CADASTRAL INFORMATION SYSTEM
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OVERVIEW ON THE CADASTRAL SYSTEMS OF THE E.U. MEMBER STATES
PART IV

PERMANENT COMMITTEE ON CADAESTRE IN THE EUROPEAN UNION
Geodesy, Cartography and Cadastre Agency

CADASTRE SYSTEM IN REPUBLIC OF BULGARIA

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CADASTRE SYSTEM IN REPUBLIC OF BULGARIA

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I. GENERAL INFORMATION

Physical characteristics
Republic of Bulgaria is situated on the Balkan Peninsula in southeastern Europe. State borders of Bulgaria with a total length of 2245 kilometers. Northern border with Romania, which passes along the Danube has a length of 609 kilometers. West bank of the Black Sea forms the entire eastern border of Bulgaria with a length of 378 km. To the south is bordered by Turkey (259 km) and Greece (493 km) to the west - with Serbia and the Former Yugoslav Republic of Macedonia, they are respectively 341 and 165 kilometers. The country covers an area of 110 993.6 km².

Bulgaria is a country of mountains, rivers and hilly plains. The two main mountain ranges are called Balkan Stara Planina and Rhodope Mountains. Mountains, which was named Balkan Peninsula, extending from northwest of the country, south of Sofia Valley in west central Bulgaria, and continues east to the Black Sea.

The main river in Bulgaria is the Danube River, it passes along the northern border. Iskar River, the longest river in Bulgaria, springs from the Rila mountain in a northerly direction passing through Sofia, before it joins the Danube. Maritza, the other major river, rises in the Rila Mountains in an easterly direction, then continued south through southeastern Bulgaria determining the boundaries between Greece and Turkey.

Bulgaria's capital Sofia is a city that is located in the western part of the country. This is the largest and most populated city in Bulgaria, and the chief political, cultural and commercial center. Plovdiv is the second largest city in Bulgaria. It is located in the center of the agricultural region in southern Bulgaria and is a center of food industry. The third largest city of Varna is located on the Black Sea coast and is the main seaport of the country.

Population
According to the National Statistical Institute of Bulgaria, the country's population at the end of 2006. is numbered 7.6793 million. Compared with the level of the previous year, the population has decreased by 39.5 thousand, which is attributable to negative natural population growth. Data on the population in Bulgaria demographic trend of decline since 1990.

The proportion of women in the general population continues to be greater than that of men. At the end of 2006 registered female population numbered 3.9584 million, or 51.5 percent of the total population. Proportion of population in urban areas in 2006. was 70.6 %. Based on available data from population censuses from 1887, Rural population was to a large percentage of the total population by 1965, some. The resultses of census in 1975. show that in urban areas is higher than in rural. Since then, this trend continued in the same direction.
Political Situation


Bulgaria is a parliamentary republic. Its Constitution is the supreme law of the country. State power is divided between legislative, executive and judicial branches. Ultimate legislative power in Bulgaria is exercised by Parliament (or National Assembly). The National Assembly is a unicameral parliament composed of 240 Members representative (MP) elected for four years.

The president is head of state who is elected directly by voters for not more than two consecutive terms of five years.

The Council of Ministers is the executive body and manages internal and external policy.

The legislature is controlled by the Supreme Court, Supreme Administrative Court, appellate, district, regional and military courts.

Economic and social context

Bulgarian economy in transition from centrally planned to market-oriented began in 1990. The lack of structural reforms led to severe economic and financial crisis in 1996. Which lasts until the beginning of 1997. In the same year, with international support, Bulgaria adopted a comprehensive program of structural reform aimed at stabilizing the macroeconomic situation in the country. The program includes the construction of a currency board, the implementation of strict fiscal policy, liberalization of trade and prices, and accelerating privatization of state enterprises. As a result, the program successfully Bulgaria's economy has stabilized, inflation has reduced the growth rate of GDP increase, and improved confidence of investors.

Bulgaria completed the privatization of the electricity and telecommunications companies along with 2/3 of the state assets. Sectors that contribute most to GDP growth in Bulgaria are industry and services.

Agriculture is affected negatively by fragmentation of arable land due to the recovery process of the ownership of agricultural land. Fragmentation poses a significant barrier to long-term investments in agriculture, land improvements and efficient use of agricultural machinery. Despite these obstacles, agriculture remains an important sector in the economy of Bulgaria because of its high productivity. Territory of Bulgaria is divided into 264 municipalities and 28 districts. Municipalities are legal entities and have the right of ownership and independent municipal budgets. Mayors and municipal councils are elected through direct local elections every 4 years and be guided in their activities by laws and regulations. The municipal council is a body of local government, which sets policy for the development of the municipality. The municipal council is composed of directly elected councilors. Executive authority in the municipality is mayor.

The regions are administrative-territorial units for the implementation of regional policy of central government. Regional governance is carried out by governors and regional administrations. The regional governor is the sole executive power in the region, performing the government in the region and ensure compliance with national and local interests in the implementation of regional policy. The regional governor is appointed by the Council of Ministers.
Historical context

Bulgaria's history dates back 3000 years ago. The Bulgarian state was founded in 681 AD, when Slavs and Proto are united under the scepter of Khan Asparuh.

Passage of the Bulgarians to Christianity in 865 AD joined Bulgaria to the Christian civilization. The creation of the Cyrillic alphabet in the second half of the ninth century, during an age when previously only Latin and Greek alphabets were used for writing, gives a strong impetus to the cultural development of the country. Unfortunately in 1396 Bulgaria fell under Ottoman occupation, which lasted nearly 500 years. Liberation War (Russo-Turkish War) regained the independence of Bulgaria in 1878. In 1879 the Constituent Assembly taking your first Constitution of Bulgaria, which is one of the most democratic constitutions of the day. In the early twentieth century Bulgaria was involved in the Balkan wars of the early twentieth century - the First Balkan War (1912), and the Second Balkan War (1913), a disastrous ending. In the summer of 1915, Bulgaria entered the First World War on the side of the central forces and signed an armistice with the Franco-British force on 29 September 1918. The peace treaty with Bulgaria was signed on November 27 1919. in Neuilly-sur-Seine. Bulgaria loses much of its territory. Between the two world wars, Bulgaria was ruled by a series of short-lived governments. After the outbreak of WWII, Boris III of Bulgaria declares neutrality. However, Bulgaria is under pressure to join the Bulgarian army and began to participate in military operations. Of particular concern is that the Bulgarian government managed to keep the Jews living in Bulgaria, as a result of which were rescued from the Holocaust.
First decades of the 20th century were years of economic prosperity and effort. Bulgarian goods and Bulgarian currency, called "Golden Lev", acquired a high value in European markets. Trade relations with Austria, Germany, France and Britain have stepped up.

**Communist Bulgaria**

After the Second World War the Bulgarian Communist Party became the leading political force in the country. Under Soviet leadership, destroyed the remnants of the old system, and in 1947 was imposed a one-party system. From 1954 to 1989, Todor Zhivkov, Chairman of the State Council, dominated political life, becoming the longest leader stayed in power. Policy is directly linked with that of the Soviet Union, industry was nationalized and agriculture collectivised. During the socialist period in Bulgaria, lasting from the end of World War II to 1989, farmland in general collectivised. In urban areas, private property continues throughout the socialist period, except for older buildings which have been confiscated or expropriated by the state. During the socialist period of many apartment blocks were built by municipalities, public institutions or public companies, which have been offered to individuals, families and staff of relevant organizations of low-rent apartments. Unlike other Eastern European countries in the communist bloc, there was no Soviet troops in Bulgaria. The Communist Party has tried to modernize the economy of Bulgaria, and has achieved some success with industrialization, thanks not least the participation of Bulgaria into the Union Council for Mutual Economic Assistance, which gives Bulgaria a captive market of transport and IT products in Eastern Europe. But the 1980's, as elsewhere in Eastern Europe, the economy is sluggish and the system began to disintegrate.

**Modern Bulgaria**

Zhivkov resigned on November 10, 1989, the day after the fall of the Berlin Wall. Although his fall from power has been catalysed by economic and social turmoil, it is a consequence of a unilateral decision, not a general revolution. He was replaced by Petar Mladenov, who led the Congress in February 1990 the Bulgarian Communist Party, where the totalitarian system was denounced in Bulgaria began to manage the principles of market economy, multiparty democracy and free elections. During the transitional period that followed, governments short-lived coalitions and frequent rule the country. Reforms are sparse. Since the early elections in 1997 caused by economic and political crisis, governments have been able to meet its full 4-year term, but no government is reelected. However, the relative stability allows Bulgaria to make greater progress in the country observed a period of strong economic growth. Bulgaria joined NATO in 2006 and became a member of the European Union in 2007. Soon after the fall of communist rule in 1989, Bulgaria launched extensive land reforms. Restitution of private ownership of land is virtually completed in 2000, creating nearly 8.3 million individual plots belonging to approximately 1.9 million private owners. Restitution of forests and lands of forest fund ended in 2001 in urban areas were offered the tenants to buy their homes at affordable prices, but to land them remains municipal property. Bulgaria receives considerable assistance from the European Union for restitution, along with planning and setting up new frontiers of agricultural land and funding for the establishment of registers of owners of digital maps in a computer database. Every municipality has a land committee (LC), belonging to the Ministry of Agriculture, who are responsible for maintaining records and
maps of agricultural land and forests. Cadastres to urban areas are maintained by the municipal technical services (MTS) of the municipal administrations. District courts have maintained a system of ownership of real estate database for the property owner. However, not all transactions were recorded. Also with the EU in 1990 at the offices of the district courts were installed computer systems to record the names of owners and other key information from deeds, but without access to the same property identifiers and thus continues the personal registration system (based on the data owner). It should be noted that Bulgaria continues to have a registration system whereby legally valid information contained in notarial acts. Notaries were privatized in 1998.

At the start of restitution is created a large number of private surveying companies. Their licensing is introduced as a compulsory requirement for performance of surveying activities with the new Law on cadastre and land registry in 2000. It has been established and the Cadastre Agency on - later renamed the Agency for Geodesy, Cartography and Cadastre (GCCA).

Pattern of land administration in Bulgaria in 2001 can be summarized as follows:

• 285 municipal offices for the maintenance of records and issue of maps and drawings, necessary for all types of transactions for properties in urban areas. Various quality of the maps are often outdated and available in digital form only 10% of urban areas
• an appropriate number of land commissions responsible for restitution of property in agricultural and forest areas and maintain computerized records and digital maps of agricultural properties and for the issuing of drawings of them.
• 112 district courts make the entries of transactions on a personal system, based on the deed, with rising paper archives, but supported by a computerized system for the description of key data.
• newly established Cadastre Agency based in Sofia and regional 28 offices in every province, largely understaffed and without adequate equipment.
• lack of clarity of ownership, outdated records and maps in urban areas of divergence in the contact zone boundaries between urban and rural areas
• Many documents on paper and lack of adequate backup facilities in the offices of district courts, and lack of proper information system for data derived from the title deeds.
• Do not use common identifiers for the property, which makes it very difficult to link the cadastral information with the documents of ownership.
• people must turn to various institutions to obtain drawings necessary to carry out transactions.
• high costs, lack of sufficient information on the land for public and private users as well as a growing number of territorial disputes and disputes over property, fraud boom in real estate transactions; fragmentation of information.

In the early 1990's restored private property liberalize land markets in Bulgaria, but in both urban and rural areas, the registration system to support the real estate market has been impaired by poor quality of land records and fragmented information which in turn takes time and causes many lawsuits.
Preparation of the project to modernize the land registration system and cadastre started in 1998. In the context of transition and structural reforms, privatization and restitution of agricultural land observed the need to create a modern, comprehensive land registration and cadastre system. In 2001 began implementing a project for cadastre and property registration in order to improve the range and accuracy of data and related services for consumers. Implementing agencies - the Agency of Geodesy, Cartography and Cadastre Agency and the entries are equipped with modern offices, modern equipment and a new information system. Were created-date cadastral map in digital form to the territories with active real estate market. Notary acts are scanned into digital form. As a result, have established systems to effectively service the rapidly growing property market in Bulgaria.

II. LAND REFORM AND DEPARTMENTS OF LAND RESOURCES

Restitution of land

Because land in Bulgaria was expropriated from its owners in the process of collectivization, the recovery of property is entirely state owned. During the process of restoration of land ownership, the former owners (or their heirs) get back their land and other immovable property or real, or are offset, if the actual recovery is impossible. Rehabilitation is performed in accordance with local structural and regulatory plans.

Land reform creates economic and technical problems in the agricultural sector because it leads to radical changes in existing structures. In privatization and the redistribution of the majority of arable land among the population, most of the state farms have been closed in some cases successfully operated agricultural enterprises are fragmented to less efficient production units. Consequently, agricultural production declined, while living in rural areas is worsening.

An efficient, market-oriented, private farming is not yet complete. Two-thirds of private farms are still in the category of non-farm, their numbers have decreased and efficient production, allowing the exportation of their produce to market.

Land consolidation

Fragmentation of land is a major obstacle to rural development. Due to the fragmentation of land ownership, 79% of usable agricultural land is given on lease. Furthermore, the successful management of forest resources is also hampered due to such fragmentation of forest ownership.

Important tool for rural development in Bulgaria is the consolidation, including the voluntary exchange of leased land consolidation and consolidation by agreement under the law. It could enable farmers to become more competitive by eliminating the fragmentation of plots on the one hand and by increasing the amount of land cultivated by them on the other. Irrigation systems, which are substantially destroyed in recent decades, likely to be restored and expanded in the process of land consolidation. Nationwide consolidation could help the development of agriculture and other sectors of the rural and the local economy and to improve conditions in rural areas means balancing the needs in the agriculture, transport, environment, recreation, cultural heritage and tourism.
Several projects for the restructuring are met. In addition, the Ministry of Agriculture and Food launched four projects for consolidation based on a simple redistribution of land in order to satisfy the requests of some local farmers. These pilot projects can be viewed as an experiment to determine the most appropriate methodology for application in specific circumstances.

