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Evolution of the Spanish Cadastre

Now, more inclusive and interoperable

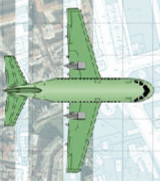


<http://ovc.catastro.meh.es>

*Benito Bericochea Miranda,
 Manager of the Galician Agency
 Spanish Directorate General for Cadastre*

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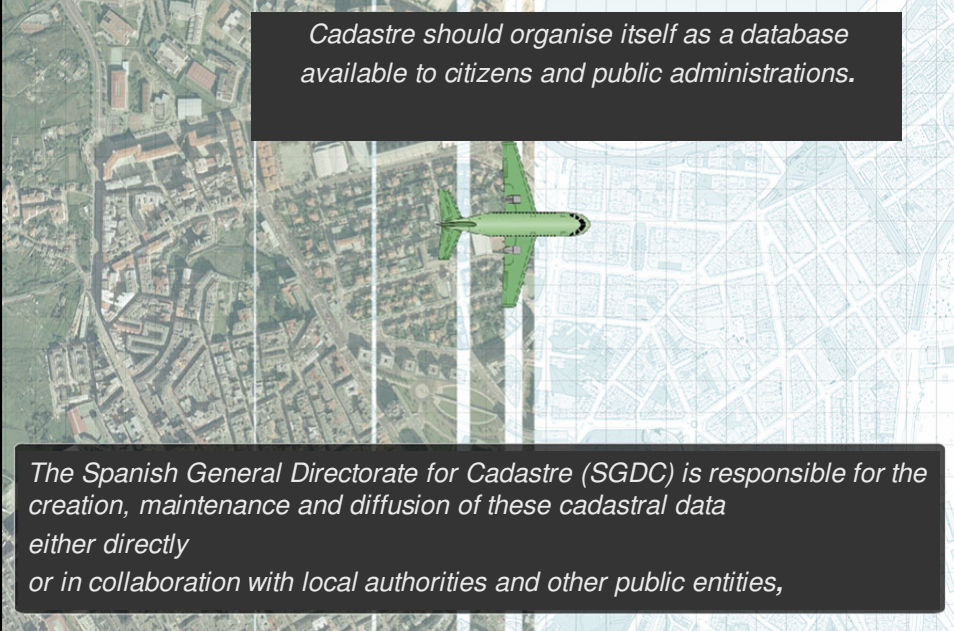
1.200.000 Has. mapped to scales 1/1.000 & 1/500.
 46.500.000 Has. mapped to scale 1:5.000.



The Spanish Cadastre is a data base that includes physical, legal and economic information of:


- 32 million urban properties;*
- 42 million rural parcels;*
- 23,5 million Cadastral Owners;*
- 7.575 municipalities.*

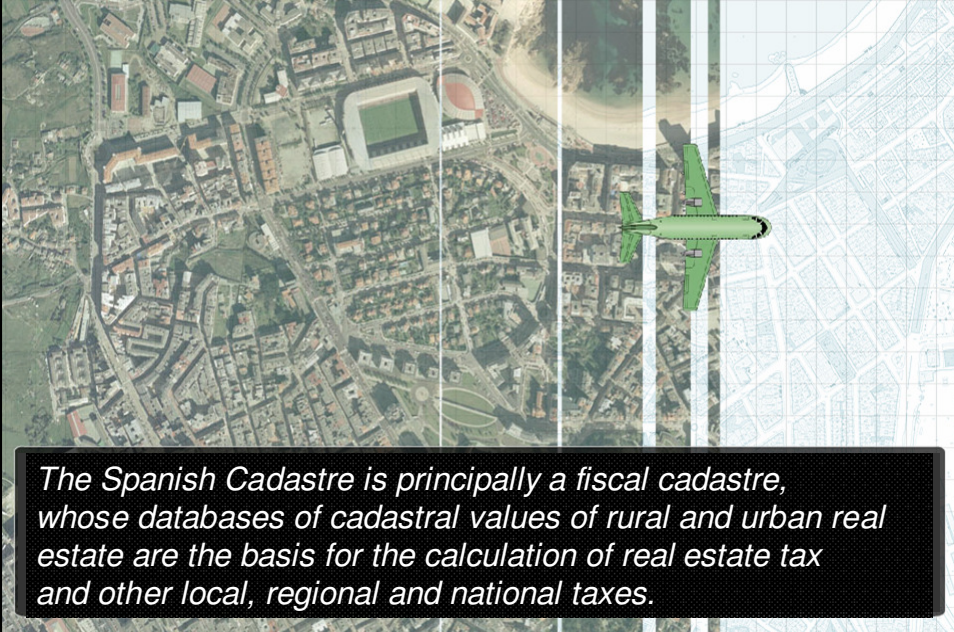
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*Cadastre should organise itself as a database
available to citizens and public administrations.*

*The Spanish General Directorate for Cadastre (SGDC) is responsible for the
creation, maintenance and diffusion of these cadastral data
either directly
or in collaboration with local authorities and other public entities,*

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*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.*

