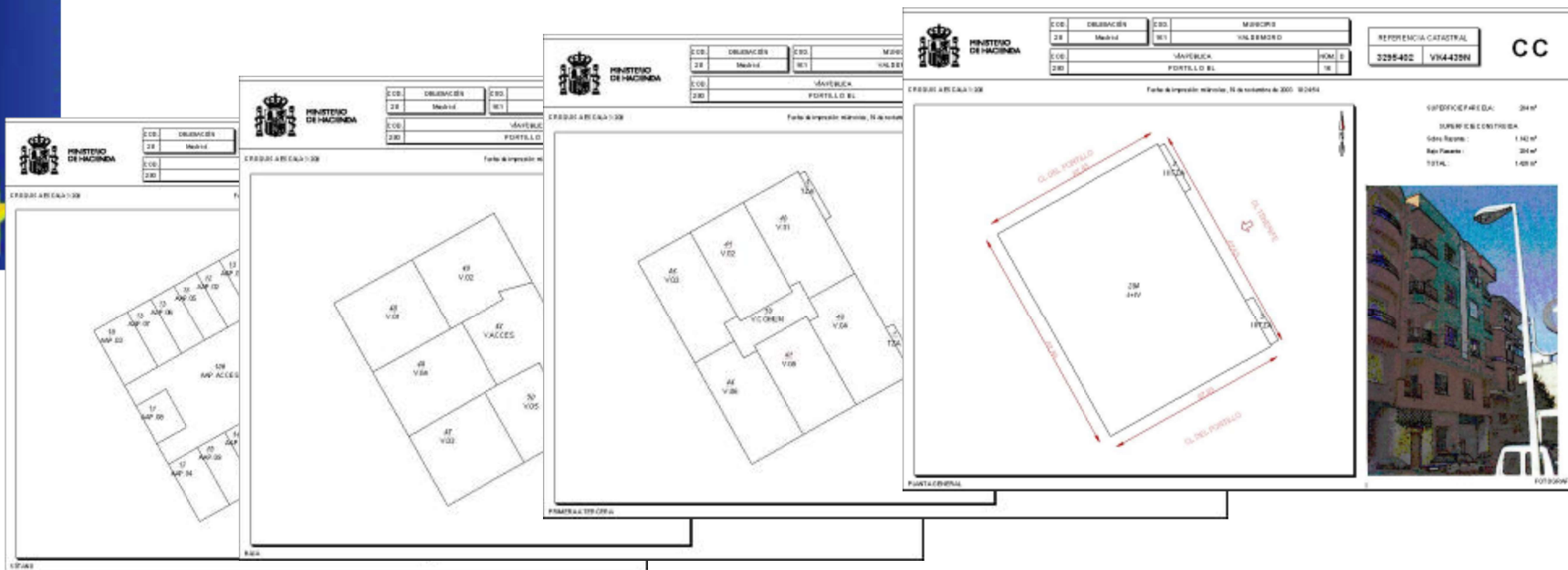


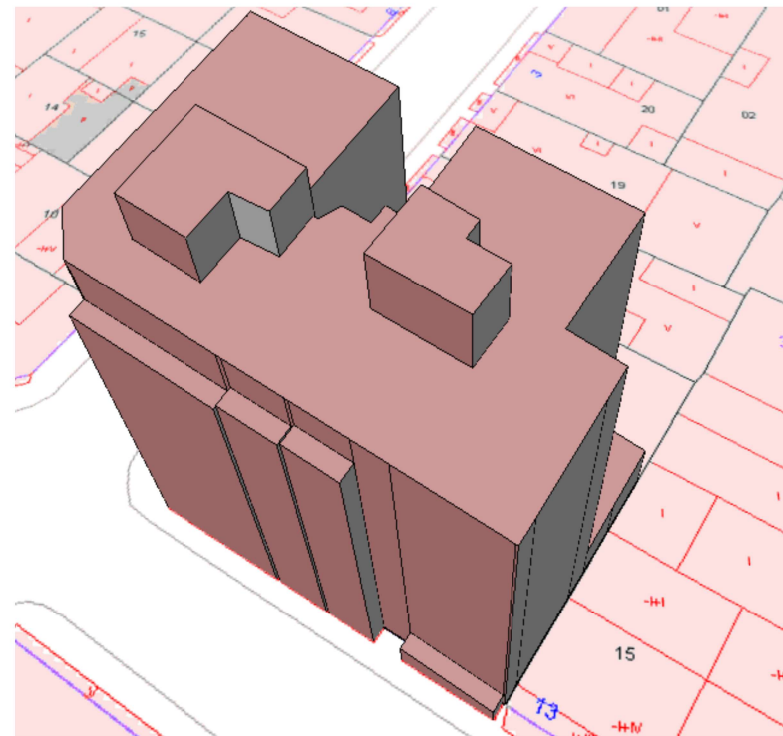
For every building the database contains a sketched floor plan in digital form, the FXCC (Format eXchange for Cadastral Constructions)

The FXCC document is a scaled graphic representation of the properties forming an urban real estate building.

The different floor plans and interior spaces are represented

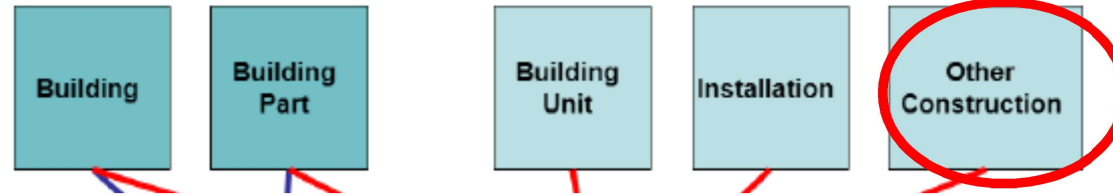
The FXCC contains a digital photo of the building too and it is storage in the data base parcel by parcel.







Main feature types



Scope of theme
Building has been enlarged to include feature type OtherConstruction (e.g. bridges, environmental barriers, elevated constructions)

				
acousticFence	antenna	chimney	bridge	bridge
				
cityWall	crane	monument	monument	monument
				
monument	monument	openAirPool	protectiveStructure	protectiveStructure
				
pylon	retainingWall	solarPanel	substation	tunnel

Illustrations of other constructions

OtherConstructions are self-standing constructions that are generally not considered as buildings. This extended profile includes the most significant constructions that are necessary to describe landscape and to fulfil use cases such as safety or spatial planning.

OtherConstruction

It is a topografical point of view, very different from cadastral point of view

Spanish Cadastre
Only considers
Openairpool as
"otherconstruction"



OtherConstructionNatureValue
+ acousticFence
+ antenna
+ bridge
+ chimney
+ cityWall
+ crane
+ monument
+ openAirPool
+ protectiveStructure
+ pylon
+ retainingWall
+ solarPanel
+ substation
+ tunnel

```
<bu-ext2d:OtherConstruction
gml:id="ES.SDGC.BU.9398516VK3799G_PI.1">
```

```
<bu-ext2d:constructionNature>openAirPool</bu-
ext2d:constructionNature>
```

PISCINAS



Current use

Code list hierarchical and extensible based on Eurostat classification

We have to adapt our complet classification of buildings to a much more simple classification.

residential
individualResidence
collectiveResidence
twoDwellings
moreThanTwoDwellings
residenceForCommunities
agriculture
industrial
commerceAndServices
office
trade
publicServices
ancillary