Although the market for rental and lease of agricultural land may lead to some consolidation, it could not resolve the structural deficit in Bulgarian agriculture in terms of size of agricultural holdings. Rental and leasing are too high and economically unviable. Still there are no real incentives to hire and lease of agricultural land.

In addition to these problems, the consolidation of agricultural structures by sale of land is unlikely to lead to significant results. The introduction of a tax on agricultural land is seen as an instrument to stimulate the land market in general and consolidation of land in particular, but hardly one will be introduced shortly. The basic form of consolidation of agricultural land for the moment is the exchange own or rented land between local farmers on the basis of individual agreements.

Consolidation of agricultural land by law is considered as the only long term, providing real opportunities for significant improvements in production and working conditions in agriculture and forestry sectors. For now, consolidation projects are possible only on a voluntary basis due to lack of relevant legislation (law on land consolidation). If the law is developed based on the experiences of pilot projects for the restructuring agreement it must contain rules for the voluntary exchange of land, but also include the consolidation of statutory rules. Such a law should regulate the state goals and administrative procedures and clearly define the roles of public authorities. Must be guaranteed compensation equivalent to the land, the assessment should be based on soil quality. Experience of models with public-private partnership (from the above mentioned pilot projects) should also be legally settled.

Unfortunately, other important findings, which could contribute to consolidation of the land is actually missing. For example, measure 141 of the Program for Rural Development is implemented. This measure is aimed at increasing support for semi-subsistence farms in order to broaden the prospects for similar agricultural units. These farms are currently limited economic size, produce mainly for own consumption as a small export market share from their own production, but have the potential to develop into commercially viable agricultural entities, primarily by means of financial subsidies for investment.

**Planning**

In Bulgaria introduced a hierarchical system of territorial planning with a single national plan, regional plans of municipal and district level plans at the local level. The methods and rules of planning are in line with European standards, which are mainly represented by the principle of coordination between different levels of planning, active participation of interested citizens and evaluate the impact of planned measures on the environment.

Planning and design are based primarily on the state initiative. The experience of citizens is generally restricted to participation in small infrastructure projects.

**Rural Development**

State is required to base their administrative activities in the rural areas of clear development strategy by establishing appropriate priorities. A necessary condition for effective and efficient rural development is a major activity in the field of legislation and consistent implementation of the policy.
Although the activities of land management are primarily focused on the agricultural sector, there is no effective policy for the recovery of agricultural holdings. It turns out only temporary relief (limited to 5 years) to those in need of restructuring and to cover operating costs and to encourage their future development. These farms, whose number is declining rapidly over the years are a total of about 130,000, with only around 35,000 of them meet the minimum criteria for direct payments from the EU.

As a result of economic growth and increase opportunities for employment and generate income from other sectors expect the number of farms producing for their own needs (and hence the total number employed in agriculture) continue to decline. In this connection it should be taken into account the possibilities for providing financial resources by attracting foreign investors.

Technical and administrative aspects

GCCA has invested considerable funds and effort in mapping and updating of the cadastre of real estate as well as shooting the boundaries of different territories, geodetic points and other activities which will be finally completed before 2015. Activities, however, land consolidation must be performed before proceeding with such a mapping, to avoid double shooting on the same land. Postponing the final decision on the implementation of projects for land consolidation will lead to even higher costs for imaging and mapping. Experience in Western Europe shows that the combination of shooting to update the cadastre and land consolidation has many advantages. Besides funding program for rural development by the European Union, work on shooting and mapping can be organized even better to be able to increase the maximum results on the basis of a combined approach.

It is necessary to establish administrative mechanisms to ensure the budget and organization of work before launching projects for land consolidation at the local level.

State Land Fund (VPF) is the only option now for initiatives in land reform. The total area of land in VPF decreased due to the introduction of protected areas, provide land to landless and poor citizens, transfer of land for compensation under the terms of OALUA and restoration of land to former owners.

Economic issues

Access to credit is still a significant problem for small and medium farmers. Moreover, surveys show that commercial banks could not meet the requirements of small farmers, so that cooperative banks may appear to alternative lenders.

Maintenance and renewal of infrastructure in rural areas could improve the standard of living in these areas and are considered a prerequisite for attracting and retaining investors. As regards the institutional framework in the country there is a general distrust of government and municipal institutions. After the last twenty years is necessary systematic organizational reform aimed at improving the existing administrative structures.

III. REAL PROPERTY MARKET

In 1946. At the beginning of the process of collectivization farms (Bulgarian Cooperatives) comprise no more than 40,000 farms out of a total 1,103,000. 4% of the total number of farms entering the farms, and 42.5 percent of all farms are in contractual arrangements for rental of land with one another. There are different types of wage relations, among which can be separated into two main categories:
• rental of land for several years with a form of monetary payment
• Rental of land with different crops require considerable manpower, such as tobacco, vineyards, orchards and other perennial crops and Polish cultures.

After 1948, hiring of agricultural land is prohibited by law (with a few exceptions). Land continues to be a major factor of production and remains privately owned, but the result of economic activity has been declared public property. Therefore, the de jure and de facto rental of land in Bulgaria is frozen.

The first legislative act, recover the possibility of renting the land after decades of prohibition is the Council of Ministers Decree (3 July 1988.) Adjustment in the sector of domestic trade and services. Initial forms of rental property are permitted for the management system of public catering, services and retail. Employment is gradually extended to the agricultural sector. At the beginning of transition (1989g.), development of contractual relations in connection with the hiring of land in Bulgaria is supported by new legislation. These include the Law on Ownership and use of agricultural land (and regulations for its implementation), Act on tenancy relations in agriculture (and the Ordinance on procedures for establishing market prices for agricultural land) and other legal acts and decisions. Due to the fact that the restoration of the land became the property boundaries in accordance with pre-collectivization completing the reform takes a long time. Statistics from 2002. show that almost 100 percent recovered from the ownership of agricultural land.

In the period since 1997. to 1998. shall be noticed first benefits of economic activities based on the recovered property rights on agricultural land. Between October 1999. until November 2000. 18 293 ha of agricultural land under contract for sale. In 2001., 59 305,7 ha have changed their owners and 280 883 ha are rented.

Real Estate Market

The real estate market in Bulgaria has grown very rapidly as before the global economic crisis marked a turnover of 11.36 billion euros.

Sofia was the city with the most expensive real estate, and immediately thereafter be arranged Burgas, Varna, Ruse, Stara Zagora, Plovdiv, Blagoevgrad and Pleven.

In the real estate market in Bulgaria has seen some exceptions which are not related to specific sites in the country. The most expensive real estate in the area outside the capital of Sofia. One possible reason for the difference in the value of real estate in the area between the settlements and izvanselishnite territories is probably a consequence of land reform, which led to the inconsistency of the boundaries of the properties of the two territories.

The construction sector was one of the fastest developing in Bulgaria, with an average annual growth of 15%.

Acquisition of Immovables

Buying a property through the conclusion of a contract of sale, which has been certified by a notary. The actual transfer of ownership was at the time of signing the title deed by the parties and the notary. The transfer of ownership does not depend on the actual rent of the estate or the registration of a notarial deed in the land register.

Any deed, which transfers, or set up limited real right is subject to registration in the Land Registry. This includes information about buying and selling, donations, exchanges, mortgages and more. Land Register is maintained by the Registry Agency through its offices located in the country. Authorization of these services coincides with the jurisdiction of the
district courts. Real estate transactions are recorded in the office responsible for the area in which the property is located.

Registration of notarial and other instruments for transferring or creating rights over immovable property, usually provided by the notary, who has shaped the relevant deed. The notary is obliged to forward the order for registration the day of its signing. Entry is made on the basis of a written order from the judge for the entries. Registration itself takes about three working days and then returns to the original act of the beneficiary.

Entry promulgation of the transaction and trigger some legal protection of acquired property, owners can protect their rights against third parties who register acts or claimed after the time of entry.

There are no restrictions on the acquisition of real estate or limited rights of foreign individuals or legal entities. However, there are special restrictions controlling the acquisition of land by foreigners due to the Constitution of the Republic of Bulgaria and the Property Act. There are two cases: the acquisition of land by nationals of countries outside EU / EEA and the acquisition of land by nationals of EU / EEA.

Citizens of EU / EEA nationals have the right to acquire ownership of land to the fulfillment of legal requirements and in accordance with the provisions of the Agreement on Accession of Bulgaria to the EU. EU citizens not residing permanently in Bulgaria will be entitled to acquire land as a second residential property after the expiration of the period specified in the Agreement on Accession of Bulgaria to the EU (5 years).

Secondly, under the Agreement on Accession of Bulgaria to the EU, Bulgaria may not impose restrictions on ownership for nationals of EU / EEA nationals who reside in the country of plea. By law, there are two types of legal residence in the country - permanently and continuously. It can be assumed that citizens of EU / EEA nationals who have obtained certificates for continuous or permanent residence have the right to acquire land in the territory of Bulgaria.

**Taxes and fees related to real estate**

Owner of a building or land area is required to pay an annual property tax and waste fee. They vary in size and depend on the size of the settlement and its location in the country, district, and floor area on which the property is located, the year of construction and type of building and other improvements.

Gives the legislature the right of municipalities to the levies on real property and on inheritance, acquisition of property by gift, the patent tax. However, the newly adopted law stipulates that municipalities must determine the fees within predetermined limits. The same principle will apply to property tax, which is currently 0.15 percent. In the case of inheritance of property, any new co-owner will have to pay tax within individual than 0,07 to 0.14% when the value of the property does not exceed 250 thousand. Until now the heirs paid a single tax. In the case of a donation of real estate, talented individuals will pay tax in the range of 5 to 10%.

The acquisition of property tax varies between 2% and 4% of the property tax assessment, while replacing the property tax rate depends on the evaluation of more expensive real estate. After 2008. The buildings before demolition (or who are dangerous from a health or hygienic point of view) will be taxed buildings for the first time.
Under existing legislation, the first installment payment of local taxes and fees shall be paid in the period from March 31 to June 29. In addition, taxpayers who wish to pay their obligations in advance receive a 5% discount from the amount filled in the tax return.

For registration of title deed in the land register, pay a fee of 0.1% of transaction value.

Transfer of ownership of real estate or limited real rights is seen as a replacement property (not subject to VAT). This exception does not apply to the transfer of ownership of new buildings (up to five years from the date of construction) and adjacent areas.

**Transparency of the real estate market and evaluation**

There are generally accessible sources of information about real estate prices in Bulgaria. Index REMI, which provides information on prices of buildings and apartments, is calculated by the National Association of real estate in Bulgaria. This index has several flaws related to the fact that it is calculated once a quarter. It is too general and did not allow for comparison of prices of real estate by type and location. Association members are not required to provide information and therefore the index does not fully reflect the real situation. It is not entirely reliable since there is no established procedure for verifying the reliability of data provided by members of the association. However, the index is a good initiative, allowing to estimate and to obtain the evolution of prices. Internet portals for real estate can also be used as indicators of prices, because they provide information that is readily accessible and very close to the market. The main problem here is that published prices do not reflect actual transactions, but only give an idea of prices based on supply and demand. National Statistical Institute also published a list of prices, but since they differ significantly from market prices, analysts and agencies most likely not use them. Finally, real estate agents usually have the most current prices, but this information is kept secret by companies because competition is very strong.

Chartered assessors typically store information about the prices of land and build databases that contain information of transactions. The breadth of information, however, is limited and is only used within the financial institutions in which they operate.

Chartered assessors applying different methods for determining the market value of individual properties. They also use information on buying real estate agencies.

Analysts and journalists watching the real estate market, also based their activities on reliable information in its effort to provide market trends.

Investors, in turn, rely on these tests in assessing the future performance of their investments. Foreign investors show growing interest in the property market and one of the easiest ways to encourage their investment is to provide them with reliable information on property prices in Bulgaria.

There are two major associations that have the potential valuation: Bulgarian Association of Business assessors, which deals mainly with the assessment of the business (but which has a department for evaluation of real estate with few employees) and the National Association of assessors of real estate which currently includes about 200 members.

**Banking and credit market**

Bulgaria was also influenced by the U.S. subprime mortgage crisis. When the effects of the crisis broke, that affect the consolidated obligations, which were bought mainly by French and
German banks. Bulgarian banks, mostly owned by the Austrian and Greek investors have not purchased such erroneous consolidation bonds.

Bulgarian banks - more than 85 percent of which are owned by foreign financial institutions - have decided to bear these costs in order to maintain competitive interest rates on loans. Competition between banks, according to experts in this field has led to a convergence of interest limits.

Business loans and mortgages are areas with particular potential for growth in the Bulgarian economy. The growth in mortgages is fueled by the growing interest of domestic migrants to Sofia to purchase property and to accumulate assets in the form of immovable property. Indeed, mortgages are one of the most important categories of loans, which Bulgaria distinguished from the rest of Europe where the total share of mortgages, relative to GDP remains relatively low. Furthermore, real-estate loans were given mainly to borrowers who really can afford them, so that does not result in undue overstatement of the loan risk.

IV. LEGAL FRAMEWORK

Bulgaria has a legal framework providing adequate basis for maintaining an effective system of land administration.