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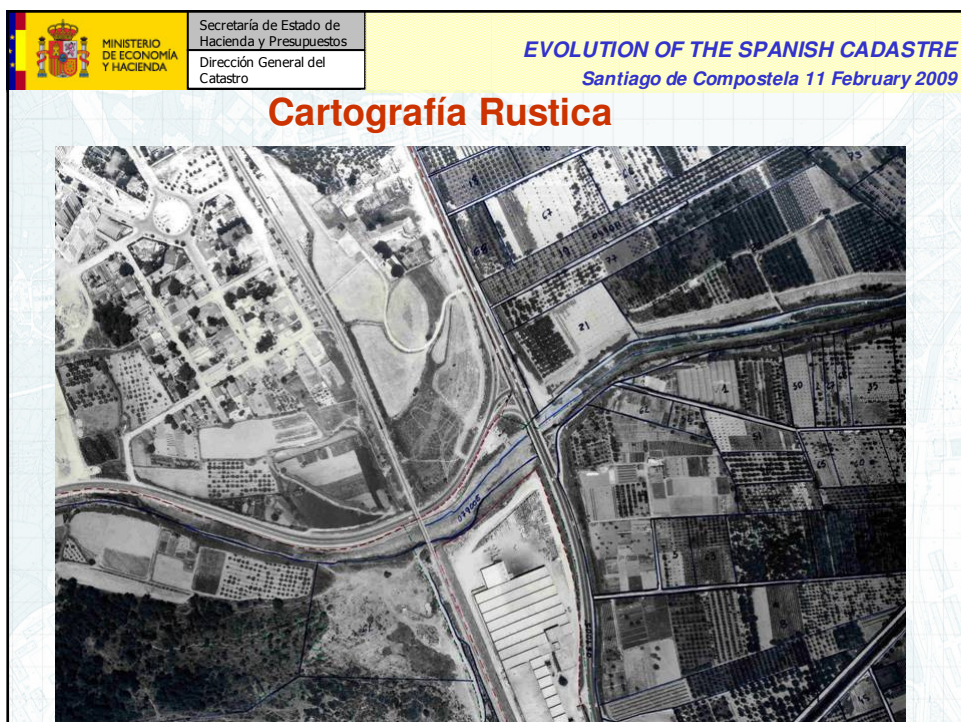
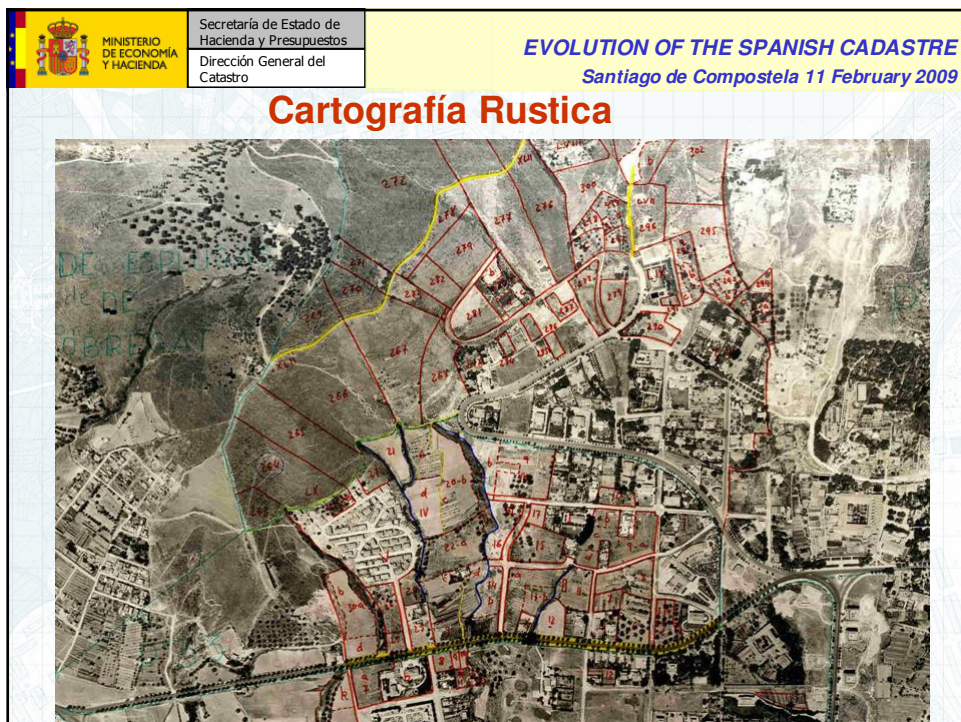
But this is not its only purpose: it is also a territorial database allowing the location and identification of cadastral parcels and the assignment of the cadastral reference, as well as the supply of graphic and literal information to users.