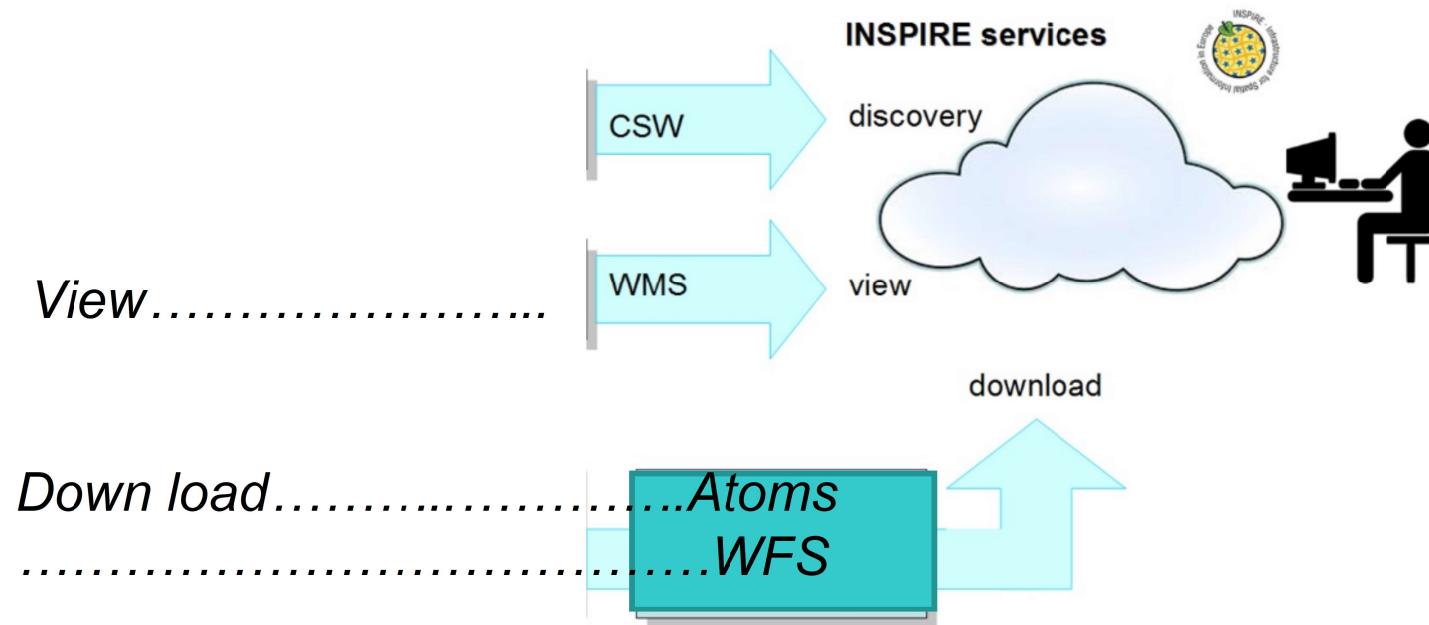
catastro		INSPIRE use (PROPUESTA)	
CODUS	Denominación		GML
A	Almacén, estac.	warehouseAndParking	warehouseAndParking
B	Almacén agrario	Agriculture, warehouse	agricultureWharehouse
C	Comercial	CommerceAndServices, trade	trade
E	Cultural	CommerceAndServices, culture	Culture
G	Ocio, Hostelería	CommerceAndServices, RecreationAndH oReCa	recreationAndHoReCa
I	Industrial	Industrial, General	Industrial
J	Industrial agrario	Agriculture, Industrial	agricultureIndustrial
K	Deportivo	CommerceAndServices, sports	sports
M	Suelo sin edificar	-----	
O	Oficinas	CommerceAndServices, office	office
P	Edificio singular	singularBuilding	singularBuilding
R	Religioso	CommerceAndServices, religious	religious
T	Espectáculos	CommerceAndServices, shows	shows
V	Residencial	residential	residential
Y	Sanidad, Benefic	CommerceAndServices, healthAndChar ity	healthAndCharity
Z	Agrario	Agriculture, general	agriculture
1	RDL 1/04 8.2a e) Los destinados a la producción de energía eléctrica y gas y el refinio de petróleo, y las centrales nucleares.	Industrial, Energy	energy
2	RDL 1/04 8.2b) d) Las presas, saltos de agua y embalses, incluido su lecho o vaso, excepto las destinadas exclusivamente al riego.	Industrial, Hydroelectric	hydroelectric
3	RDL 1/04 8.2c) e) Las autopistas, carreteras y túneles de peaje.	CommerceAndServices, tollRoadsAnd Tunnels	tollRoadsAndTunnels
4	RDL 1/04 8.2d) f) Los aeropuertos y puertos	CommerceAndServices, airportsAndPor ts	airportsAndPorts