Constitution of the Republic of Bulgaria (13 July 1991.) Lays the foundations for democracy, law and social orientation in the country. And establishes the right of inheritance and property rights guaranteed and protected by law. Ownership may be private and public, and private property is inviolable. Under the constitution is necessary to introduce a statutory regime in respect of property rights to be applied to various state and municipal property. Also, according to the constitution the land which is primarily national wealth, should receive special protection. Arable land may be used only for agricultural purposes, such as changing the designation can only be provided by law in exceptional circumstances and when it proves necessary. In addition to the Constitution, several laws and regulations in order complete the legal basis of land administration.

Law for restoration of the ownership of forests and forestry fund lands (25 November 1997.) Aims to restore full ownership of forest lands and forests on the Bulgarian citizens and / or corporate bodies (former land owners or their heirs and legitimate receivers). By law, land must be reconstructed in its present form with the location, size and boundaries corresponding to those of the date of withdrawal of the property (provided that those limits still exist or can not be recovered). If these limits can not be precisely identified, the owners should receive compensation of land with similar characteristics but different location.

The Law on Administrative Territorial Division of Bulgaria (14 July 1995.) Introduces the creation of administrative-territorial units in Bulgaria. The country is divided into 28 regions. Each area contains one or more municipalities. Municipalities are composed of one or more villages.

Property Law (November 16 1951.) Governs property rights, other rights for acquisition, loss and protection of property and possession and registration of land. By law, property rights must be equivalent to all citizens, state and municipalities. Property can be owned by the state or private individuals, but they are influenced by other rights of citizens may be restrictions on private property. Also, the law governing joint ownership and the real right of possession, acquisition and loss of property, including expropriation of property. Foreigners are allowed to acquire real estate in Bulgaria. Citizens of the European Union or other countries - members of the European Economic Area have the right to acquire ownership of
land in accordance with statutory requirements and in accordance with the conditions of accession of Bulgaria to the European Union (25 April 2005.).

Municipal Property Act (May 21, 1996.) Regulates municipal property and establishes procedures for the acquisition, management and disposition of municipal property (in effect unless a special law otherwise provided). Among municipal properties exist that are reimbursed to the municipalities by the central authorities and the newly acquired property by local authorities. The municipal council shall adopt decisions relating to the acquisition, management and administration of municipal property and the exercise of general management and control activities related to real estate. The law also regulates the expropriation of land for municipal purposes, where they can not be otherwise met, and this gives an advantage over other legal provisions.

Law on ownership and use of agricultural land (1 March 1991.) Indicates that agricultural land may be owned by citizens of the state, municipalities and legal entities with the exception of foreign citizens and political parties. This will be changed to the Member States of the European Union and partners of the European Economic Area after the agreed period in the agreement for accession of Bulgaria to the European Union (25 April 2005.). Furthermore, the law regulates the restoration of ownership of agricultural land.

Forest Law (29 December 1997.) Regulates the relations connected with the ownership and management - the management, use and protection of forests. The main purpose of the law is the preservation of Bulgarian forests as national treasures.

Law on State Property (May 21, 1996.) Introduces the basic system for acquisition, management, use and dispose of immovable and movable property in the country. The Act regulates public and private property and its alienation.

Law on Spatial Planning (2 January 2001.) Governs the structure of the territory of Bulgaria, investment planning and construction. In particular, sets restrictions on the property for purposes of territorial development. Urban development schemes and plans determine the types of areas in the country as urban areas (settlements and settlement formations), agricultural lands, forest areas, protected areas and damaged areas to recover. These types of areas are defined in the detailed structural plans.

The Law on Geodesy and Cartography (7 April 2006.) Governs the organization, management, financing and implementation of activities in the field of geodesy and cartography. These activities include the creation and maintenance of state topographic maps and topographical plans ortho databases, including the provision of defense and state security and the needs of navigation for aviation and shipping.

Law on notaries and notarial activity (6 December 1996.) Establish the legal status of notaries and Notary Association, Notary organization of business and notary fees. Rules for entries was approved by Decree No 1486 of the Council of Ministers (13 December 1995.). The entry is to give publicity to the declared incomes in the manner prescribed in these Rules. Entries, notes and deletion of documents is only allowed for cases that are expressly provided for by law or these Rules. Subject to entry only acts performed by notary or a notary signature. This does not affect the entry of instruments issued by the appropriate governmental authorities. When the property is located in an area with approved cadastral map, the act applies to a copy of the sketch map.

Law on Cadastre and Land Register (25 April 2000.) Create an environment for carrying out several reforms in the field of cadastre and land registration. The Act defines the cadastre and the elements for institutional reform to be implemented after the preparation of cadastral map.
and cadastral registers. The Act contains provisions relating to joint management of data from land registers. These two agencies are expected to be related to bilateral and exchange of data is expected to be based on the identifier property (poimotna registration). By law, the Agency of Geodesy, Cartography and Cadastre (GCCA) is the only institution responsible for cadastral information. Cadastral reform and the land registration system should be completed by 2015. It is expected to increase assistance to private land ownership, to provide a mechanism for transacting and access to mortgages, to reduce the number of court procedures and set the conditions for fair tax policy.

Other laws and regulations that provide additional provisions to this ordinance were № 19 for control and acceptance of the cadastral map and cadastral registers (28 December 2001.) Ordinance № 15 on the structure and content of the identifier of the real estate cadastre (23 July 2001.) Ordinance № 3 and for content creation and maintenance of the cadastral map and cadastral registers (28 April 2005).

V. CADASTRAL AND PROPERTY REGISTRATION

Nearly 100 years cadastr e in Bulgaria

Cadastral Act (promulgated SG No. 8 of 1908) with the primary objective: determining legal and physical property, introduction of land books, the correct allocation of land tax;

Law on cadastral and land consolidation (promulgated SG br.127 of 1941) which says, "The cadastral is the geometric representation, inclusion in a list and description of the real estates".

ACT unified cadastral of the People's Republic of Bulgaria (promulgated SG br.35 / 1979), which sets clear procedures for making, notification and approval of cadastral plans, a significant deficiency that is, requiring the collection of all data the territory of the country with its natural resources, groundwater and surface material property values.

Law on Cadastre and Land Registry (State Gazette, issue 34 / 2000).

Development of the institutional framework since 1992

Between 1990 and 2000 efforts in Bulgaria are efforts led to significant progress in the process of restitution of property and ensure the rights of ownership of real estate. During this time period is complete restitution of farmland and forests, as well as of expropriated property in urbanized areas.

By 25 April 2000, Cadastral information is maintained by different administrations, each of which corresponds to the documentation:

• General Directorate of Geodesy, Cartography and Cadastre (until 1990). - Cadastral maps of the settlements and geodetic and cartographic activities.

• Ministry of Regional Development and Public Works - cadastral plans of settlements, plans and schemes, acts of exclusive state ownership.

• Municipal administrations - cadastral plans of settlements, plans and acts for municipal ownership.

• Regional Administration - acts of state property.
• Ministry of Agriculture and Forestry (through regional and municipal departments of Agriculture and Forestry) - Recovery of ownership of agricultural land, forests and other areas.

• Ministry of Transport and Ministry of Environment and Water - areas of transportation facilities, water and others.

Under existing legislation, any transfer of ownership and other real rights over immovable property is registered in registry offices at district courts. Since 1997. these acts are performed with the assistance of private notaries.

Repealed Act unified cadastre (in force in the period from 1979 to 2000.) Define the responsibilities in respect of the cadastre for the whole of Bulgaria and establishes procedures for the creation, adoption and provision of cadastral information. The Act provides multipurpose cadastre of real estate, tax and infrastructure needs. However, that law sets a goal that is difficult to achieve: the collection of data on natural resources and the surface and underground facilities. Requirement for similar amounts of data and lack of regulatory measures to maintain their current status are the main reason such a cadastre can not be fully realized.

Law on Cadastre and Land Registry, in force since 25 April 2000. is intended to serve as a basis for reform in the registration and transfer from personal based to property based registration. The Act provides for the introduction of information systems for land registers, which are designed to store, maintain and provide cadastral data and property rights. This system, as proposed multipurpose cadastre, will serve the citizens, businesses and public administrations by reducing administrative costs. The law regulated GCCA and cooperation between the Registry Agency, and the exchange of information between them, which is a necessary condition to achieve a modern, active, relevant and accurate cadastre and land registry. These records will contain data for all properties throughout the country.

Geodesy, Cartography and Cadastre Agency (GCCA)

Cadastre Agency was founded in 2001. and assume obligations in the field Geodesy and Cartography. In 2006. it is transformed into GCCA. The Agency is a legal entity with headquarters in Sofia and 28 territorial units - offices of Geodesy, Cartography and Cadastre, situated in the administrative centers of districts. The Agency serves the citizens of cadastral information through its 19 offices located in municipal centers.

According to the Law on Cadastre and Property Register GCCA responsibilities are as follows:

• Creation and maintenance of the cadastral map and cadastral registers;
• Development of draft laws and regulations in the field of cadastre, geodesy, and programs and development plans of future operations;
• Implementation of cadastral activities in close cooperation with other bodies within the sphere of registration;
• Perform administrative - maintenance of citizens, agencies, municipalities and other customers;
• Maintaining the state geodetic, cartographic and cadastral Fund;
• Record-keeping of individuals and entities authorized to engage in cadastre, geodesy and cartography.
GCCA also has responsibilities under the Law on Geodesy and Cartography:

- Creation and maintenance of topographic maps at 1:10,000 and 1:5,000 scale;
- Maintain state nivelachna network and the network of depth-gauge stations;
- Creation and maintenance of topographic databases and geographic information system;
- Implementation of technical work in the establishment of geographical names in Bulgaria, keeping a register of names, creating and maintaining a database and information system.
- Interaction with state administration and other organizations in the country and abroad.

Cadastral map in Bulgaria provides a description of land throughout the country - urban, agricultural, forestry and other land, a description of buildings in the landed properties in areas where it is made and entered into force. The Bulgarian Cadastre and provides information about individual objects in buildings (apartments, studios, shops, etc.). Are recruiting additional cadastral data property - easements, limits of security zones and other restrictions.

Regarding the nature of the cadastral map and other records and books, it is necessary to bear in mind that the cadastral map and cadastral registers shall be made in writing and graphic on traditional media and in digital form on magnetic, optical or other technical data; cadastral card is supported only in digital form, the pattern of individual objects in the buildings floors are built and maintained in digital and graphic a form approved by the Executive Director of GCCA; auxiliary registers are maintained in digital form.

Under existing legislation, reform of the system of cadastre and land registration should be completed by 2015. When all the data on real estate must be in digital form (cadastral map for the whole territory of Bulgaria and land registry). This reform will ensure the protection of property rights and transactions, and mortgages.

**Institutions in the field of land registration**

A significant number of institutions are working in the field of land registration. They include Works (cadastre), Foods (ortho and restoration of property), Ministry of Justice (MOJ, incl. 28 regional offices and 240 municipal offices, property registration), Ministry of Defense (topographic mapping, ortho, geographic referral), municipalities (Municipal technical services) and land committees, private surveyors, notaries and judges.

Registry Agency is an independent entity based in Sofia, a secondary means of authorizing the Minister of Justice established by amendment to the Law on Cadastre and Property Register (LCPR), effective 31.07.2004g. The idea of establishing the Registry Agency is dictated by trends in developed European countries to exempt the judiciary from her alien registration activities and is simultaneously part of judicial reform in Bulgaria and part of the process of building a unified cadastre and land registry the country. Registry Agency has by 113 registry offices located in the district courts.

Registry Agency is responsible for organization and management of registry offices, and establishing and maintaining the Land Register.

Employees of the Registry Agency responsible for making entries, notes and deletions as ordered by judges entries. Employees issued for entries and provide relevant information to the Registry Agency and other bodies of power. Acts on the transfer of ownership and other real rights over immovable property are subject to registration in the registry offices, which are located in the district courts.
Recordation judge a person authorized to conduct inspection of documents made real estate transactions. He or she shall allow or refuse entry of deeds, acts of state or municipal property or other documents which are received in the registry offices.

Cadastral map and land register are connected by a unique number - identifiers that are formed for each property. Cadastre maintain information on the location and boundaries of land, while data on ownership and other rights are reflected in the land register. As a result, all information in the cadastre and property register is current and complete.

In Bulgaria, most of the documents received in registry offices are notarial acts. Notaries certify real estate transaction and to check whether the person transferring the property owner is real and whether they have met all other requirements associated with the transaction. Once the act is a certified notary, the notary is obliged to submit it within the same business day in the office of the entries (registration is mandatory from 1910.). The act is one that certifies the acquisition of immovable property to the public. Only documents that were registered this way are enforceable against third parties and is protected by the state. The execution of transactions are paid fees of notaries, depending on the value of the transferred property.

**Cadastral map and registers Property register**

Cadastre is a set of basic data on the location, boundaries and dimensions of real estate in the Republic of Bulgaria recruited, performance, kept up to date and kept down by this law. Cadastre covers data ownership of real estate, information on other real rights over immovable property; data on state boundaries, boundaries of administrative-territorial units, land borders and boundaries of areas with the same purpose and permanently available (map on that incorporate additional specialized map data).

Cadastral data are entered on the cadastral map and recorded in the cadastral registers.

The cadastre is created, maintained and stored by the Agency of Geodesy, Cartography and Cadastre to the Minister of Regional Development. Minister of Regional Development and Public Works management and control overall activities in connection with the cadastre.

Property Register consists of lots of real estate. In the Land Registry are recorded instruments which recognize or transfer the ownership or establishing, transferring, amending or terminating other real right on real estate foreclosures and mortgages on them, and other actions, circumstances and legal facts which law provides for registration.

A judge ordered the Registry entries in lots of real estate located within the respective region.

Property Register is kept by the Registry Agency under the Minister of Justice. Minister of Justice exercises direction and control overall activities in connection with the Land Registry.