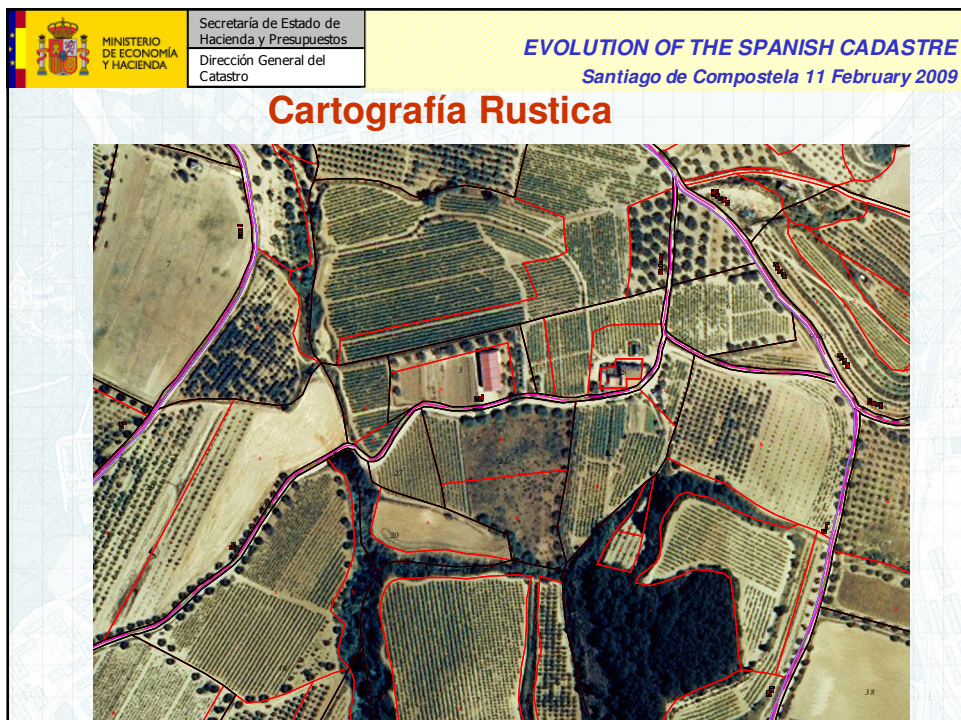
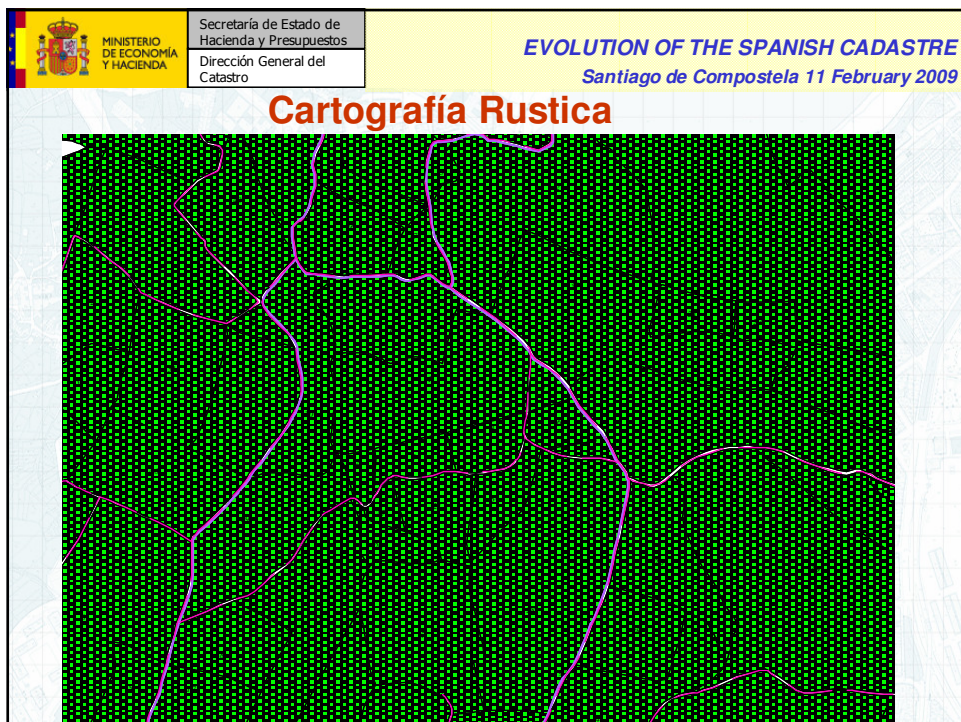
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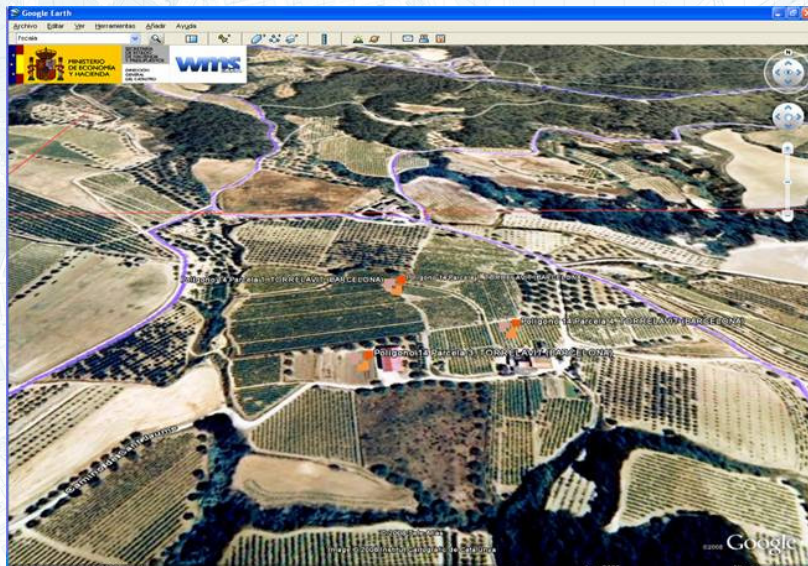
The Spanish Cadastral organization has been working since more than 15 years ago, to have the cadastral parcels in urban and rural areas in a complete and homogeneous digital data model for all of the Spanish Territory.



