All the agents that work with real estate information in Spain are using now INSPIRE

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After many attempts for coordination between the Cadastre and Property Rights Registry,

A new legal frame (law 13/2015)
- That give real estate traffic greater legal certainty by incorporating the georeferenced graphic information of the parcels in the Property Rights Registry
- Based in Cadastral cartography
- A mechanism for exchange INSPIRE CP GML

The new system has permitted
- the coordination of the information of both institutions for a better identification and description of real estates
- and an adequate provision of services to citizens and administrations
- And much more..............
The geo-referencing of the parcels, expressed through the GML INSPIRE format of a cadastral parcel, is now widely used by all agents involved in property transactions in Spain.
To order the presentation

- The Law.
- The new technologically advanced coordination model
- The instruments:
  - The Cadastral certification
  - The validation service of alternative geo-referenced graphical representations
- The results
- An step further...The buildings.
- Conclusions
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Before 2015, Register had in few cases cartography, but it was not official, and it did not have legal effects and protection.

From 2015, the description of properties in the Property Rights Registry may include a geo-referenced graphical representation, based on the cadastral cartography.
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New technologically advanced coordination model

Cadastre, Registries and Notaries have thus designed a new technologically advanced model of institutional interaction that enables the use of geo-referenced graphical information throughout all real state transactions.

The coordination process exchange

Unattended mechanism

www.sedecatastro.gob.es
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The "Descriptive cadastral and graphic certification" has been the instrument chosen to achieve the correct graphic description of the registered properties, since it guarantees the coherence of the graphic information that is registered, the non-invasion of the adjoining properties or the public domain.

The graphic information of the cadastral parcel presented in a certification is expressed in the INSPIRE GML cadastral parcel format.
The cadastral certification is an electronic document (PDF format).

It includes embedded the GML INSPIRE of cadastral parcel.

The certificate and its attached file are signed electronically using a Secure Verification Code (CSV)

Composed by 16 digits

These 16 digits are the only information that is exchanged...
With this code CSV on the document it is possible to access in any moment by internet to the digital file in the Electronic Office of Cadastre.

- Applications of notaries and registrars use a web service to access the content of the GML attached file using only the code CSV.
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What happened when it is necessary to change the representation of the parcel?

- declarations of citizens: segregations, divisions, joints ..
- land consolidations,
- reparation,
- administrative demarcation,
- expropriation
- acts of urban planning and urban managing
- first registration in the PRR or renewal
- errors

Citizens and administrations must provide an alternative geo-referenced representation, also as INSPIRE GML Cadastral Parcel format

"Validation service of alternative geo-referenced graphical representations“
The cadastral cartography is the basis of the new representation.

The technicians are required to represent the reality as an overlay on the cadastral cartography,

1. Download GML (or other formats: DXF, etc) from Cadastre
2. Modify by private tools (autocad, qgis, etc..)
3. Include the alternative geo-referenced representation that must be expresses in GML of CP
An alternative graphic representation must comply with certain technical conditions.

It must be represented on the cadastral cartography and the delimitation that exists previously in the cadastral cartography must be respected.

The accreditation of these conditions is verified by means of the "Validation service of alternative geo-referenced graphical representations", whose result is the "Graphic validation report".

The process begins with GML INSPIRE of the origin cadastral parcel.
1. Free access from the screen, as query results.
2. As a service using the WFS INSPIRE cadastral Parcel

We do not change our data base...too much implications-

We produce the INSPIRE services only with some of our data

- Metadata and WMS and WFS service are already implemented
- Own Developing
- Continuous map for the whole territory
- Integrated in the Cadastral Virtual Office
  - 7 days, 24 hours, free of charge
3. With the cadastral certification, obtained by the title holders and public partners agents
Captura y generación de ficheros por técnico competente

GML de parcela catastral
Validation service of alternative geo-referenced graphical representations”, whose result is the "Graphic validation report".
Validation service of alternative geo-referenced graphical representations”, whose result is the "Graphic validation report“.

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Step 2: insert the cadastral references of the parcels
Validation service of alternative geo-referenced graphical representations”, whose result is the "Graphic validation report“.

User can put others layers as cadastral cartography, orthofotos
Validation service of alternative geo-referenced graphical representations”, whose result is the "Graphic validation report“.

The analysis is by geometrical overlapping between GML and current cadastral mapping.
Validation service of alternative geo-referenced graphical representations”, whose result is the "Graphic validation report“.

The report is an electronic document signed with the secure verification code.