Cadastre and Property register are linked by bilateral relationship based on the identifier of real estate.

It was created computerized information systems for Cadastre and Land Registry that are interconnected.

Land registers are public. Services of the cadastre and land registry fees are paid in amounts determined by rates approved by the Council of Ministers.

Implementation and maintenance of an effective system of cadastre and property registration (together with other immovable property rights) is vital for social stability and sustainable economy. Protection of ownership of land is a sure foundation for social and economic policy,
mainly because it creates confidence and provides active land market and efficient use of land resources. Good land administration and management of land resources also constitute a decisive factor for all foreign investment. Moreover, main-Refereed geographic data obtained from the digital cadastre, are an inevitable prerequisite for spatial planning and sustainable development, respecting the environment.

The situation in Bulgaria requires a modern multipurpose cadastre of real estate that meets the needs of administration and customers. The existing system of cadastre and property registration (its organizational structure and quality) is affected by changes in the distribution of responsibilities in the management of land resources. This (as regards the agricultural sector) include land use, taxation and protection of the environment in the countryside.

Contents and objects of cadastral maps

Cadastre objects are landed properties, buildings and objects in separate buildings.

Cadastre data includes the location, boundaries and size of real estate on property rights and other property rights, as well as data on state borders and boundaries of administrative-territorial units (or limits of areas with the same permanent destination).

Land registers are related to bilateral relationship based on the identifier property.

Basic cadastral data is the identifier of land, the boundaries defined by geodetic coordinates, area, information on sustainable use, how to address sustainable use of land and property. They also include information about the built-up area, number of floors and use of buildings (with ID), location and destination floors of individual objects in buildings.

Cadastral information is created and stored in digital, graphic and written form, and is updated only in digital form.
Creation of a cadastral map

Preparation of cadastral map and cadastral registers shall be under the terms and conditions set out in Decree No 3 (April 28, 2005.) For content creation and maintenance of the cadastral map and cadastral registers.

Cadastral map and cadastral registers are created based on existing maps of the recovered property and cadastral plans of existing settlements.

Data for the owners and holders of other real rights, and for most of the acts of owners who derive their rights, was collected from the records to existing maps and plans submitted by the owners of the instruments in the process of creation of the cadastral map from the municipal registers and regional registration of tax records and more. Data on ownership and other real rights shall be determined on the basis of the Office of the Registry data.

Cadastral map is drawn up in 1970 in the coordinate system scale 1:1 000 in urban areas and 1:5 000 for izvanselishtnite territories.

Boundaries of landed properties is set by the designated location on site, in accordance with the document of title. Geodetic measurements apply only in cases where a register of sites
not available in previous plans and maps, or when you need to be carried out control measurements to improve the accuracy of the map.

**Contact zones**

Several types of anomalies (such as related to geometry, accuracy of data or erroneous decisions) are found in the cadastral map in the contact zones. They are due to the fact that restitution is made partly on the basis of topographic maps at scale 1:5 000 without precise location of borders. In obvious cases of prezastapvane (or gaps between the map of restored ownership and boundaries of cadastral plans of the settlements), the contractor for the construction of cadastral map may make proposals to resolve the inconsistencies and produce maps of the contact zone, together with a list of affected owners. When announcing the cadastral map owners can lodge objections against both the content of the cadastral map and the proposed solution. Until now there are not many objections to the owners who have reached the courts.

Approved cadastral map only shows the legal boundaries. By law, the parcels for which there are disputes because prezastapvane, inadequacy of limits or other errors in the contact areas can not formally be included in the map.

Contact zones represent a major obstacle to reform in land administration in Bulgaria as they appear in many areas around the settlements, and therefore significantly hamper and delay the approval process of the cadastral map as required by law. Without solving the issues related to ownership are not possible transactions in property or mortgaging them. The appointment of a committee of GCCA (consisting of representatives of GCCA, Foods, the cadastral office and a lawyer) to describe each case and make a proposal to resolve the problem and sending it into municipal technical office for further action on Virtually no work. Moreover, the Ministry of Agriculture does not have the financial resources equivalent compensation to the owners of land to be recovered, not fully recovered due to the current boundaries of the settlements.

Another problem is the adjustment of cadastral maps within the four rectangular areas in Bulgaria, according to a coordinate system 1970. It is necessary to determine all the parameters of transformation. There are three parameters that can be referenced to the limits:

**a) Accuracy**

Ordinance No 19 of 2001 establishes rules for control and acceptance of the cadastral map and cadastral registers. Cadastral map is approved by a special committee, then announced to the public. Citizens have the right to propose amendments and additions to the card. The accuracy of the map is different and determined by the location of the property - inside or outside urban areas and by the way is a relevant point - by shooting or by a geodesic digitization of existing plans.

**b) Maintenance of cadastral map and cadastral registers**

In case of change of property boundaries or outlines of buildings, the measurement is performed, leading to the creation of new cadastral objects after correcting errors. Owners are required to provide services in geodesy, cartography and cadastre information available on existing buildings, outbuildings, underground facilities, reconstructed or demolished buildings. Incompleteness and errors can be corrected by GCCA at the request of interested parties. Maintenance of approved cadastral map and cadastral registers at the expense of the owners. The state no longer provides funding for this activity.
Maintenance and provision of cadastral information for urban areas is carried out by local administrations, and for agricultural and forest lands - from the municipal offices Agriculture and forests.

Cadastral map and cadastral registers are stored on traditional media and maintained in digital form on magnetic, optical and other technical media for information storage. Cadastral information is public. GCCA provides summaries based on the cadastral map and cadastral records upon request.

Fees are citizens or legal persons shall pay for services GCCA its information and services are determined by the tariff approved by the Council of Ministers. State and local governments pay for services provided only actual costs incurred to create copies of the documentation. The entire income be paid to the state budget. The growing number of services provided has led to revenue growth, which GCCA submit to the state budget.

The period for service delivery is three days (if necessary Polish capture needed 30 days). There is an opportunity to provide express services, which are paid separately.

c) Authorized persons

Activities in the field of cadastre, geodesy and cartography can be performed only by authorized persons. Granting competency administered by GCCA. In Bulgaria there are over 300 qualified entities, of which about 40 to 50 companies working in the field actually.

Cadastral activities can fulfill individuals receiving qualifications in cadastre. Agency of Geodesy, Cartography and Cadastre awarded to qualified individuals carrying out activities on the creation of cadastral map and cadastral registers. Owner or other interested person may also be a person qualified to instruct the drafting of sketches of land and buildings, diagrams of objects in separate buildings, projects for the separation and pooling of real estate, combined sketches for full or partial identity of the boundaries of the land, cadastral map and cadastral registers.

Person qualified in surveying, mapping in Cadastral or may be a natural person who is a Bulgarian citizen has a university degree in geodesy with degree Master of Engineering, has at least two years experience in the field of cadastre, respectively, in of geodesy and cartography and has been convicted and Bulgarian legal entity which has the object of establishing the cadastre, respectively, carry out activities of Geodesy and Cartography, and his standing has specialized staff person or persons authorized to engage in geodesy, cartography and cadastre.

An applicant applying for entry in the appropriate register at the Agency for geodesy, cartography and cadastre. Capacity to engage in Cadastre, Geodesy and Cartography in being acquired from the relevant entry in the registry. Registers of persons qualified to engage in cadastre in Surveying and Cartography are public. The procedure for recording Cadastre, Geodesy and Cartography is defined by an ordinance issued by the Minister of Regional Development.

Agency of Geodesy, Cartography and Cadastre and its territorial units in carrying out their functions in the cadastre are considered qualified to perform activities under the Cadastre Law.

Activity in the exchange of data between GCCA and RA

According to Art. 6, para. 1 of LCPR land registers are linked by bilateral relationship based on the identifier of real estate. Need to exchange data between the cadastre and land registry stems from the requirement of Art. 6, para. 2 of LCPR, which provides the basic data for real
estate in the land register are obtained from the cadastre and data ownership and other real rights over immovable property in the cadastre are obtained from the Land Registry.

In accordance with art. 7, para. 1 of LCPR provided for cadastre and land registry to be set up computerized information systems to be interconnected. This provision reflects the requirements for direct interconnection and coordination of information in land registers and the integrity of the established systems for them. In the long-term program / March 2001 / indicated that the requirement for connection of the system implies a direct relationship between information system ROGCC in each area with the information systems of land registry in the district courts of the district.

In the IT strategy for cadastre and property registration has been provided that integration is realized on all the levels - hardware, software, communication, user interface, etc. It is therefore an appropriate choice of integration architecture components of the system, which provides information services and "one stop" on the basis of information from the synchronized components of land registers.

According to e-Government Strategy model for communication between GCCA and AB, as well as other state structures is realized virtual network to ensure confidential transfer of data between these organizations. Basic requirements for communications are to ensure confidentiality and protection of information and exchange of information in real time.

VI. INFORMATION AND COMMUNICATION TECHNOLOGY

One of the main priorities in the strategic plans of the Agency for Geodesy, Cartography and Cadastre and the Registry Agency is the development and use of integrated information system that includes the cadastral map, cadastral registry and land registry. The main features of the system is optimization of managing the flow of information relating to the location, boundaries and dimensions of real estate as well as the creation, transfer, modification or termination of ownership rights. Benefits derived from the information system include but are not limited to:

- the country - lowering costs by optimizing process work in agencies and offices, as - effective calculation of taxes, increasing revenue through streamlined procedures for offering paid information.
- individuals - stimulate the property market through access to comprehensive digital information, with easy access to reports on the physical parameters and rights to property, simplify procedures for granting loans.

Integrated information system for cadastre and land registry IIISCPR includes three main components:

1. Cadastral map, which GCCA answer.
2. Property Register, which is responsible for the Registry Agency.
3. Web portal which provides online access for all customers.

The new system contributes to the security of information, reducing the likelihood of a case of fraud in transactions with real estate as long as data can now be verified by interested parties and exchanged in real time. The system also contributes to the transparency of transactions by providing public access to information in accordance with international best practices. In addition, the time required for the registration of property in Bulgaria has decreased to an
average of one day, while the ownership information can be obtained for a few minutes - compared to 5 days before.

Also, Web portal (OSS) provides online access to information on cadastre and land registration of all public institutions and ministries, professionals (such as notaries, surveyors and real estate), banks, telecommunication companies, taxation authorities and citizens, ensuring transparency and equal access to data. Simplifying the process of collecting information on various professionals saves time and money.

IISCPR involves ESGRAON register and commercial register, minimizing errors in data entry and simplify data entry. The system also allows data to be uploaded by other external sources (eg data and private surveyors Foods). The system may then provide such aggregate data to other government institutions, if their IT systems can import data and has signed agreements on the type and structure of data transmitted and the terms and conditions thereof.

**System architecture**

IISCPR architecture consists of two mirrored data centers (one for property registration and cadastre to another), which are connected with fiber optics. The system is completely centralized property registration, which ensures that all legal details are available in real time. On the other hand cadastre system is decentralized. Cadastral data is copied twice a day in the central database. These operations are performed daily on-line during off-peak hours to avoid overloading the servers and the equipment during the working / busy times.
The architecture of an information system is centralized and has created a way to carry out real-time integration of the first two components of the central level, which allows preservation of administrative structures and hierarchies of the two agencies. Single integrated unit will operate between the two agencies at the central level, where the same database will be storing replication data from district level (staff of Geodesy, Cartography and Cadastre) and district level (registry offices).

Integrated information system of cadastre and land registration (IISCPR) e implemented in all 28 ROGCC in all 113 RO provides the staff of both agencies an efficient and reliable instrument for carrying out their daily activities. It is now possible to link data with the legal cadastral data using unique identifiers for sale. The system connects the property and cadastral data that was previously scattered in various agencies, including the MAF land commissions, municipalities, RA and GCCA.

Responsibilities for the maintenance of related systems are assigned respectively GCCA and AB. In order to maintain the responsibilities of both agencies, organizational constraint is imposed on both sides of the components in the architecture of IT systems. This also allows both organizations to work more independently. On the other hand, organizations depend on one another, so that both components of the system is connected. Cadastral identifier is the only key for the identification of the property, connecting the two parts of the system.

Both parts of the legal system contains data whose integrity is ensured and guaranteed by the government. The users while browsing on-line access to property rights and cadastral information. To meet these requirements, apply a stable and reliable technology plus system architecture that supports online services for users. This is an argument in favor of the establishment of two centralized systems, one for the cadastre, and another - for the Land Registry.

Checkout complex services (OSS) is a set of Internet based services, which enables the users to seek information about estate / cadastre, and seek services from both systems - at the national level (central database). Checkout integrated service supports both semantic and printing information - for example, are looking at: name, address, property / cadastral unit (old cadastral number) / cadastral identifier, but also allows the users to view information via the cadastral map.
From 01 January 2009. Both agencies work only with the information system of cadastre and land registry and the system provides one-stop shop for a wide range of user groups for local and central government and the private sector. The information system is based on the work of both agencies and is available to external users. The information is public, such access is consistent with the observance of limits on protection of personal data. Provided by the system is guaranteed by the state and enjoys the trust of society. The system was successfully developed and allows records to be made by entering the name of the owners (or their identification numbers). The unique identifier that serves as a link between the cadastre and property register is a unique number that is assigned in accordance with the terms and conditions specified in the regulations. Moreover, the reform allowed the data on the ownership, construction and upgrading, the rights to use (as well as their bearers) to be registered in the cadastre and property registry. Easements on agricultural land are reflected in the maps of the recovered property, and therefore are kept in the information system of cadastre.

Under existing procedures, after approval of the cadastral map for a given region, the issue of supporting acts of GCCA (or transfer of property rights), requires issuance of only sketches of the cadastral map. Municipalities issue visas only for construction.

