

# French Property Registering System: Evolution to a Numeric Format?

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## ABSTRACT

French property registering system is based on the Napoleon system: the cadastre is only a fiscal guarantee and not a land book except in Alsace region (German system).

The registry of the property is done by the notaries and recorded in the Mortgages service database.

French private surveyors (géomètres-experts) are certified by the government to make private boundaries delimitation joined to the property title. These maps are also recorded in the mortgages service.

The topographic database is done by the IGN (National Geographic Institute) and does not include the cadastral means.

Actually, there is no link between cadastre and IGN databases. The cadastre does not certify the location of the boundaries. Mortgages service is only registering the policy of the property but not the boundaries definition and location. Cadastral maps are actually on the way of digitalization and scannerisation.

One of the important projects in France is to create a numeric link between cadastral and parcels and the topographic map of IGN called RGE (Bid Scale Referential System). This new system will be based on RGF93 GPS coordinate system.

But in this RGE, the boundaries will not be certified and the map accuracy will not be so good as needed. Is it possible to build a complete system recording cadastral means, boundaries certification, mortgages and topographic datas in France?

## RÉSUMÉ

Le système français d'enregistrement de la propriété est basé sur le système Napoléonien: le plan cadastral sert uniquement de base géographique à l'impôt foncier et ne constitue en aucun cas un livre foncier excepté dans la région de l'Alsace (système de type Allemand).

L'enregistrement des actes de propriété est réalisé par les Notaires et enregistré au service des hypothèques.

Les géomètres-experts français sont certifiés par le gouvernement pour faire les procès verbaux de bornage qui sont joints au titre de propriété. Ces documents sont également enregistrés au service des hypothèques.

La base de données topographiques est constituée par les cartes de l'IGN (Institut Géographique National) qui n'inclut pas les limites cadastrales.

Aujourd'hui, il n'existe pas de liens entre les bases de données cadastrales et celles de l'IGN. Le service du cadastre ne garantit pas la localisation des limites entre les parcelles. Le service des hypothèques ne répertorie que les actes de propriété mais pas la définition des limites ni leur position. Les plans cadastraux sont actuellement en voie de numérisation par scanner.

L'un des projets importants en France aujourd'hui est la création d'un lien numérique entre les plans et parcelles du cadastre et les éléments topographiques de l'IGN. Ce système appelé RGE (Référentiel à Grande Echelle) est basé sur le système de coordonnées GPS RGF93.

Mais dans le RGE, les limites des propriétés ne seront pas certifiées et la précision des cartes ne sera pas de très bonne qualité. Est-il possible de construire un système complet d'enregistrement des éléments cadastraux, la certification des limites de propriété, les hypothèques et les éléments topographiques en France?

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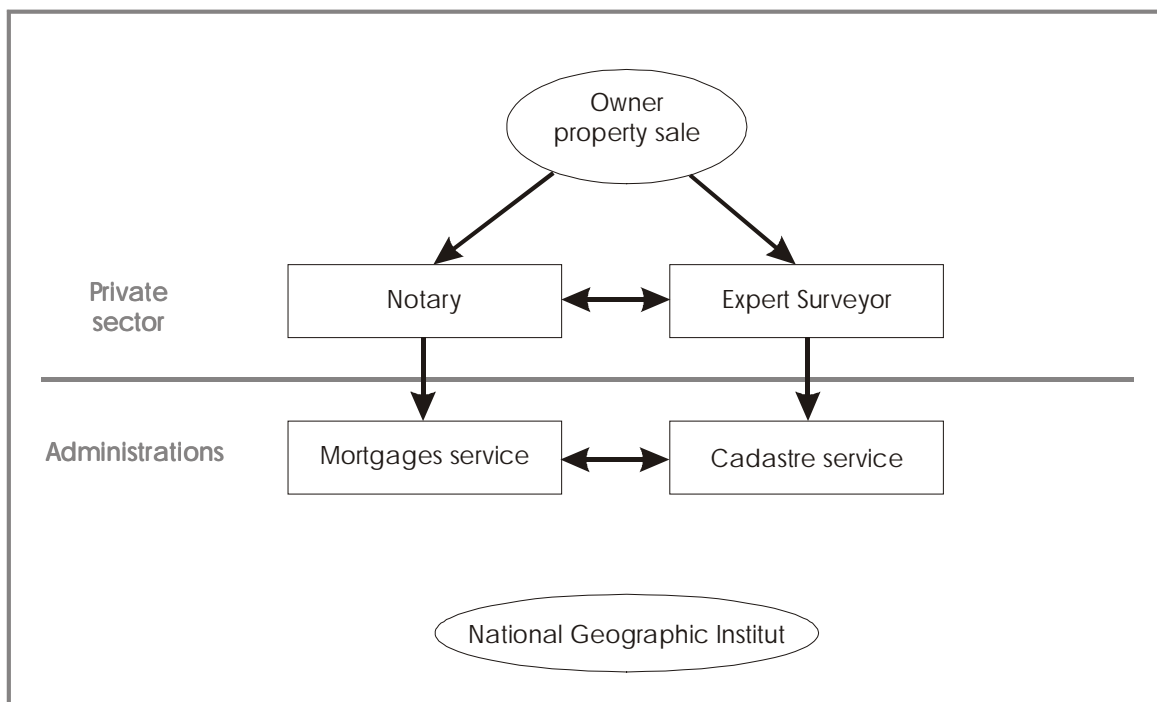
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## 1. FRENCH PROPERTY REGISTERING SYSTEM

French property registering system is based on a complex relationship between administration and private sector. French owners have to contact many professionals or administrations when they want to buy or sale a real property, as well a rural parcel or a building or house in a urban area.