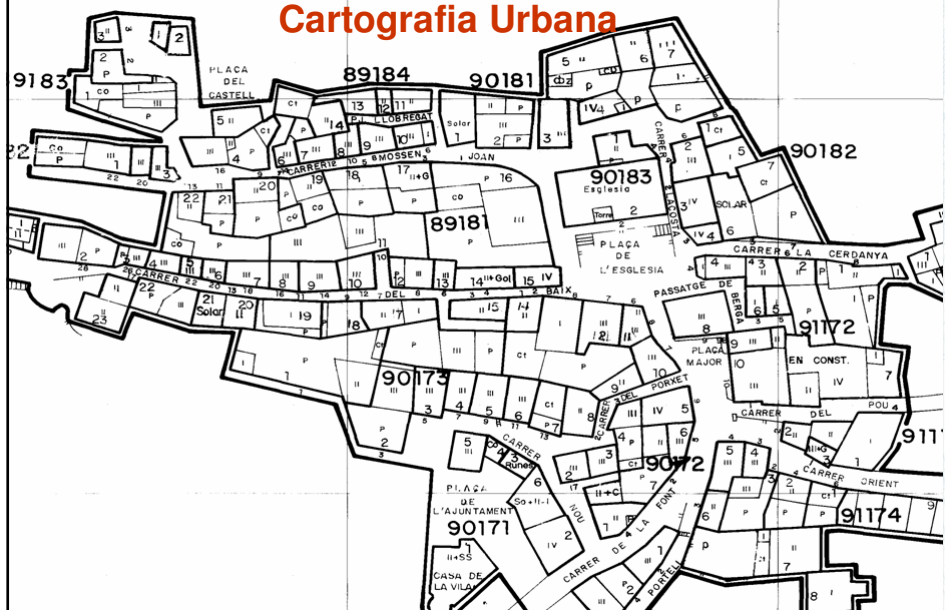


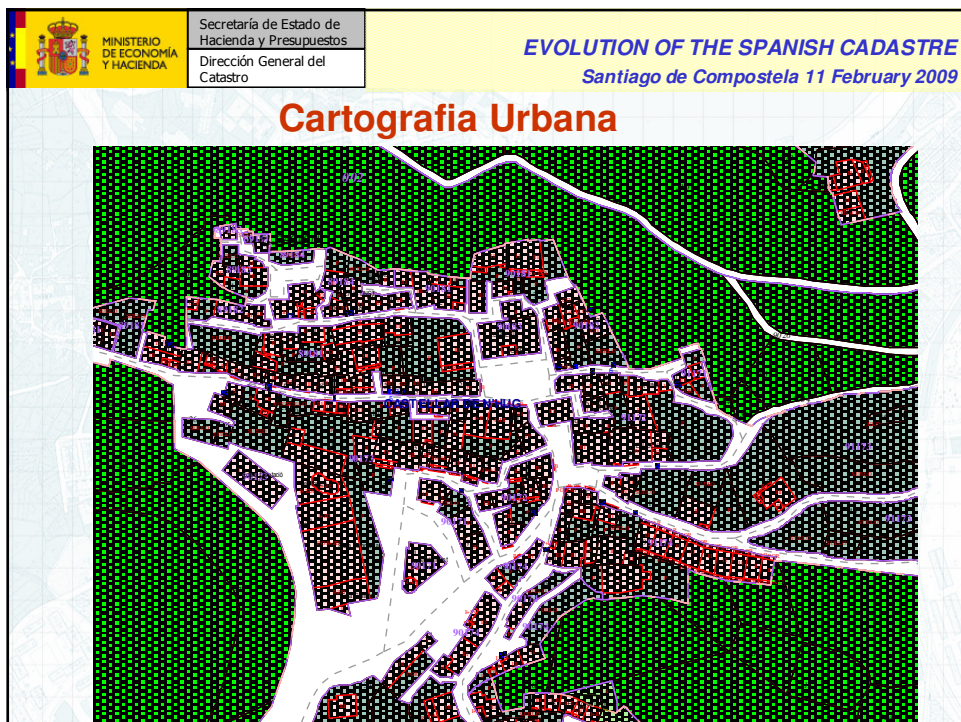


Cartografía Rustica



Cartografia Urbana







Spanish law establishes that the Cadastre is a register describing rural and urban real estates.

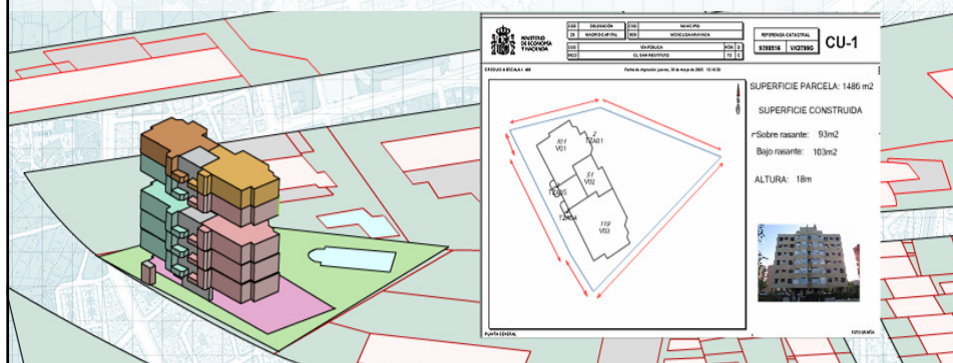


- **Real Estate Identification data:**
 - » cadastral reference, province, municipality, addresses or location.
- **Juridical data of real estate:**
 - » Titleholders' name and national identity number, addresses of titleholders and the notification address, date of acquisition and rights data.
- **Physical data of real estate:**
 - » land area, buildings area, class of crops, coordinates.

Economic data of the real estates:

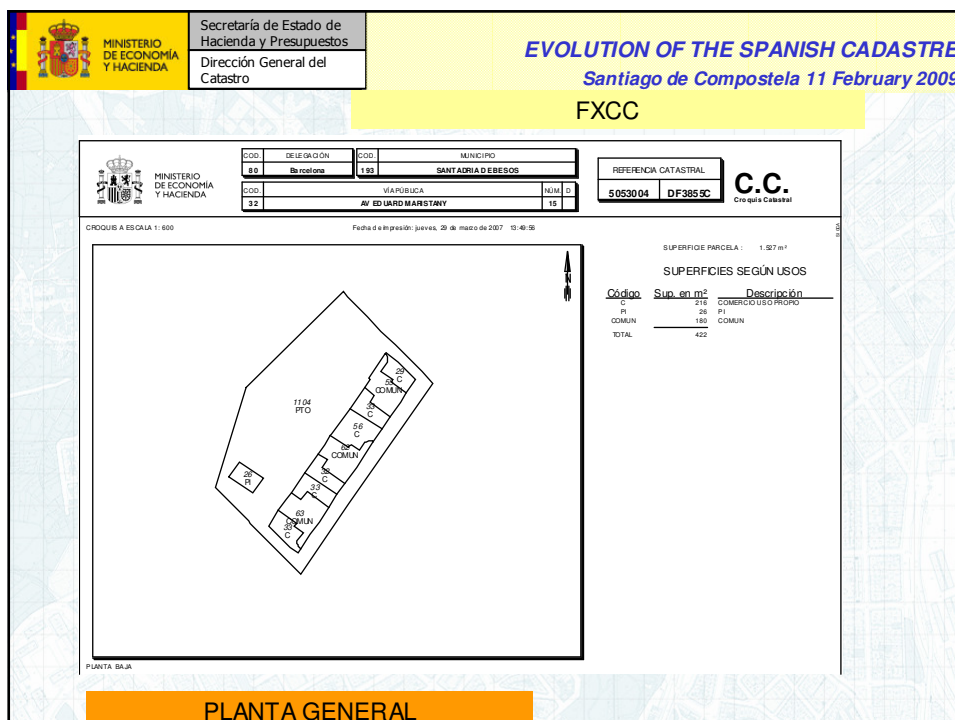
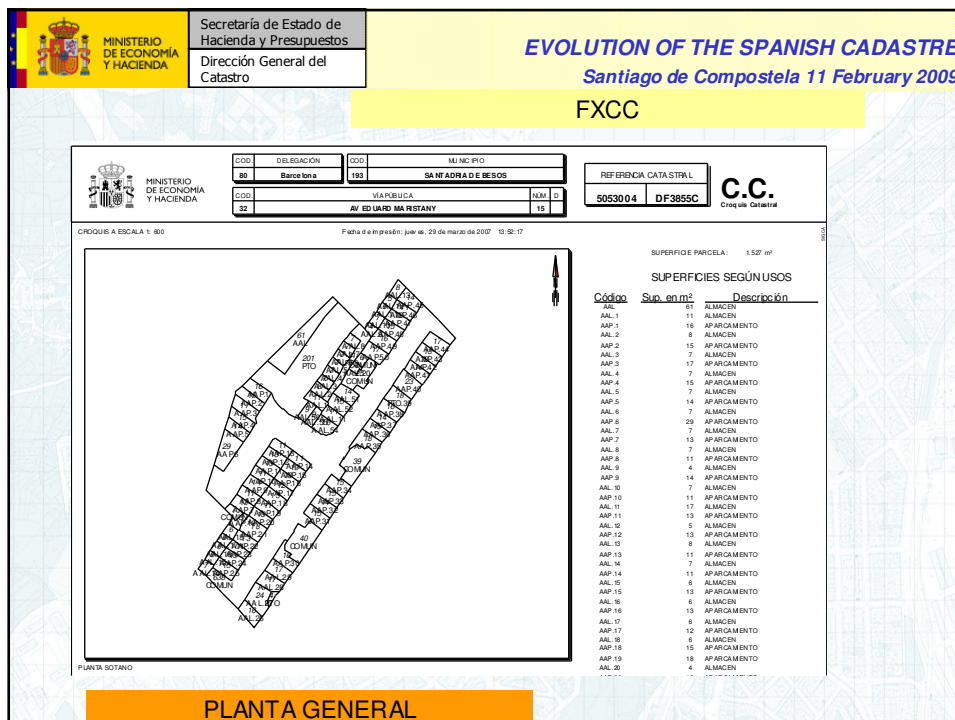
use (legal and actual one), value of land, value of construction and cadastral value, criteria and valuating module, real estate taxable value, exemptions and benefits.