IISCPR includes providing:
Initial entry of data into information system;
Update and synchronization of data in information system;
Issuance of reports;
Provision of cadastral data.

Business model and services
In all cases where it is necessary to individualize a property, current and reliable information about him should be obtained from the competent authority to maintain it - GCCA and its territorial divisions. In this sense, the circle of users of the information system of cadastre is extremely broad and includes:

• owners of real estate;
• agencies and organizations;
• Municipal services;
• services for state and municipal property;
• notaries, lawyers;
• courts;
• persons of Geodesy, Cartography and on Cadastre;
• Real estate;
• banks, insurance companies, investment agents, appraisers;
• architects, construction companies;
• enterprises owned building and maintaining infrastructure / Water, Energy, BTC, Railways, etc./.

General conditions for carrying out administrative services by GCCA and ROGCC are regulated in LCPR, LGC - on the service data contained in GeoCartFund and Ordinance № 3 / 2001 - on the data contained in the registers of persons qualified to engage in cadastre in Surveying and Cartography. Under those provisions, within its competence GCCA and ROGCC perform:

• written records of CMR, including drawings, copies of the cadastral map with an extract of the cadastral registers, and for individual site in the scheme of building and site, and other extracts from the register, giving a cadastral sketch, identifying and giving new identifiers in the cadastral project, approval and registration of the project for partition, approval and registration of the project to join, registration and approval of a draft separation;

• oral reports from CMR that can be given by telephone, telefax or other technical means;

• a place on the boundaries of land with permanent signs;

• certification of qualified persons made of drawings - projects in the cases provided by law;

• GeoCartFund services, including written and oral reports and provision of certified copies, including digital and photographic form, of geodetic, cartographic, topographic and cadastral data and materials GeoCartFund;

• certification and qualification card, and provision of written information from the registers of persons qualified to engage in cadastre in Surveying and Cartography.

• approval and record of sporadic registration of property

• synchronize database with cadastral land register in order to integrate data.

• entry of the document in the land register, a certified extract from the Land Registry, a non-certified extract from the Land Registry; certified copies of recorded documents; non-certified copies of recorded documents;

• synchronize database with cadastral land register in order to integrate data.

One of the main functions of the information system of cadastre and land registry is to carry out administrative services through direct access to the information system for external users of cadastral information system to offer a wide range of services based on modern communication technologies - web-based applications, e-mail and others. These services include receipt of all records and documents provided by GCCA but electronically. Remote access system should have only authorized users - registered with a username and password with appropriate rights, obligations and financial commitments to GCCA. Remote access to customer information systems of cadastre and land register is carried out in the communication server at the central office of the Cadastre Agency. Service with information relating to more than one area, and central service departments and organizations is undertaken by central administration of GCCA through communication links to the information system of cadastre.

Ways of delivering services are flexible, user-friendly and consistent with the current requirements for access to them, which means giving them both locally - at the headquarters of the aforementioned administrative units GCCA and ROGCC and the possibility of their use through remote access; in this regard are all the requirements and standards arising from acts on the construction and operation of e-government of the Republic of Bulgaria.
In the creation and processing of data forming the classified information under CIPAct, the requirements of the law and regulations for its implementation.

In cases where data are processed and made available to those that constitute personal data under Personal Data Act, the requirements of legality and protection of personal data in accordance with law.

Receipt and issue of electronic documents are subject to the requirements of EDESAct.

In designing the system provides the ability to upgrade and adapt to trends in cadastral systems.

Under these conditions, the scope of the cadastre of IISCPR component is limited to the registration of objects and actions cadastre and subjects them to register as described in the stages of creating and maintaining a cadastral map. Integration between components Cadastre and Property Register provides information for owners, real rights and restrictions on them.

The conceptual model of the cadastre is an abstract description of objects and subjects of the cadastre and actions with them. The description shall include more participants in cadastral activities and their interaction. Depending on the role that the participants have in the cadastral activities, there are 3 groups of participants:

- Persons operating processes in the cadastre and cadastral data objects - officials GCCA / ROGCC;
- Persons authorized to perform activities under the LCPR - authorized persons or licensed contractors;
- Other people - owners, interested parties or other holders of real rights.

Activities / procedures / which participants perform are the most common collection and updating of cadastral data and cadastral data services.

Each specific activity consists of several interrelated processes, some of which are operated by a IISCPR cadastre component and another part - of the participants in cadastral activities. The number of actions could be different, but there is a mandatory minimum number of steps, including:

- Request a service;
- Payment of service;
- Bringing a Case / start process / for the requested service;
- Providing control of the service;
- Execution of the service;
- Receive results of the service.

The main objective of component "Cadastre" of IISCPR is necessary to optimize the activities of participants in cadastral activities by providing:

- Speed of service;
- ease of performing the tasks of the participants in the process;
- guarantee the topicality and authenticity of data.
Activities on the realization of the relationship between IISCPR and other records and systems

Requirements for the existence of a relationship of integrated information systems of cadastre and land registry records and other systems are in place with a number of regulations and other documents, namely:

- IISCPR liaise with the Unified classifier of administrative-territorial and territorial units (UCATTU), a state register of businesses in Bulgaria (VAT number), a system of civil registration and administrative services to the population (ESGRAON), records of state and municipal property;

- Specialized information systems that use cadastral data must liaise with the information system of cadastre;

- The bodies of the National Revenue Agency at the request of GCCA are obliged to provide data ROGCC real estate and their owners.

- At the request of officials of the municipal administration of data and evidence of fortune (copies of maps and plans, computer models and other records) representing register data, the ROGCC are obliged to provide them; Bilateral exchange of data between MAF and GCCA in the periods before and after the creation of CMR for respective territories; Data to be transmitted in digital form.

Hierarchy of the products

Application Cadastre – user application, which is consisting several functional modules, part of which is realized on the base of ready commercial libraries and applications of ESRI (arcGIS, arcSDE, arcIMS), and specific functionalities, developed especially for Cadastre Agency. The database is examined as a separate element of the component, because it has quite independent line of development in this project;

Application Property register – user application, made of several functional modules; the database also has independent development and is examined as a separate element of the module;

Application OSS (One-Stop-Shop) I-Cadastre – internet application for providing of online services against payment; it has its own database which consists the integrated data of the two registers, and its own data that ensures the work of the application;

Application for integration of data – subsystem that ensures the connecting of the data between the Property register and the Cadastre maps; it operates at the central level. In case of occurring of specific event, the event activates one of the six defined processes, which through Web services is transferring the data and makes the respective changes in the database-recipient;

Hardware infrastructure – totality of all hardware elements assembled, installed and synchronized to work in the most optimal way, so to ensure the necessary resources for work of the basic and application software;


Documentation by the models of the solution;

System architecture and configuration – totality of all software elements developed, installed and configured in a way so to respond fully to all expectations of the customer and to cover all
business processes naturally running in the both agencies. Here is included and educated personnel, which knows the functionalities if the system according to the roles and the tasks, which are part of their daily work;

Test environment for installing and testing of the software solution. Exploitation environment of the software solution.

The software solution requires product environment for functioning. It is building in test and exploitation variant and is examined as an independent product of the software solution.

Documentation of the life-cycle of the product – this is a product that includes the whole documentation by the project, the source-code of all developed applications and functionalities, the support procedures, the procedures of the quality control and the procedures by the management of the configuration (control of the versions, integration tests, procedures for issuing and accepting of new versions).
Integrated Information system of Cadastre and Property register (IISCPR)

Components

- Application Cadastre
  - Administrating
  - Inquiries
  - Geocardfund
  - Integration with outer systems
  - Register of legally competent persons
  - Creating and support of CCCR
  - Database Cadastre

- Application Property Register
  - Administrating
  - Registering in the system
  - Inquiries and services

- Application Integration of data
  - Creating and support of property lot
  - Database Property register

- Application Services (OSS)
  - Search of information
  - Oral non-certified inquiries
  - Certified inquiries
  - Monitoring of the orders
  - Registration, Re-registration and payment of the products

- Hardware infrastructure

- Business model, System design, Architecture of the solution

- Documentation of the life-cycle of the product

Test environment for installing and testing of the software solution. Exploitation environment of the software solution.
Permanent Committee on Cadastre in the European Union

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Overview of the French Cadastre
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1 INTRODUCTION

1.1 History, purpose and developments of the Cadastre

1.1.1 The Napoleonic Cadastre

Napoleon Bonaparte (1769-1821), for whom an accurate knowledge of land ownership was necessary for improved distribution of land taxes, played a major part in the history of French cartography. An order of June 30th 1802 created a commission that proposed a Cadastre per "crop masses" whose application was established by an order on November 3rd 1802. The principle involved dividing the territory of the commune into masses bounded by natural limits, using a map drawn to a scale of 1/5000. More precisely, all land cultivated in the same manner and yielding the same harvests were grouped into a single mass then drawn onto the map. The owners then declared the areas that belonged to them within each mass. The administration, after trying to check these declarations, divided the difference between the content declared by the owners and the result of the surveys, so much so that an owner could be cheated by the incorrect declarations of other owners.

Following this inconclusive experience, the Emperor Napoleon 1st decided to establish a main parcel Cadastre by the September 15th 1807 Act. This law is the origin of the modern French Cadastre. The declaration made by Napoleon 1st to Mollien, his minister for the French Treasury, in July 1807 accurately summed up the goal sought: "Half measures are always a waste of time and money. The only way to resolve the difficulty is to immediately proceed with a general count of the lands in all the communes of the Empire by means of surveys and the assessment of each plot of land owned. A good parcel Cadastre will complement my Code with regard to ownership of the land. The maps must be accurate and detailed enough to be used for setting the boundaries of properties and preventing lawsuits."

Following this law, a ten-member commission chaired by the mathematician Delambre was set up. This commission laid out the imperial rules project approved on 27 January 1808, which ordered the Cadastre to be made under a Code published in 1811 and entitled "Methodical collection of the laws, decrees, regulations, instructions and decisions about the Cadastre of France." The term "Cadastre" included the cadastral map and its literal information, the section statement register and cadastral registers.

Work on producing the Napoleonic Cadastre began in 1808: 9,000 communes were covered in the first 6 years, with the rate slowing down until 1821, then it resumed with sustained vigour until the work was completed around 1850, namely 43 years later. The original aim of creating a legal Cadastre going hand in hand with the French civil code was not achieved and the Napoleonic Cadastre could not be a guarantee of land ownership. It was basically fiscal in nature and enabled the bases of land tax to be determined to ensure the fairest distribution possible.

Although remarkably executed for the time, both in the care brought to its creation as in the draughtsmanship of the maps, the Napoleonic Cadastre had two major drawbacks:

- slight defects in some maps (especially among the firsts ones drawn up),
- no update of the cadastral map was provided for. The unchanging map reflected the fixed situation of parcels of land at the time the map was produced. Only the register was annotated annually with changes in ownership. At a time when land ownership changed very little, this did not appear to be major drawback. For all that, changes in land ownership accelerated with the industrial revolution initial consequences , developments in the rural economy, development of communication routes, and the rise in urbanization, thus causing the cadastral maps to lose their reliability and value. Over the years, this deficiency made the Cadastre increasingly difficult to use for correctly defining land assets and conducting a fair assessment.
1.1.2 Improvement attempts

A reform of the "Old Cadastre" was essential to update cadastral maps (an operation also known as "conservation"). Several attempts were made. A law of August 7th 1850 allowed communes with Cadastre at least 30 years old to renew their Cadastre at their own expense. Only a few hundred communes took this opportunity that was offered them, but did not resolve the main defect of the Napoleonic plan, namely its lack of periodic updates.

The decree of May 30th 1891 created a commission mandated to study all the issues raised by the reform of the Cadastre, regarding the taxation and administrative aspects together with its legal aspect. The work of this extra-parliamentary commission was conducted from 1891 to 1905 and terminated in several draft laws that never became a reality, owing to the financial load and resulting times for realisation.

Meanwhile, owing to the imperative of restoring the Cadastre in some communes, the March 17th 1898 Act was promulgated. Drawing on ideas from the Cadastre extra-parliamentary commission, it enabled communes with Cadastre at least 30 years old to apply for them to be renewed and their Cadastre to be revised to ensure its conservation. The costs of operation were shared between the Government, the department and the commune. This opportunity was taken chiefly in the Seine department where the cadastral maps of every commune but Paris, were renewed. The department bore the cost of all expenses not covered by State subsidies. Elsewhere, less than 150 communes requested to benefit from this new system.

1.1.3 Renovation

The April 16th 1930 Act decided, with a view to a special revision of land assessments, to renew the old Cadastre at the expense of the State then provide for its "conservation", i.e. his permanently updating.

The renovation operations began in 1930 and are now complete. Two renovation modes were used depending on the communes involved:

- in the first case, the cadastral map was updated, using the framework of the Napoleonic map that had been conserved, to account for changes that occurred since it was established (identification of new parcels, new or demolished buildings, etc.),
- in the second case, a new cadastral map was made.\(^1\)

\(^1\) The term "redoing" is used when operations in the field were based on a 'contradictory' demarcation. The term "renewal" is used to designate a regular map from a technical point of view but made without "contradictory" demarcation.
(Sheet of a map renovated by updating)

(Sheet of a map renovated by renewal)
1.1.4 Land registration reform

Land registration is the set of rules and procedures for their implementation that work toward the collection, conservation and issue of legal information on real estate.

It notably allows real estate transactions to be secured and the legal situation of buildings and real estate of persons to be accurately determined.

The decree of January 4th 1955 introduced a series of technical measures designed to increase the effectiveness and protection of land ownership documentation. The most important is the establishment of the “real-estate file”. Other measures set out either the material obligations with which applicants must comply (certain designation of buildings and persons, prior publication of the title of the settlor, authenticity of the instruments, etc.), or the procedures for using the information contained in the documents registered with the land registry of mortgage Office.