INSPIRE Services

with all these information the Spanish cadastre generates the INSPIRE GML files.

it possible to automate the processes in order to be able to generate metadata and INSPIRE services for viewing and downloading.

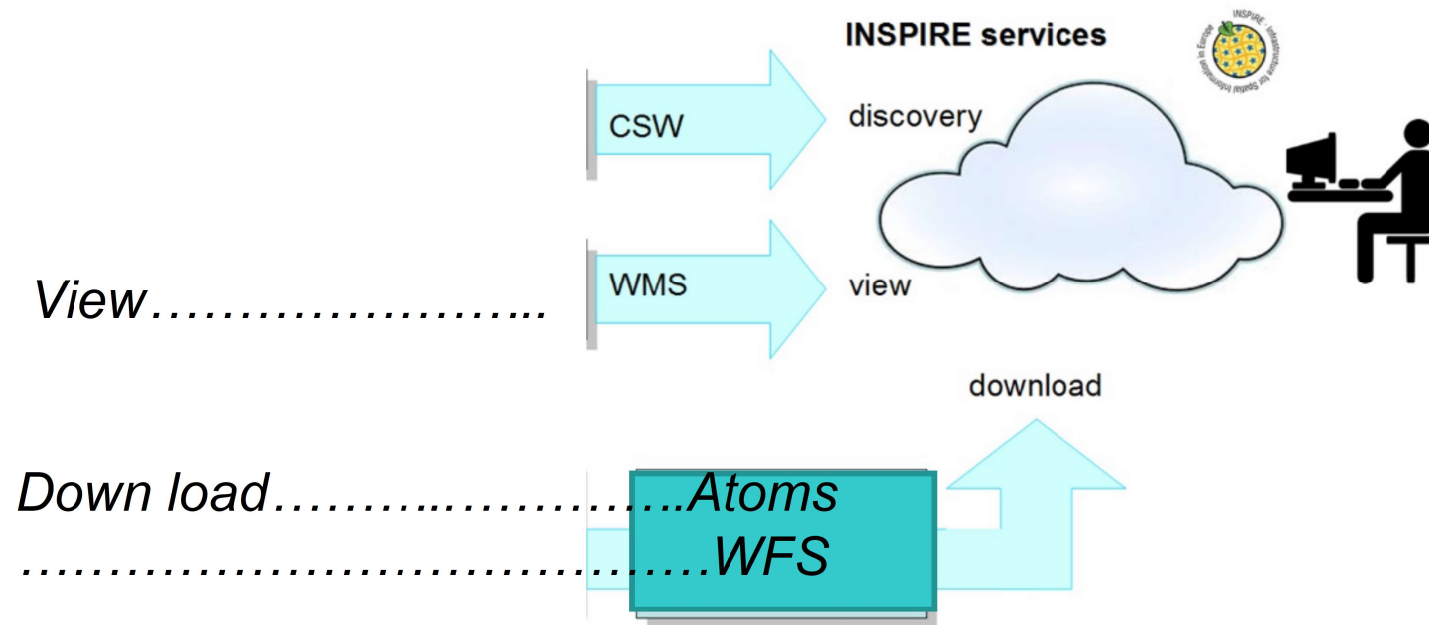




INSPIRE Services

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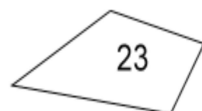
Agreed changes to the INSPIRE Technical Documentation for the “D2.8.I.2 INSPIRE data specification on Buildings – Technical Guidelines” version 3.0