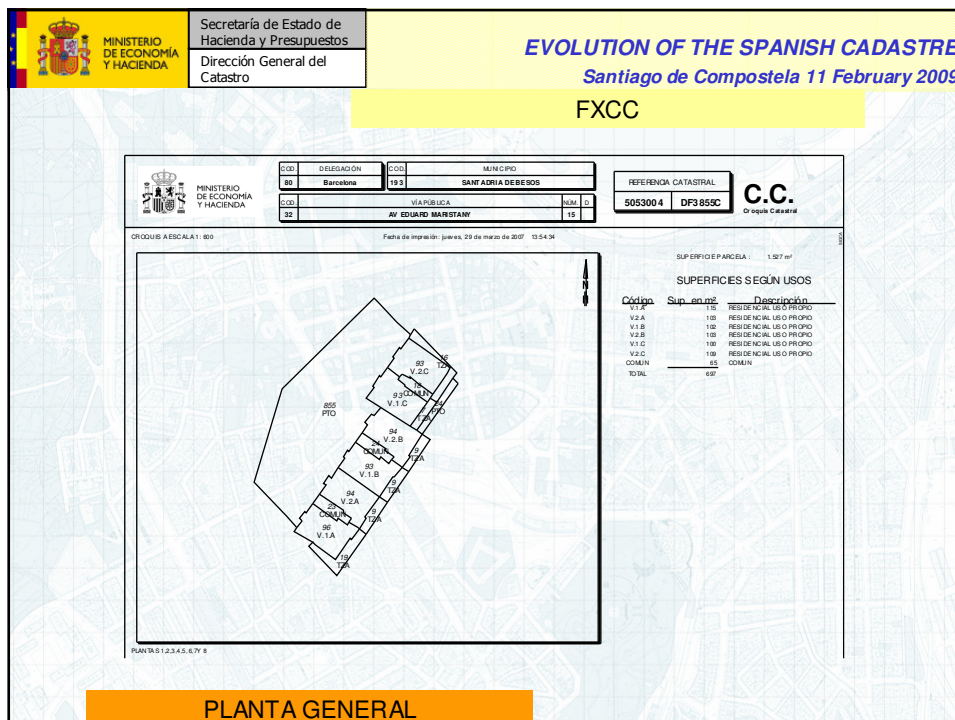
3 D cadastre



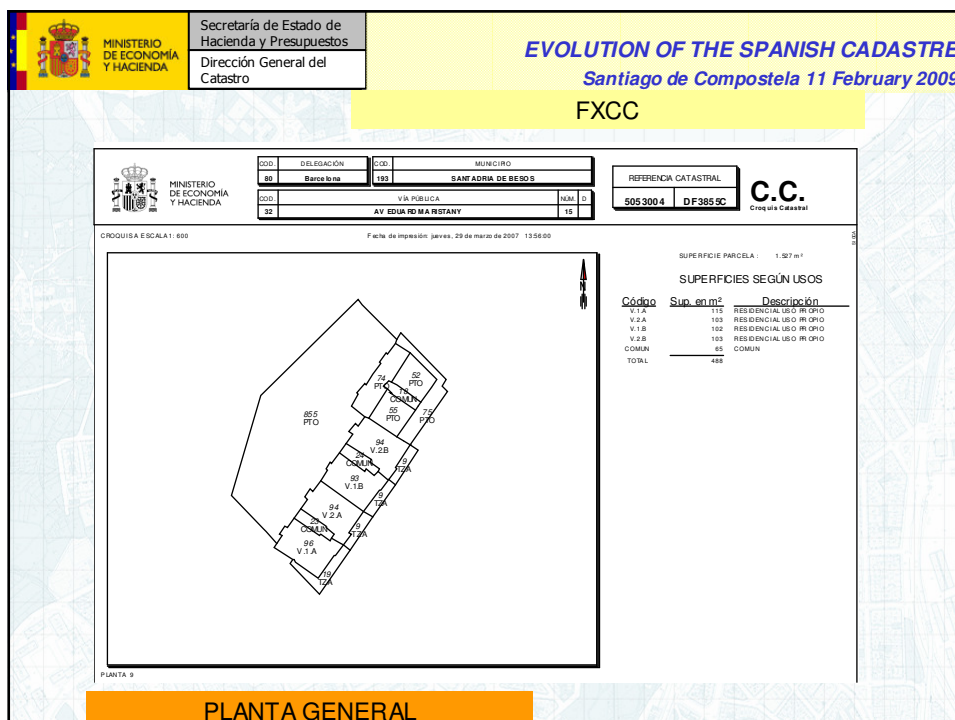
For every building the data base has sketched floor plan in digital form, the FXCC is a scaled graphic representation of the properties forming an urban estate.