It has also de INSPIRE GML file.
Parcelas catastrales afectadas

La representación gráfica a continuación del presente informe afecta a las parcelas catastrales que se relacionan a continuación. La incorporación de esta representación gráfica en la cartografía digital permite producir visualizaciones de la delimitación y superficie de estas parcelas, por lo que se mejora la notificación previa a los titulares catastrales de las mismas en un procedimiento correspondiente.

Parcelas resultantes

Referencia Catastral: 37130A0405231
Dirección: FUENTEGUINALDO (SALAMANCA)
AFECTADA TOTALMENTE

Referencia Catastral: 37130A0405232
Dirección: FUENTEGUINALDO (SALAMANCA)
AFECTADA TOTALMENTE
- The report avoids physical exchange of files, only 16 digits are exchanged between cadastre and notary.

- The report shows the new representation and enables the automated capture of its contents preventing transcription errors.

- **All the exchange of information is made through web services**

- Notaries don’t need to use GIS. And they can check the content using its CSV code in a service available in the Electronic Office of the Cadastre.

- If the validation report is correct, in between 5 days the cadastre send the new cadastral certificate to the Notary.
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During 2016

more than seven million certificates
and fifty thousand reports were issued

85% being directly obtained by the notaries, registrars, and administrations, obtained:

• interactively
• or invoking the opportune Web services enabling unattended communication between information systems
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In order to register a building in the Property Rights Registry, the georreferencing of its position is also required by the law 13/2015 and therefore we have done a step further, creating the mechanism to use for that the INSPIRE GML BU too and open the door to include other attributes of buildings in the future.

The Spanish cadastre has information of:
- 13 million urban parcels
- 40 million rural parcels
- 62 million constructions (buildings and other constructions) in a continuous and uniform model
Fiscal Cadastre
The cadastral value for each property is determined objectively from the data in the Real Estate Cadastre.

Physical data of real estate:
- land surface,
- buildings surface,
- conservation status,
- use (legal and actual one),
- typology,
- year of construction.....

Interesting data for INSPIRE buildings
Spanish Cadastre can already provide the INSPIRE BU services with the cadastral attributes: geometry 2d, surface, use, number of floors, below and over the floor, conservation status, year of construction, number of dwellings, cadastral reference, address etc...

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 also other constructions openairpools are important for cadastre.
• featureMember Building "horizontalGeometryReference" - "footPrint"
• featureMember OtherConstruction
1. Download GML CP (or other formats: DXF, etc) from Cadastre

2. Create by private tools (autocad, qgis, etc..)
   
   • featureMember Building  
     “horizontalGeometryReference” - “footPrint” 
   • featureMember OtherConstruction

3. Include the alternative geo-referenced representation that must be expresses in GML of BU
   
   • Also the GML of the CP
In the same way

Validation report of georreferencing constructions

The electronic document includes as attachments, the provided GML files.

It is signed with a CSV

The building must be inside the cadastral parcel

http://www.catastro.minhap.es/ayuda/vga/ayuda_ICUC.htm

(1) El esquema Building Extended 2D de INSPIRE (http://inspire.ec.europa.eu/draft-schemas/bu-ext2d/2.0/BuildingExtended2D.xsd) se encuentra aún en fase de draft, y tiene pendiente la incorporación de algunos detalles que figuran en el estándar. Entre ellos, añadir el valor openAirPool al atributo constructionNature del featureMember ObejetoConstrucción. La D.G.C. usa dicho atributo con ese valor para calificar las piscinas al aire libre, lo que hace que los gml de edificio que incluyen piscina proporcionados por la SEC no validan frente al draft de esquema actual. Por ello las validaciones de esquema se realizan contra un esquema ligeramente modificado que se mantiene en local. La url de este esquema es: http://www.catastro.minhap.es/ws/esquemas/GML/inspire.ec.europa.eu/draft-schemas/bu-ext2d/2.0/BuildingExtended2D.xsd
Conclusions

The new system of coordination between Cadastre and registre based in the INSPIRE GML:

has allowed to establish a fluid and safe exchange of information between all the agents involved in the real estate traffic and it

has led to the development of applications, products and services by private initiatives.

GML file is now well known by surveyors, engineers, architect, notaries, register workers, etc. and it has become the standard in cartography exchange.

INSPIRE in Real life
Conclusions

With the introduction of this system, not only we are making advance in the coordination between Cadastre and Property Rights registry

but also **we are standardizing the data and processes within all the actors that work in the land management.**

The citizens, the public authorities that work in the territory have the duty to communicate to the Cadastre land consolidations, reparcelling, administrative demarcation, expropriation and acts of urban planning and urban managing

for this communication they are using now the INSPIRE GML.

In this way we are **enhancing interoperability between them, simplifying administrative procedures and reducing costs**
Creation of the Consensus Model for Spain of INSPIRE Building data