Within the framework of this reform, to enable it to fulfil the role that it now had to perform, the decree of April 30th 1955 organised the renovation and conservation of the Cadastre so that it could identify and physically determine real estate. All ownership changes occurring after 1 January 1956 on real estate located in a renovated Cadastre commune had to be accompanied by their publication in the real estate file with an extract of the cadastral documentation – called "cadastral extract model 1" showing the information for identifying the real estate, otherwise the land registry would refuse the application or reject the formality. The decree also provides that the renovation of the Cadastre that could be carried out immediately at the expenses of the State (rural and semi-urban communes) or with the participation of the commune (communes with more than 10,000 inhabitants where buildings can be identified by the street and civic number), was by means of revision or redoing. The latter method is the one that has been used in all built-up areas by using the most modern methods.

1.1.5 Reshuffle

The reshuffle of the Cadastre was authorised by article 6 of the 18th July 1974 Act. The term "reshuffle" covers all operations with the purpose of providing a new renovation of the Cadastre with a view to improving the quality of the map when this map has become insufficient to correctly identify and determine real estate.

Reshuffle particularly results in a new cadastral map being drawn up with demarcation of properties in the field. New maps have been made in digital form since the end of the 90's.
1.1.6 Specific aspects of Alsace-Moselle

In the Alsace-Moselle departments (Bas-Rhin, Haut-Rhin and Moselle), the Napoleonic Cadastre was renovated in application of a local law of March 31st 1884. This law stipulates the revision of the Cadastre for all the communes, either by means of updating or by means of a redoing based on a new parcel survey. To date, the renovation work is also completed.

In these departments, the applicable system for real estate and mortgage registry is that of "the land book", under the responsibility of judicial magistrates. This difference with the rest of France is a historical heritage from Germany's annexation of this portion of territory from 1870 to 1918.

1.2 Functional organisation: the Cadastre, a State service

Owing to its initially fiscal role, the Cadastre service is an integral part of the Public Finances General Directorate (DGFiP), placed under the authority of the minister for the budget, public accounts and State reform. Like the other missions performed by the DGFiP, the French Cadastre comprises:

- a central level particularly responsible nationally for overseeing the cadastral mission\(^2\) and for the original design manufacturing of IT applications for managing the cadastral map and the literal information of the Cadastre,

- services of national scope such as the Service for National Documentation of the Cadastre, particularly responsible for issuing the large format sheets of the cadastral map ("A0 format") or the production of DVDs that contain the literal information of the Cadastre,

\(^2\) This is the "GF-3A" office attached to the fiscal management service, subdivision of landed missions, estate taxation and statistics.
- IT offices responsible for the project management of the aforementioned IT applications,
- IT service centres that are particularly responsible for running the management applications of the computerised cadastral map\(^3\) and the literal information\(^4\) as well as for providing user support,
- decentralized services at the level of the department, responsible for performing the missions of the Cadastre. The decentralized services operate under the authority of the departmental or regional director of public finances.

\(^3\) Two applications are used to manage the computerised cadastral map: PCI vecteur for vector format maps, PCI image for maps in raster format maps (image).

\(^4\) This is the "MAJIC 3" application for cadastral information update"
2 MISSIONS OF THE CADAstre

The Cadastre is responsible for listing all owned properties, identifying them with unique cadastral references, searching for their real or apparent owners, recognizing and defining the cadastral limits of these properties, describing and assessing them.

2.1 Fiscal mission

The Cadastre provides the real estate appraisal of built-on properties and undeveloped land and determines their "rateable value" for this purpose.

With regard to undeveloped land, the rateable value of each plot is determined according to a tariff per hectare established in each commune by type of crop or ownership and by class.

With regard to built-on properties, the appraisal is carried out at the level of the premises. All premises are first classified by their consistency and assignment (according to whether it is for residential or professional, commercial or industrial use). The subsequent calculation takes into account this classification and the accurate description of the premises contained in a declaration signed by the owner when the premises were built or modified (additional construction, for instance).

The rateable value is at least partly included in the base for calculating four direct local taxes: land tax on built-on properties, land tax on undeveloped land, local tax paid by residents and business land tax.

Moreover, the Cadastre service inputs into its databases any changes in real rights to tax the legal liable for the land tax (holder of the right on January 1st for the tax year).

2.2 Land ownership mission

The land ownership mission involves two types of operations:

- the first, of a real nature, involves the identification and physical determination of the property,
- the second, of a personal nature, deals with identifying the owners and the rights they hold over a property.

With regard to identifying parcels, each one is designated by a unique cadastral reference that unambiguously identifies it. Built-on properties such as co-ownership lots are designated by the cadastral reference of the reference parcel for the shared property5 and the number of the lot in the descriptive statement of division.

To identify owners, the cadastral documentation lists the apparent owner who is liable for the land tax. However, the 1955 reform strengthened the land ownership mission of the Cadastre by setting up a land registry system based on the agreement of the Cadastre and the real property file, which, although no legal value is conferred on the cadastral information, unquestionably increases its reliability in this respect.

Although its mission is not to claim or guarantee the ownership, the Cadastre can be a source of information for judges in the disputes submitted to them for their assessment in this domain if there is no other information.

2.3 Technical mission

To accomplish its fiscal and land ownership missions, the Cadastre is based on a map showing the land ownership with view to identifying and physically describing it. The creation and maintenance of the cadastral map is the first of the service's technical missions.

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5 This is commonly the parcel comprising the base of the shared property and having the smallest number.
The renovated or reshuffled cadastral map is the only large scale parcel map covering the entire territory of France, regularly updated, it can be used in solutions to needs that are as numerous as they are varied. Moreover, its vector or raster dematerialization has enabled it to become an essential component of many geographical information systems. This de facto status was confirmed by a law of 2009 stipulating that the reference data in describing parcels and buildings is the cadastral map.

2.4 Documentary mission

For many years, many administrations, local authorities or public organisations have needed to compile databases that contain information capable of guiding their operations, particularly with regard to town and country planning. The Cadastre as a source of fiscal, land and economic information is a special resource that describes and locates information and so is an essential support, particularly within the context of setting up geographic information systems.

2.5 Related missions

In addition to the fiscal, land, technical and documentary missions for which is directly responsible, the Cadastre is also used in performing other work: determining the base for financing certain social systems for farming, allocation of some professional or social advantages to farmers, prospecting for agricultural and forestry land improvement.

2.6 Issuing cadastral information

The cadastral services are also responsible for issuing a variety of cartographic and literal information.

2.6.1 Overview of the cadastral map

The cadastral map of each commune is subdivided into sections; each one has one or more sheets that feature a certain number of parcels. It graphically represents the land of the commune in all the detail of its division into properties and types of crops, together with additional details that are useful for understanding it.

Each sheet is designated by the section letter(s) and, when the section has several sheets, the sheet number is also specified (e.g. A, B1, AD, ZA).

The production scale of the cadastral map varies from 1:5,000 to 1:500. It is noted on the sheet (for raster maps) or in the metadata (for vector maps).

The map includes the parcel limits, together with all the information based on these limits, such as the limits of communes, sections, section subdivisions (sheets), localities, and, sometimes, communication and hydrography channels. The toponomy and building footprints are also shown. There is also a non-systematic representation of bounds and the type of separating limits, possibly enhanced with signs of joint ownership as well as important topographic details.

Each parcel of land has a cadastral number assigned per section. When the same parcel of land is used for different types of crops, each fiscal subdivision, apart from footprint of the buildings, is distinguished by a lower case letter between "a" and "i".

The buildings are shown with a hatched footprint for permanent buildings (houses, apartments, etc.) or latticed for flimsy or partially open buildings (e.g. open hangars).

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6 The maps established by "updating" are identified by a section that only has a single letter (e.g. "section A"). Reworked maps are identified by a section with two letters (e.g. "section AB") and have only one map sheet per section. The sections can be designated numerically in the Alsace-Moselle departments (section 1, 2, 3, etc.)

7 Exceptionally, there can be 1:8,000 or 1250 scales.

8 Hatching and lattices are replaced by orange or yellow coloured areas for the vector format.
For image maps (raster), the index map (generally at 1:10,000 scale) can be consulted, which represents the division of the commune's land between the different sections or map sheets as well as the main topographical details (roads and waterways, major buildings, etc.). It can thus identify the sheets that contain the required parcels.

Today, the entire cadastral map for France is available in dematerialised form: either in vector format, or in image format (raster).

The vector maps were obtained using a variety of methods:
- by new surveys carried out in digital mode for farming and forestry land improvement (formerly known as "consolidation") or reshuffle operation;
- or by vectorizing image maps, particularly realised within the framework of agreements signed with partners assigned with public service missions (chiefly territorial authorities (communes, departments, etc.), administrations and network managers) or internally by the DGFIP.

Non-vectorized cadastral map sheets were dematerialised in the form of images in 2003 and 2004.

The cadastral map is made up of approximately 600,000 map sheets at the national level (overseas departments included). Consultation of the cadastral map has been available for reference, free of charge, from the end of January 2008 at the following website: www.cadastre.gouv.fr (see chapter 5.1)

2.6.2 Overview of the literal information

Like the map, the literal information is completely dematerialized. Since 1986, all the information relating to the assessment of land properties and identifying the people liable for
tax is managed in the MAJIC3 application. Data from this application is used to create files specifying the situation on January 1st of each year. The "VisuDGFiP" application is used to edit ownership statements that describe, for a given commune, the identifiers and taxable bases of all the properties, built-on or undeveloped, belonging to the same owner or group of owners. These documents are also known as "extracts of the cadastral register". They notably contain the following information:

a) for built-on properties:
- designation of the premises
- information on the assessment (assignment, assessment method, type of premises, category, cadastral revenue (taxable base), community code, type of exemption, percentage applied, fraction of exempted income, year of the start of exemption, year of return to taxation)
- information on the tax for the collection of household waste
- taxable income per territorial community

b) for undeveloped properties:
- designation of the parcels
- information on the assessment (tariff series, letter specifying fiscal subdivision, parcel content, group, class, type of special crop, cadastral revenue (taxable base), community code, exemption type code, percentage applied, fraction of exempted income, year of return to taxation)
- total taxable income per territorial community

Moreover, the Cadastre services have a set of documents that are used to assess properties. For built-on properties, this comprises:
- built-on property declarations signed by the owners for each premises. They are accompanied by forms for calculating the rateable value and some documents used in the assessment.
- reports and annexes, comprising, for premises for residential and ordinary professional use, the communal classification, list, situation, description and assessment of the reference premises and, for commercial premises, the list, situation, description and assessment of standard premises. The reference premises and standard premises are used to assess new premises by comparison,
- other documents drafted during the revisions (enquiry reports, list of rented premises, summary statements, classification statements, auxiliary assessment books, etc.).

With regard to undeveloped property, the Cadastre services have communal reports of the assessments of the 1961-1963 revision (or the one established since, for the renewal of the Cadastre) which contains the communal classification, list of standard parcels (for crop types with several classes) together with the assessment and map tariffs, per farming or forestry region, of the adaptation coefficients to be applied to the 1961 tariffs to update them to January 1st 1970.

2.8 Access to documentation

2.8.1 Documentation in town halls
Communes have an extract of the cadastral documentation placed with town halls: the cadastral map and cadastral register of the commune.

Town halls are generally provided with a dematerialised issue of the cadastral map (this is particularly true for communes whose cadastral map was vectorized by agreement) or

9 January 1st is the reference date for calculating land tax for a given year.
an issue on paper. The sheets updated since the previous supply to the communes are delivered each year.

For the cadastral register, town halls receive a Cadastre VisuDGFiP CD-ROM each year, which must be used on a standard computer with modern performances.

2.8.2 Cadastre services

Each department has one or more services of the Cadastre ("land tax centres" or "topography and cadastral management centre"). In these services, the maps can be consulted free of charge. Copies of the cadastral map can also be obtained on paper or polyester media, or even in dematerialised form.

Any user can freely and from time to time obtain an extract of the cadastral register. This possibility is particularly designed for listed users (or their representatives) as well as land professionals (particularly solicitors and land surveyors).

Moreover, any taxpayer can consult and obtain a copy of all the information of his taxation, built-on property declaration, and rateable value calculation sheet.

Users can also obtain model 1 cadastral extracts. These documents are required to fulfil property identification obligations for land registry formalities. They are produced using the DGFiP application called "Serveur Professionnel de Données Cadastrales (SPDC)" (Cadastral Data Professional Server). This application can also be accessed by solicitors and land surveyors via an extranet. In 2009, 96% of solicitor studies used the SPDC, which produced 3.7 million model 1 cadastral extracts.

The literal information is also made available - within an agreement framework or not - by means of 5 files. The first four are compiled annually by the IT service centres from MAJIC databases and provide the situation on 1 January of the year. They are used to establish the roles and tax notice with regard to land taxes. The fifth file ("FANTOIR" file) is updated monthly by transferring updates operated in MAJIC3:

- the file of property owners lists, in each commune, the identification and address of the physical and moral persons that are liable for paying land taxes on built-on and undeveloped properties, managers and officials or public employees housed in buildings exempt from land tax but liable for the tax for the collection of household waste.
- built-on property file (or real estate file) lists all the information concerning the identification and assessment of the premises,
- the undeveloped property file (or parcel file) has all the information per commune relating to the parcels, undeveloped lots and the corresponding fiscal subdivisions, if necessary,
- the file of properties divided into lots contains all the information relating to the lots (jointly owned properties and those of a similar category)
- the main purpose of the "FANTOIR" file is to list, for each commune in France, the designation of the streets, groups of buildings whose internal roads have not been named, localities and pseudo-roads (railroads, highways, rivers, canals, etc.) required for addressing purposes.