Cadastral cartography only represents cadastral parcels or urban estates, while the different floor plans and interior spaces are represented on FXCC.

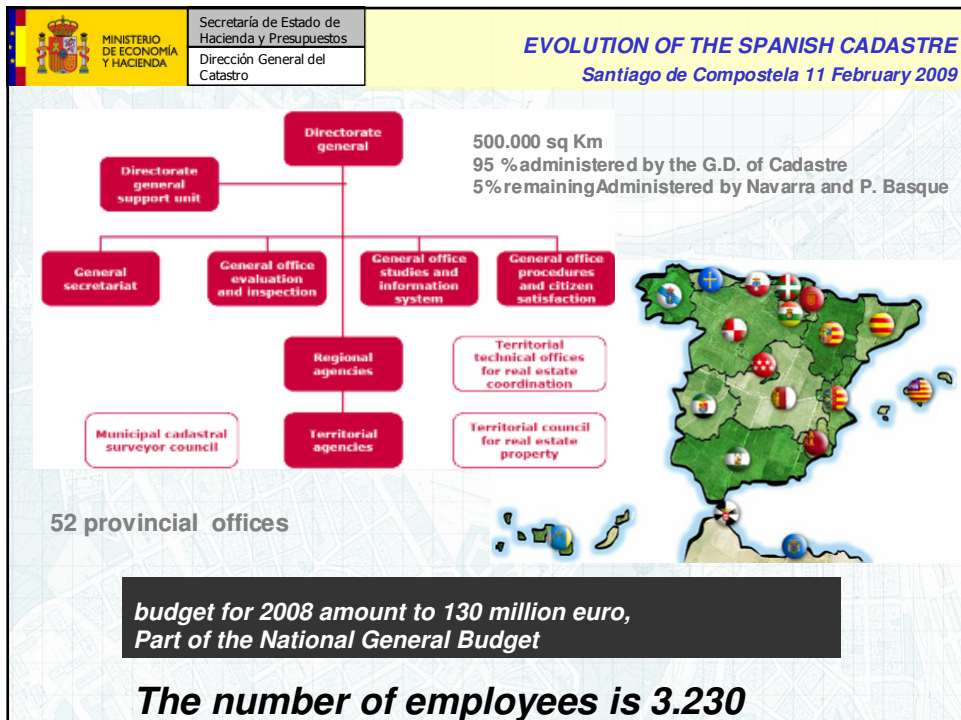




PLANTA GENERAL



PLANTA GENERAL



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Evolution of Spanish cadastre.

1. Corporate systems

Initially, the Cadastre maintained the cadastral maps and the literal data without relation to other administrations



Other Public Administrations started to develop Territory Management Systems.


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Corporate systems



We all worked on our own Information System, each of us on our island.



We spent several years focused on solving the functional demands of our organization, and we developed excellent Corporate Systems


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Then a municipality came to us requesting the cadastral data


One month later, others showed interest in collaborating in the maintenance of the cadastre.

The collaboration agreements with the Cadastre were born for the maintenance of the cadastral databases

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Then the following bodies got interested in our data ...

- The Agriculture Department...
- The Environmental Department...
- The Land Registers...
- The Urbanism Department...
- The SIGPAC...
- Irrigation Plans...
- Demarcation of Public Property Boundaries...
- Roads...
- Train company
- Police...
- REE (Spanish Electrical Network)...



We made many copies... sent many tapes
from "island" to "island" ...

*Finally, the first Town Council came back to us
complaining that the cartography which we had
supplied to them was not up-to-date*

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*Many administrations requested cadastral information from the citizen for their public policies.
Notaries, Registres, Agricultural Subsidies, Courts, Education, taxes.....*




They send the citizen "physically" to our "island" to request the information, which he must then deliver to the requesting administration (on the other island)

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*Finally came **INTERNET***



Oficina Virtual del Catastro

Cadastral Virtual Office



<http://ovc.catastro.meh.es>

The CVO gives cost-free, easy, rapid, 24-hour, 7 days a week access to all cadastral data:

We implemented:

- services for the citizen
- direct services between the "islands".

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Strategic objectives

Inclusive: giving all citizens, without exception, access to cadastral data via Internet or via Cadastral Information Points.
(Avoid digital gap)

3.000
20 Km

Interoperable: providing interoperability with the public entities responsible for territorial administration.





Main Data provider of the Spanish Spatial Data Infrastructure (IDEE).

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Strategic objectives


Secure service that guarantees **data privacy** and at the same time fully supports **transparency** in the public services

- Open access to all data except those subject to Data Protection law
- Register users
- Cadastral Owners

Fully aligned with U.E. and Spanish Government Information Society initiatives, in legal, political and strategic aspects

INSPIRE, PSI, Spanish law electronic access of citizens to public services

Re-organisation of services and processes to make cadastral administration more **efficient and effective**, increase **collaboration** between administrations, and reduce the administrative burden.

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Since 2003, everyone can consult literal information on the Internet and send files.

Since 2004, cadastral cartography is online.


Since 2005, we offer WMS services.

Since the end of 2006, we offer WFS services.