		INSPIRE	Change Proposal
Building	Surface	grey with black outline o Fill colour: SOLID GREY RGB 128,128,128 o Outline colour: SOLID BLACK o Outline width: 0,4pt	red light with dark red outline Fill colour: SOLID light red RGB 255,235,235 Outline colour: SOLID RED RGB 255, 0, 0 Outline width: 1 px
	Point	dark grey circle o Style: CIRCLE o Fill colour: SOLID DARK GREY (RGB 82,82,82) o Width: 10pt	
BuildingPart	Surface	hollow with black outline o Fill colour: TRANSPARENT o Outline colour: SOLID BLACK o Outline width: 0,2pt	hollow with red outline Fill colour: TRANSPARENT Outline colour: SOLID RED RGB 255, 0, 0 Outline width: : 1 px
	Point	grey circles o Style: CIRCLE o Fill colour: SOLID GREY (RGB 128,128,128) o Width: 5pt	

Spanish General Directorate for Cadastre INSPIRE View Services - WMS SYMBOLOLOGY

CP.CadastralParcel

Default



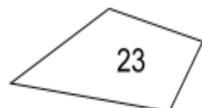
BoundariesOnly



ReferencePoinOnly

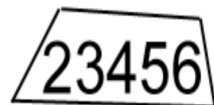


ELFCadastre



CP.CadastralZoning

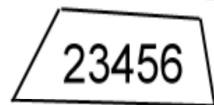
Default



BoundariesOnly



ELFCadastre



AD.Address

Default



Number.ELFCadastre

72

BU.Building

Default

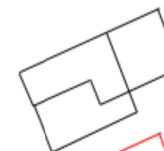


ELFCadastre

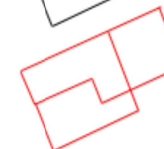


BU.BuildingPart

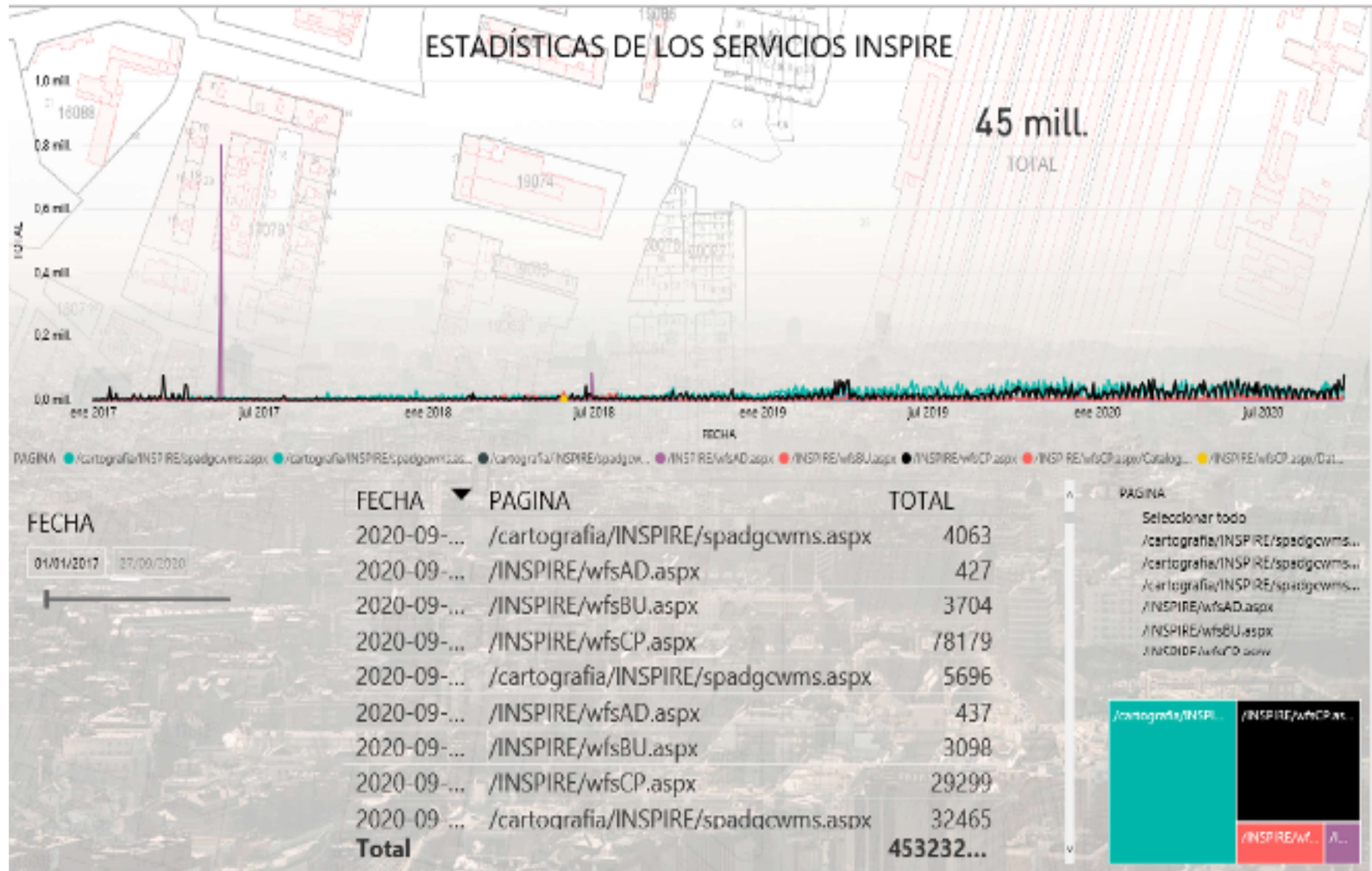
Default



ELFCadastre

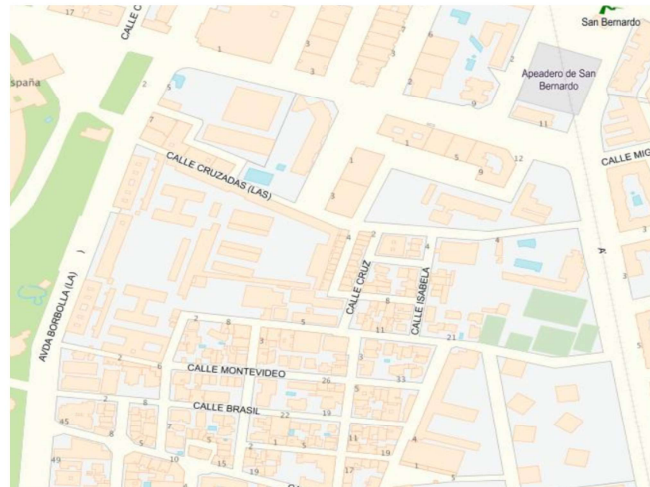


Use of INSPIRE services. Every day more and more



Many administrations from civil service download the buildings in GML format from the ATOM Feed or WFS.

WMS service is used as a background in its cartography



http://www.ign.es/wmts/ign-base?FORMAT=image%2Fjpeg&VERSION=1.0.0&SERVICE=WMTS&REQUEST=GetTile&EXCEPTIONS=application%2Fvnd.ogc.se_inimage&LAYER=IGNBaseTodo&STYLE=default&SRS=EPSG%3A4258&TILEMATRIXSET=EPSG%3A4258&TILEMATRIX=16&TILEROW=19160&TILECOL=63361