The files of the owners, built-on properties, undeveloped properties and properties divided into lots contain personal information. Obtaining these files requires a prior declaration to the independent French authority for the protection of privacy and personal data (CNIL). However, the "FANTOIR" file can be accessed by everyone as it is not nominative.
3 TECHNOLOGICAL INFRASTRUCTURES

3.1 PCI

Depending on whether the cadastral map is of the vector or raster type, it is managed by two relatively similar applications, PCI vecteur and PCI image respectively.

3.1.1 Architecture

Both applications provide the standard management of the cadastral map for France from local databases.

An automatic link is set up from MAJIC3 (see below) to the PCI applications, on the one hand to enable the stock of literal information (parcel addresses, names of owners, etc.) to be downloaded per commune and, on the other, the updates made in MAJIC3 to be sent daily (new parcel numbers, new parcel addresses, new owners and new parcel contents).

(*) There are as many relationships as objects

10 Only a few months ago, each decentralized service (just over 300 in France) had a server on the premises that supported the cartographic base for its geographic jurisdiction. From the end of 2009, all the local databases were transferred to a platform of servers hosted on a secure production national site. Currently, all the cadastre services of a department are able to be connected by remote access to all the bases for this department.
3.1.2 Operation

During the connection, the system checks the user's Image PCI and Vector PCI authorisation by means of their identifier (management of an authorisation directory). Depending on the authorisation level, the agent can access the following functions:

- consult and print cadastral map extracts (authorisation level 1),
- update the cadastral map (authorisation level 2),
- increase the load of new communes or new map sheets in the PCI databases (authorisation level 3).

The PCI-vector application chiefly manages:

- the objects of the cadastral map (sections, section subdivisions (i.e. map sheets), parcels, buildings, roads, etc.) with their graphic and geographic representation (point, line, surface),
- literal data such as the names of owners, parcel addresses (streets, civic numbers), etc.
- various information layers such as:
  - the "temporary" layer enabling new data to be loaded that comes either from the digitization conducted by agreement partners, or from the creation of new maps obtained from the reshuﬄe procedure\(^\text{11}\) or farming and forestry land improvements (AFAF)\(^\text{12}\)
  - the "verification" layer that can update the cadastral map (land, topographic or fiscal updates,
  - the "Cadastre" layer, which is the reference layer from which information is consulted and provided (on paper or by electronic means).

The PCI-image application chiefly manages:

- TIFF files (with a 300 dpi resolution) corresponding to each cadastral\(^\text{13}\) map sheet and index map of the communes managed by the Cadastre service. These map sheets can be georeferenced or not in the geographic reference legal system
- "identification geocodes" used to navigate between the index map of the commune and the map sheets
- "neighbourhood geocodes" used to navigate between contiguous map sheets
- parcel geocodes\(^\text{14}\) used to display some literal information (name of the owners, parcel address, surface area)
- various information layers, particularly for the map update, which is carried out in a temporary work environment as in PCI-vector

\(^{11}\) Redoing of a previously renovated cadastral map to obtain a document with sufficient accuracy and scale for the current density of the parcels.

\(^{12}\) Land development operation for farms tending to increase their capability of using modern crop methods by grouping and a new servicing of the land. The AFAF is attached to the General Council of the department and is under the control of the Cadastre service for topographical aspects.

\(^{13}\) Standard paper cartographic representation unit (105 cm x 75 cm).

\(^{14}\) Identifier in the form of a vector element placed at the level of an image file. Parcel geocodes provide links between an image file and literal information (parcel identifier, address, owner's name, etc.). The user can then access the image from an item of literal information, and vice versa.
A word about consulting the cadastral map using PCI applications:

- in PCI-image, there is not geographic continuity between the commune's map sheets. The image map sheets may not be georeferenced. Depending on the size of the commune, one or more index maps provide guidance for the communal territory before navigating by identification and neighbourhood geocodes.

- for PCI-vector, the entire commune can be displayed. This is made possible through the geographic continuity applied within the territory of the commune. All the map sheets are indeed georeferenced.

- for both applications, tools allow the user to navigate easily in the cadastral map: zoom in, zoom out, moving the cadastral map with the mouse, etc. Access to a parcel can notably be made by entering its cadastral references, its address or even the name of the owner. The address of a parcel, its owners and its content is displayed by double clicking on the parcel geocode in PCI-Image, or within the parcel in PCI-vector.

- access to the map by literal data: name of the parcel owner, name of the road and address of the parcel.

A word about producing extracts and reproductions of the cadastral map:

- the extracts and reproductions of the cadastral map are notably produced by PCI applications (vector or image).

- reproductions of the cadastral map on paper or plastic in "A0" format are printed by the national documentation service of the Cadastre (SDNC) which receives the cartographic files from the Cadastre services.

Currently, a set of standard productions on paper or in digital form has been defined within which various options can be chosen. This involves:

- for the paper support, print formats (A3, A4), orientation\textsuperscript{15}, scale, indication of dimensions.

- for the digital medium, the output format. The PCI-vecteur and PCI-image applications respectively propose structures vector formats such as EDIGéO or DXF-PCI and image formats such as "TIFF LS B - CCITT group 4 M", "JPEG", "TIFF pack bit", "BMP" or "GIF". These extractions are made to USB key or CD-ROM for the entire commune, the section or the cadastral sheet.

- for the image data, it is possible to deliver both the file of parcel geocodes of the sheets concerned and the file relating to the georeferencing\textsuperscript{16} of each map sheet, when it exists.

- both applications can also extract a file of points with their coordinates.

\textsuperscript{15} Action of identifying geographic position in relation to the north.

\textsuperscript{16} Attachment of a map or a chart to a system of coordinates that can be used to locate any object of the map or chart by its coordinates in this reference system. The reference system used in the conic conformal 9-zones legal projection system, codes EPSG 3942 to 3950, for mainland France, UTM20 for the French West Indies, UTM22 for French Guiana, UTM40, for Réunion, UTM38 for Mayotte.
Since 2009, person type entities are managed within databases external to the system, called "referential frames". This architecture benefits from updates made by other applications connected to the referential frames or sends to the latter updates made from the MAJIC3 application.

There are three types of transactions:
- **query transactions**: they are used to consult the databases,
- **update transactions**: they update one or more entities,
- **service transactions**: they are used to monitor some processing done by the IT services centre (CSI), the technical management of the system, the monitoring and production of prints.

### 3.2.2 Operation

The application can manage:

- "person" entities (persons whether physical or moral) by creating or modifying them (change of address, change of marital situation, rectification of errors)
- identification of properties (parcels or co-ownership lots\textsuperscript{17}), within the legal framework of correspondence between the cadastral documentation and the real estate file. To achieve this, monitoring is set up covering survey documents and land sketches, as well as the management of division descriptive statuses. Modifications related to group operations such as reshuffles or land improvements are also subject to dedicated activities:

- assessment of property (parcels and premises) liable to different local taxes (land taxes on built-on and undeveloped properties, local tax paid by residents, business land tax) as well as any exemptions,

- roads referential frame, within the framework of the creation or modification of roads,

- real rights ("owner", "usufructuary", etc.) covering parcel or co-ownership properties and their titleholder,

- litigation for taxes covering the allocation of assessment of properties as well as claims related to the cadastral map.

Most updates covering real rights come from an automatic repercussion of notarial instruments registered with the land registry that has territorial jurisdiction via the BNDP application\textsuperscript{18}. When this automatic link does not operate, a report is created to draw the attention of the Cadastre service and enable it to update the real rights by manual entry in the MAJIC3 application.

Moreover, all the updates concerning the parcel, including the modifications of right holders, are automatically passed on to the PCI-vector and PCI-image applications.

4 UPDATE PROCEDURES

4.1 Conservation of the map

Updating the cadastral map (designated by the term "conservation") is a national priority. Consequently, it must be safeguarded by the same guarantees of accuracy as the creation of the map to which it refers. The maintenance procedures of the cadastral map are specified in a document entitled "framework guidelines on cadastral map maintenance".

The cadastral map update particularly includes changes to property boundaries, topographic and fiscal changes, and integration of land development maps.

4.1.1 Parcel update

Changes to property boundaries are understood to mean any change of parcel boundary, namely a surface assigned to a number on the map.

French law stipulates that such modifications must be recorded by a survey document drafted at the expense and diligence of the parties (owners concerned) and certified by them. Depending on the type of cadastral plan affected by the modification, the document produced by the land surveyor can either be a demarcation report or a sketch:

- the demarcation report is the outcome of a "regular" survey attached to stable elements of the land, unambiguously identifiable on the cadastral map,

- however, the sketch has the value of a sketch specifying the division mode of the cadastral area and the position of the new limits in a fairly exact manner to allow the cadastral map to be updated.

\textsuperscript{17} The lots are identified by the co-ownership base parcel of the smallest number, followed by a code that is used to manage the nesting of several co-ownerships and the lot number itself.

\textsuperscript{18} The BNDP application also makes it possible to consult the extracts of instruments published at the land registry.
When the cadastral map is regular or the division has been surveyed or the boundaries fixed, a demarcation report is required. A sketch is sufficient if there is a map revised by updating e and if there has been no survey or boundaries fixed.

The general rule is to draft a survey document for all of the contiguous parcels shown on a single map sheet and contained in a single instrument, irrespective of the number of purchasers or sellers mentioned in said instrument.

Specific cases:

For allotments, expropriations or alienations approved by communities, the survey documents, although covering a set of contiguous parcels, generally give rise to the drafting of separate instruments.

Indeed, with regard to allotments, in order to prevent any problem in identifying the allotment lots, the survey document set out by the land surveyor from the sale of the first lot is not generally limited to said lot but records the division of the entire allotment or the entire section in which the viability work is carried out.

Likewise, in the case of expropriation for the public interest, a single survey document for all the contiguous or neighbouring parcels in the same cadastral map sheet can be set out from the parcel map of the lands and buildings whose acquisition appeared to be necessary to the expropriating authority.

These special survey documents are known as "overall". They differ from "conventional" survey documents by a slightly different presentation, but especially by application methods that are specific to them.

In some cases, (division or uniting without any change to real rights, for instance), the changes to the cadastral parcel can be recorded by the Cadastre service by means of land sketches. The sketches are generally drawn at the scale of the cadastral map, taking an extraction of this map as a basis. They noticeably have the same presentation as the survey documents.

The new elements are set out according to the rules that governed the creation of the map. Where regular maps are involved, the measures are based on the closest old stable information (limits or other permanent demarcation signs).

4.1.2 Update of other information

Fiscal changes are recorded by documents known as "fiscal sketches". The fiscal sketches are produced by the Cadastre services and used to record changes that do not require a demarcation of properties. This may particularly involve recording a new construction (e.g. a house), the demolition of a building, change of crop type, etc. on the cadastral map.

4.2 Update of literal data

Literal data is updated by means of the MAJIC3 application, which enables national and real time consultation of information relating to the holders of real rights, to properties and to the list of roads and localities, or even to the description of the communes. Moreover, users authorised to access this applications can make all the necessary updates in line with the scope of their authority (generally a departmental authority).

4.3 Role of Cadastre officials

Informed by various sources, the chief one of which comprises urbanisation authorisations, the land surveyors of the Cadastre (also known as cadastral surveyors) travel through the areas and survey new buildings, building additions, demolitions or other

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19 According to the user's authorisation level
20 Creation or modification of rights holders, rights, description of property, addresses, etc.
modifications that affect the cadastral map and improve its readability. The buildings are represented by their footprint. They also record changes in crop types or the completion of buildings during their visit through the area\(^2\). The surveys are then entered into the PCI databases, either directly by the official who carried them out, or by means of another official ("draughtsman") who is also responsible for integrating parcel changes from land surveyors.

The officials update the literal information from their office, particularly to record changes regarding persons, parcels, premises and real rights that have not been automatically taken into account. They also receive and process assessment litigations related to the rateable value or more generally to the setting of land taxes. They receive the public, whom they inform about the cadastral map and the assessments and also issue extracts of the cadastral documentation.

5 USER SERVICES

5.1 «www.cadastre.gouv.fr" website

Since January 2008, "www.cadastre.gouv.fr" provides users with free access to 600,000 cadastral map sheets covering the entire territory of France.

Searches are made using either the address of a parcel or from its cadastral references.

Users can also printout extracts of the map in A4 and A3 formats free of charge. These documents are necessary with regard to accomplishing certain administrative formalities such as, the application of planning permission.

In October 2008, the cadastre.gouv.fr website was enriched with a module enabling full sheets (A0 format) to be ordered on different supports:

- physical: paper or plastic,
- digital: CD-Rom, DVD-Rom and downloads.

Payment is made online by banker's card debit or a previously credited reserve, or by sending a cheque.

Besides the cadastral map, the main information that can be consulted is the address of the parcels, their content and references.

\(^2\) A building is deemed to be completed fiscally when it is fit for the use that it is intended for, even if the finishes are not done.
3.2 MAJIC3

The MAJIC3 application can be accessed by all the services of the DGFiP that perform cadastral missions (tax centres, land tax centres, topography and cadastral management centre, etc.), and process information organised into centralised cadastral databases in IT service centres (CSI).

This data is updated in real time in the services of the Cadastre, thus making it possible to obtain up-to-date information of the latest known changes at any time. The MAJIC3 application thus has a documentary function and an updating feature.

3.2.1 Architecture

The databases contain all the land ownership and fiscal information useful for their computerised management. MAJIC databases are of two kinds:

1) A main database that contains the essential cadastral information relating to the parcels, premises, persons, properties divided into lots, roads or localities, etc.