2007: More Interactive access for citizens and users from other administrations

2008: New soap services


2008 the model 3D+time (=4D) of buildings and its representation by means of KML files over Google Earth has been incorporated as exchange format

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Established direct interoperability with external systems

A web service-based interface has been defined to facilitate integration with the systems applications used by collaborating entities for on-line maintenance of the database

New/renewed services as a result of the demands of the users.





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La cuarta dimensión:
The fourth dimension:


El Tiempo
The Time

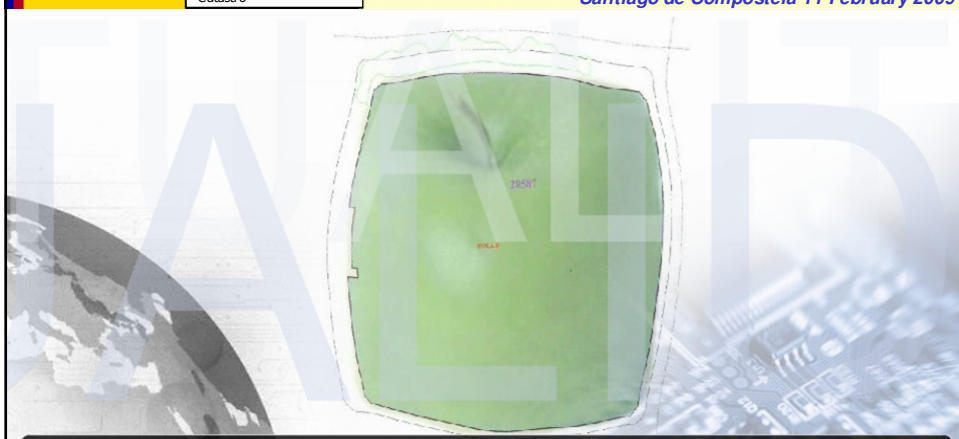


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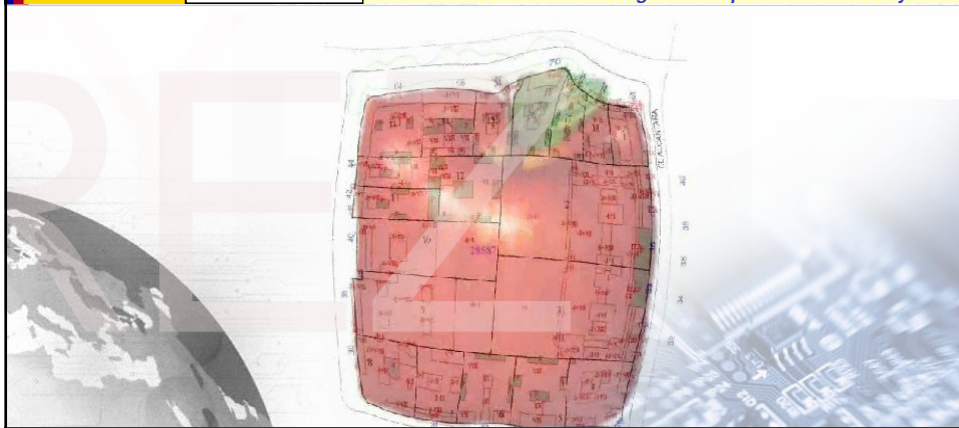
*The cadastre is not something static.
 Physical and legal reality changes*

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This change is captured and reflected in the data base by the 52 Cadastral Management Offices, with the help of the collaborating administrations.

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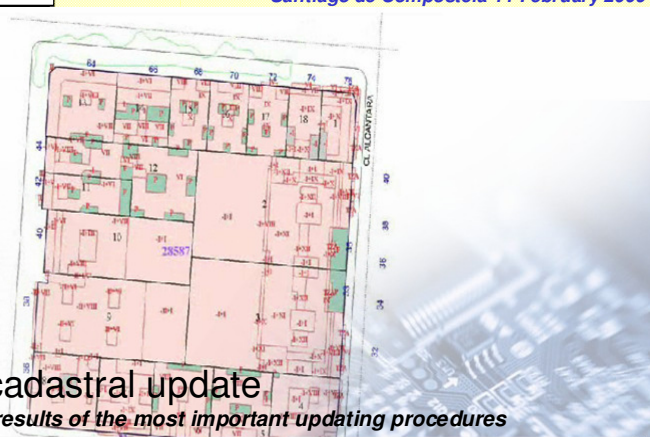


The volume of updates is important: there are 2 million graphic variations of parcels each year (5% of the total).
The modifications made by the Cadastral Management Offices are reflected in the Virtual Office of the Cadastre on a daily basis.

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Daily update

Massive update



Results of the cadastral update
In the last year 2007 the results of the most important updating procedures

Number of changes of titleholder in our own offices 608.230
 Number of changes of titleholder by collaborating administration 768.103
 Number of changes of titleholder by Notaries and Property Registers 655.902
 Number of Urban units updated in our offices 323.828
 Number Urban units updated by collaborating administration 738.226


Cadastre as a good and updated image of the reality at any moment.

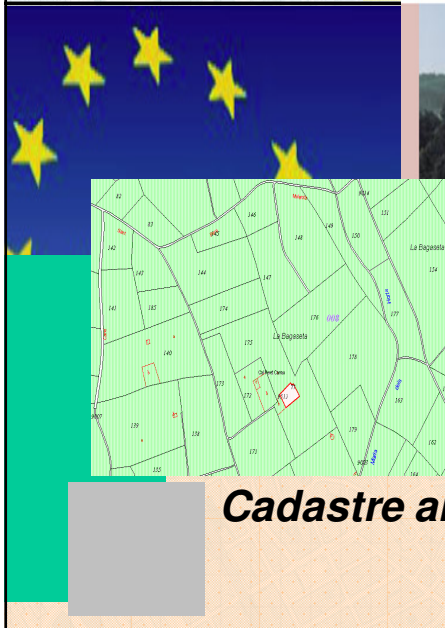
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CONCLUSIONS:
We have passed from a corporate System,
to having a platform of good, complete and updated cadastral information at the service of all the entities that collaborate in the Cadastral Management and of the citizens, private companies and other administrations that ask for our information




Now the Cadastral information is not “being asked for” but is “being directly used” by all.