### 1.1 Separation of Different Institutions

The mecanism of registering system can be sum up in the following diagram:



The first comment we can do is that private and public sectors have interactions especially between Notary and Mortgages and between Expert Surveyors and Cadastre. What we could say is that there is no link between Mortgages and Cadastre, both memners of the Finical Ministry, and the IGN (National Geographic Institut). The French property registering system is based on a juridic and fiscal specification but not on a topographic one.

#### 1.1.1. Notaries

The notaries are members of a professional organisation and they have responsibilities. They are in charge of writing the property title and verify the ownership of the real estate.

### 1.1.2. Expert Surveyors

By the law, the Expert Surveyors (géomètres-experts) have a public mission delegation. They are the professionals able to make boundary marking between two or more common owners. The sketch or the map which indicates boundaries marking are joined to the property title and registered in the mortgages service.

### 1.1.3. Mortgages Service

Member of the financial ministry, part of the general direction of taxes (DGI), his mission is to register the property titles made by the notaries. He also register the boundary marking document made by the expert-surveyors attached to the property title.

Mortgages service is actually on the way of computerization. The FIDJI system has been developed to register the literal data since 1995. In 2001, the totality of the French mortgages services have been computerized. The system works well now and there is a link between the mortgages database and the cadastre elements.

The boundary markings are only registered in a classical way and not digitalised.

### 1.1.4. Cadastre Service

French cadastral map has been created in the beginning of the 19<sup>o</sup> century to register fiscal data to define the land taxes.

The parcels are build on apparent boundaries but not on the real boundaries definition. In any case, cadastral map doesn't certify the boundaries position.

This is the classical way of fonctionnement. In several cases, the French cadastre can certify the boundaries location:

- In the Alsace region, based on a land book (as German system)
- In case of land consolidation because the parcels are build by an expert-surveyor certified and the land consolidation map can be compared to a BORNAGE map (see below in the chapter "boundaries definition")

Cadastre service register also the parcels divisions or groupments.

### 1.1.5. National Institute of Geography (IGN)

The IGN has three missions:

- Establishment and upgrade of the geographical referentials oriented in big scales with public financement.
- Diffuse these referentials with best service to users.
- Participate to development and use of adding value applications by sustain geographical information professionals.

## **2. RGE PROJECT**

The IGN is in charge, since the 19 February 2001 government decision, to elaborate a big scale referential called RGE. The mission is to make this RGE be operational in 2006-2007. The IGN has to build the RGE for the administrations, the firms and the adding value professionals. The RGE must be continuous on all of the French territory, exhaustive, upgraded and law coast access.

The RGE will be a numeric big scale referential with metric accuracy.

This national system will contain:

- Photographic informations like orthophotos already published by the IGN.
- Topographic datas based on the BD TOPO of the IGN (Topographic Database).
- Cadastral information with parcels georeferenced and geometric.
- Adress information with street names and numbers.

IGN will be the principal producer of this general database. Even if IGN is not the original creator of data, he will collect all information.

The RGE must be completed at the end of 2006 and at the end of 2007 for the cadastral parcels with an annual upgrade period.

### **2.1 The Picture Component: Orthophoto Database (BD Ortho)**

IGN mission started in 1998 and will be finished in 2004. The orthophoto database will be compound by aerial photographs. The photographs are set upright by a numerical process.

In rural areas, the orthophoto has an accuracy of one meter and is in black and white format. In urban areas (10 percent of the territory), the photographs are in color and their accuracy is 50 centimeters.

In dense urban areas (2 percent of the territory), the accuracy will be about 25 centimeters.

### **2.2 Topographic Component: Topographic Database (BD Topo)**

The new topographic database is issued from the topographic map scale 1/25000.

In rural areas, this is a system based on the topographic map with a metric accuracy. The database will be upgraded regularly.

In urban areas (10 percent of territory), the accuracy will be about 50 centimeters and in dense areas, it will be reduce to the accuracy of existing GIS.

The two types of database will be compatible.

### **2.3 Address Component: Address Database**

In relation with the post office service, IGN will build this database to georeference the address datas.

It will be used to locate addresses for post mail, network management (electric, water adduction, telephone...), spatial analysis.

### **2.4 Parcel Component: Parcel Database**

In cooperation with the cadastre service (national direction of taxes), IGN will join to his topographic database the scanner of his cadastral maps.

The parcels will be referenced and cadastral maps will be assembled. The accuracy of this parcel database will be about one meter in average.

## **3. BOUNDARIES DEFINITION**

The big scale referential RGE is certainly a progress in the geographical databases relationship in France.

One of the problems is that the RGE doesn't certify the position of the boundaries. Because the Parcel database included in the general database is issued from the cadastre map with these characteristics only fiscal and not topographic.

## **4. FRENCH EXPERT SURVEYORS DATABASE**

The OGE (French expert surveyors organization) has created a national database since 1997 in which all member has to register the boundary marking certificates references. This is only a location with cadastral parcels references and with the name of the expert-surveyor who has made the document. This database is no longer joined to the RGE project, but there is a technical solution to make the two systems compatible.

## **5. TO A NUMERIC FORMAT?**

The French system of registering property lives actually a big change. All the professionals, public or private ones, will be able to use a general database. One of the problems is the upgrading of the system which is necessary to be efficient and quick and the accessibility of the databases. The upgrading of cadastral maps is one of the biggest problems regarding the RGE building: in fact, upgrading the scan maps means making new scans each year. Will it be possible?

Today, there is no previous connection in an internet format which could be the link between all users of geographic information in France. As professional producers and users of geographic information, we would like to participate to a general useful database.

But such a project is not yet in the actuality in France. Soon or later!