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***Cadastral and agriculture subsidies :
the Spanish experience***


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**Evolution of the Common Agricultural Policy (CAP),
 The role of Cadastre
 The LPIS and the SIGPAC
 Towards Interoperability**

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Evolution of Common Agricultural Policy (CAP),



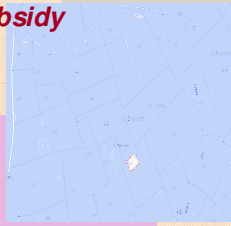
1992 Second CAP reform


- ~~The system of sustained income through guaranteed prices~~
- was replaced by
- a system of direct aid based on area

Identification of agricultural parcels was essential for the correct application of area based subsidy

It was necessary to know:

- Location**
- Area**
- System of exploitation (irrigation or not)**
- Crops**



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Evolution of the Common Agricultural Policy (CAP),


Each Member State was required to create


- **A computerised data base with an alpha-numerical system of identification of agricultural parcels.**

Article 4 of this Regulation established

“the alpha-numerical system of identification of agricultural land parcels will be prepared using

- cadastral maps and documents***
- and other cartographic references,***
- or aerial photographs***
- or spatial images,***
- or other equivalent probatory references,***
- or a combination of these elements”***

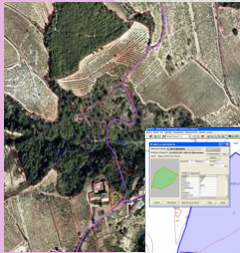
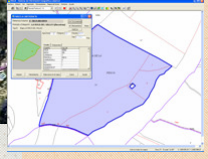


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The role of Cadastre

Agreement between the Ministry of Agriculture and Cadastre to use the cadastral information for subsidizing

Establishing a mechanism for the direct supply of information to the agriculture regional offices, municipalities, and other collaborators, making it unnecessary for farmers to apply to cadastral offices


Cadastre and the Ministry of Agriculture worked together in the management of the subsidies queries

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Evolution of the Common Agricultural Policy (CAP),

3rd CAP Reform . Agenda 2000

Reform of the Integrated Administration and Control System and implementation of the Land Parcel Identification System.



Graphic identification was added to the control system for agricultural subsidies, complementing the alpha-numerical identification established in 1992

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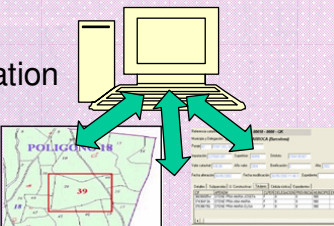
Evolution of the Common Agricultural Policy (CAP),


Article 4:

“The identification system for agricultural parcels shall be established on the basis of maps or land registry documents or other cartographic references.

Use shall be made of computerised geographical information system techniques including preferably aerial or spatial orthoimagery, with an homogenous standard guaranteeing accuracy at least equivalent to cartography at a scale of 1:10 000”

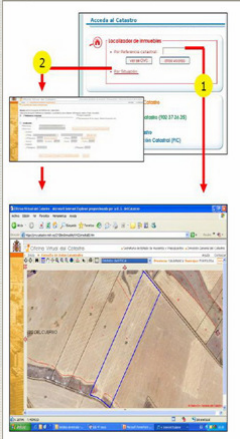
The deadline established for implementation of the new system was 1 January 2005



	SECRETARÍA DE ESTADO DE HACIENDA Y PRESUPUESTOS DIRECCIÓN GENERAL DEL CATASTRO	EVOLUTION OF THE SPANISH CADASTRE Santiago de Compostela 11 February 2009
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The LPIS and the SIGPAC

The Spanish Cadastre



- **directly provides an exact identification of parcels**
- **and its area, at a suitable scale**
- **permanently available**
- **able to link up to other territorial inventories.**
- **provides highly detailed information on agricultural use of the land**

It was better to use existing systems instead of creating new ones.


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The LPIS and the SIGPAC


A global agreement was signed in 2002 between the Ministry of Finance and the Ministry of Agriculture, to establish the basis for the supply of information, and to update the cooperation mechanisms designed to establish the Olive trees Geographical Information System (Olive GIS).



<http://sigpac.mapa.es/fiega/visor/>




Land Parcel Identification System
Sistema de Información Geográfica de Parcelas Agrícolas


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The LPIS and the SIGPAC

In 2001 began the construction of SIGPAC, the Spanish LPIS.




Start of aerial photography for the preparation of ortho-photos, which had to be completed on time to overlay the cadastral parcel information and to finish clean-up tasks before 1 January 2005.




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introducción

Cadaastre gave to SIGPAC:

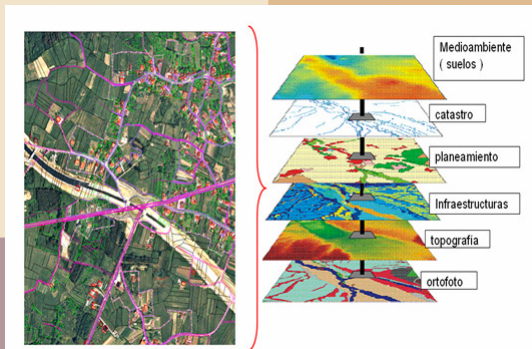





- All the digital cadastral maps (70%)
- scanned maps (when digital was not available)
- All the associated literal information
- Ortophoto and other graphic information

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INTEROPERABILITY

October 2007: a new agreement for information exchange between SIGPAC and Cadastre




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The Goal is to have a unique common data base shared by both organisations

Cadastre will take care of the Cadastral parcels
SIGPAC will take care of the agricultural recintos (plots)

We are working now

- Updating all the SIGPAC information with the current cadastral information*
- Next we are incorporating the results to the cadastral system*



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Thank you for your attention



<http://ovc.catastro.meh.es>

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Manager of the Galician Regional Agency
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