2) Databases related to the main database: accounting database, claims database, taxation database, statistics database, roads database, update history database.

The information handled in MAJIC is made up of entities. An entity is characterised by a specific identifier and a set of information.

The entities are linked together by hierarchic or functional links.

- **Hierarchic link:** an entity has a hierarchic link to another when its existence depends on the presence of this other entity (for example, the parcel only exists if the section that contains it exists; the section only exists if the commune that it contains also exists)

- **Functional link:** the functional link connects two entities of the same level together, namely two entities that do not depend hierarchically on one another or even two entities such that the existence of one does not depend on the existence of the
The "cadastre.gouv.fr" database is fed by weekly GML format exports of the PCI-Vector and PCI-Image databases.

In 2009, the cadastre.gouv.fr site recorded:
- 7.3 million hits,
- 75.7 million pages consulted,
- 12.7 million map extracts in A4 and A3 formats made directly by the users.

The "www.cadastre.gouv.fr" site also has an intranet version known as "ICAD" (Intranet Cadastral d'Accueil et de Consultation), which is reserved for the officials of the Public Finance General Directorate for accomplishing their public service missions. The intranet version is the only one that enables the search, on a common item of data, for parcels belonging to person. The independent French authority for the protection of privacy and personal data (CNIL) did not actually allow the DGFiP to offer this search option on the "www.cadastre.gouv.fr" site so as to protect nominative data.

5.2 SPDC

The Cadastral Data Professional Server (SPDC) allows authorised users via an extranet to:
- consult certain cadastral information in real time and for France,
- produce "model 1 cadastral extracts" required for the land registry formalities. These documents, attached to support notarial instruments published at the , are used to certify the cadastral identification of the properties inscribed on the notarial instruments.

This service is reserved for land professionals exercising a public service delegation (solicitors and land surveyors) as well as for the officials of the DGFiP responsible for the cadastral mission.
The main information that can be consulted is:
- cadastral references of the parcels and co-ownership lots,
- content of the parcels and share of co-ownership lots,
- address of the properties (parcels and co-ownership lots),
- right holders (physical or moral persons) and the nature of their rights (owner, usufructuary, joint tenant, etc.).

### 6 RELATIONS BETWEEN THE CADASTRE AND THE REAL ESTATE FILE

#### 6.1 Monitoring the right of ownership

The purpose of cadastral conservation is also to keep cadastral information up to date for all the modifications that affect the legal situation of the buildings (sales, donations, sharing, etc.), so as to maintain consistency between the cadastral information and the real estate file managed by the mortgage offices. The Law\(^{22}\) indeed stipulates the designation of buildings, according to the current information of the Cadastre, is mandatory in all instruments, authentic and signed by a person in their private capacity or transitive, declarative, constituting or extinctive decisions of ownership or of real estate real rights. Likewise, it is forbidden that any cadastral change is subject to the prior publication of the real estate file of the instrument or of the legal decision recording this change.

The real estate file is now fully dematerialised and managed by the "FIDJI" computer application (electronic file for legal documentation of real estate).

Links between the real estate file and the Cadastre are basically provided by three types of documents:
- model 1 cadastral extracts,
- documents modifying the cadastral parcels (commonly known as "survey documents"),
- Cadastre reports.

#### 6.2 Model 1 cadastral extracts

The Télé@ctes and SPDC applications are used to dematerialise exchanges between notarial firms and land registry offices. The model 1 cadastral extract is submitted (otherwise the land registry will refuse the application) in support of any document submitted to the land registry with a view to publishing a change by death, an instrument or a transitive, declarative, constituting or extinctive decision of a right of ownership, usufruct, long lease or tenancy\(^{23}\). The model 1 cadastral extract can be drafted by the solicitor in the SPDC in XML format. The production of this extract creates a real estate reserve in the land registry, in which the identifiers of the real estate concerned are placed.

During the publication of the instrument to which the model 1 cadastral extract is attached, the land registry enters the names those concerned and, by means of automated repercussion, the new right holders are injected into the cadastral information database (MAJIC3) with the creation of links between the right holders and the properties contained in the real estate reserve. Cases that cannot be processed automatically are assessed then entered by the services of the Cadastre into the MAJIC3 application.

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\(^{22}\) This law is re-transcribed in article 870 of the French General Tax Code.

\(^{23}\) The "right to tenancy" corresponds to a superposition of the rights of ownership being situated in a single place. It enables the owner of the land to give or sell to another person a real right over all or part of what rises above the surface of the ground or is located within the ground.
This automatic link between the land registry offices and the services of the Cadastre is known as "BNDP" (French national heritage database). Currently, the great majority of updates are made by this automated system.

### 6.3 Documents modifying the cadastral parcels

Any change of property boundaries (division, allotment, sharing, etc.) must be recorded by a "document modifying the cadastral parcel" - commonly known as a survey document - that is drawn up by an accredited person (generally this is a land surveyor) at the expense and diligence of the persons concerned (for example, sellers and purchasers).

The basis purpose of this document is to record the agreement of the parties as to the position of the new boundaries and must be certified by the owners (or holders of the real right that is the subject of the demarcation) or by their representatives.

The signatures of the parties and the land surveyor must be shown on the survey document (or on the authorisations attached to the survey document) when it is submitted to the Cadastre service for verification and numbering of the new parcels. Once checked and numbered, the survey document is generally returned to the land surveyor, who will then submit it to the solicitor responsible for drawing up the instrument.

When the instrument is submitted to the mortgage office, the solicitor attaches the corresponding survey document. According to the scenario described above, the activation of the new parcels and deactivation of the old parcels is caused automatically by transferring the information to the cadastral documentation. The cadastral map is then updated with the new parcel situation by the Cadastre service.

### 6.4 Cadastre reports

In some situations, it is unnecessary to produce a survey document, despite the modification of the cadastral parcel. This basically involves the following cases:
- combining parcels belonging to the same owner,
- change of intercommunal boundary,
- changes in the consistency of the parcels following natural causes (alluvia, erosion, etc.),
- movement of river beds not belonging to an estate.

All these changes are recorded immediately by the administration through the use of land sketches.

These changes are published in the land registry by Cadastre reports. A copy of the reports is returned to the Cadastre after publication.

**6.5 Overall operations**

**6.5.1. Reshuffle**

The term "reshuffle" actually covers all the operations that are designed to provide a new renovation of the Cadastre for a commune that has already been renovated, with a view to improving the quality of the cadastral map when it has become insufficient for the correct identification and physical determination of the buildings. Reshuffle operations can involve only fractions of a commune. The costs are borne by the State.

The land to reshuffle is split into new uniform sections with scale of production determined particularly according to the density of the buildings (possible scales: 1:500, 1:1000 or 1:2000).

The survey operations performed by the services of the Cadastre within the context of reshuffle are based on a materialised overall grid. In most cases, this is nowadays a "photogrammetric control", namely, a triangulation made on the basis of photogrammetric restorations (restorations made from aerial photographs) based on specific points XYZ located on the ground by GPS that are easily identifiable on the photographs.

Reshuffle requires a systematic demarcation of the parcels. During fieldwork, the possibility of combining parcels (if they belong to the same owner) is also examined.

During the reshuffle, some assessment work of undeveloped properties can also be carried out by the Cadastre surveyors. It is strictly limited to observing the type of crops of each parcel or fiscal subdivision (part of a parcel having the same crop type or assignment), with a view to discovering any discrepancies between the real situation and the situation recorded in the cadastral documentation before reshuffle.

Buildings are subject to a new survey that must be just as accurate as the one for the parcels.

Following the survey and reproduction operations, the owners are informed so that they can become aware of the correspondence between the old and new cadastral references of their properties. Likewise, the new cadastral map that was produced during the reshuffle is exhibited at the town hall so that the owners can consult it and make any comments or claims known.

After taking into account all the information obtained during the reshuffle, the Cadastre service publishes the reshuffle report at the mortgage office. This report provides specific information on the correspondence between the old and new cadastral referenced of the properties and also indicates the contents determined for the new parcels. The service of the Cadastre also validates the new cadastral plan that thus replaces the one that existed up to that point. An automated procedure substituted the new cadastral references for the old ones in the cadastral documentation managed by the MAJIC3 application.
6.5.2 Agricultural and forestry land improvement (AFAF)

In contrast with reshuffle, which involves only substituting a better quality cadastral map for the old map, agricultural and forestry land improvement (AFAF), commonly called "land consolidation", enables land rearrangement. The property units are redistributed according to their assessment in such a way as to facilitate farms by regrouping the land of a single farmer.

The topographical work concerning an AFAF is carried out by the general councils of the departments concerned. The Cadastre, however, carries out the following operations at this time:

- **at the start of the work:**
  - sets up or completes the overall grid,
  - issues the cadastral information required to determine the contributions (contributing parcels) and work of the consolidating surveyor (generally a land surveyor).

- **at the end of the work:**
  - checks the quality of the topographical work carried out by the consolidating surveyor,
  - checks that there are no discrepancies with the scope of the work,
  - topographic and fiscal developments of the new map (survey of crop type boundaries and classification of the land in the cadastral documentation),
  - incorporation of the results of AFAF operations in the cadastral documentation after the report containing the list of owners and new parcels attributed has been published at the land registry.

From a technical viewpoint, the work involved in producing these new cadastral maps gives rise to survey operations comparable to the ones used for producing regular cadastral maps with, in addition, the specification of all the façade dimensions of the parcels.

The contents of the parcels determined during this work generally become the cadastral contents on which the land taxes will henceforth be calculated.

The new cadastral map is substituted for the old cadastral sheets. A comparable repercussion to the one that occurs during the recognition of a reshuffle is carried out in the MAJIC3 databases in order to reflect the new situation with regard to the parcels and right holders.
7 RELATIONS BETWEEN THE CADASTRE, ASSESSMENTS AND TAXATION OF PROPERTIES

7.1 1970 revision

By virtue of the principle of proportional equality, properties must have balanced fiscal charges. The rules for determining the "rateable value" of a constructed property aim to calculate not the real and actual rateable value but the normal rental that this property was likely to obtain on the reference date of the last revision, namely January 1st, 1970.

The rateable value is determined by taking particular account of the consistency of the premises and its assignment (residential, commercial, industrial, etc.):

- **residential premises** or premises for ordinary professional use have a rateable value determined by comparison with reference premises chosen in the commune. Each premises is classified in a residential premises category according to the table shown below. Then its real surface is weighted, particularly according to the maintained condition of the property, its general and particular situation, the features of comfort that it possesses. The final weighted surface obtained is multiplied by the price for each square metre of the assigned category to obtain the rateable value of the property (reference year 1970).

<table>
<thead>
<tr>
<th>CRITERIA TO CONSIDER</th>
<th>GENERAL CHARACTERISTICS SPECIFIC TO EACH CATEGORY OF PREMISES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st category</td>
</tr>
<tr>
<td>1. Architectural character of the property.</td>
<td>Clearly lavish</td>
</tr>
<tr>
<td>2. Quality of construction</td>
<td>The highest quality or excellent quality materials. Perfectly fit for habitation.</td>
</tr>
<tr>
<td>3. Layout of the premises: General design.</td>
<td>Very large design</td>
</tr>
<tr>
<td></td>
<td>different areas of the premises Bays wider than normal in collective buildings, wide accesses and common staircases.</td>
</tr>
<tr>
<td>Reception rooms</td>
<td>There must be spacious reception rooms.</td>
</tr>
</tbody>
</table>
### 4. Services:

<table>
<thead>
<tr>
<th>Service</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water</strong></td>
<td>Many running water sources within the premises</td>
</tr>
<tr>
<td><strong>W.C.</strong></td>
<td>One or more units per premises</td>
</tr>
<tr>
<td><strong>Central heating</strong></td>
<td>Usually present</td>
</tr>
<tr>
<td><strong>Lift</strong></td>
<td>Usually present</td>
</tr>
<tr>
<td><strong>Stair carpet, service stairs</strong></td>
<td>Usually present (especially in old buildings)</td>
</tr>
<tr>
<td><strong>Overall impression</strong></td>
<td>Top-end luxury quality</td>
</tr>
</tbody>
</table>

- **commercial premises** have a rateable value that can be real or theoretical:
  - **real rateable value**: this is the value specified in the lease for buildings that were rented out under normal conditions on January 1st 1970
  - **theoretical**:
    a) the value is calculated by comparison with other buildings for properties not rented on January 1st 1970, or rented under abnormal conditions
    b) by direct assessment for buildings that cannot use one of the two methods above.
    A search is made for the venal value in the instruments constituting the origin of the building (act of sale, inheritance declaration, etc.). Next, a coefficient is applied that represents the capitalisation rate and the immediate depreciation related to the specific nature of some properties.

- **industrial establishments** are assessed in particular using the company's tax system: this involves:
  - either the "accounting method" for companies under the "real taxation system". The rateable values are determined from the "cost prices" posted in the balance sheet (values of the buildings or acquisitions of land, buildings and developments, to which a coefficient is then assigned)
  - or a "special method" for companies under the "micro BIC" system: this can be a comparison with other premises or a "direct assessment".

The rateable values are currently used as the basis for calculating land tax on built-on properties.

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24 "BIC" is a French acronym that stands for Industrial and Commercial Profits.
7.2 The declarative system

Taxable premises are taken into account and described using declarations made during the general revision (January 1st 1970), namely when a change is made. Indeed, new buildings, additions to buildings and changes of consistency or assignment must be declared by the owner\textsuperscript{25} within 90 days from their completion to the relevant service of the Cadastre. After this period, the temporary exemptions that some work can obtain are partially or fully cancelled. If there is no declaration, the Cadastre service shall conduct an assessment immediately using the information in its possession (for instance, the planning permission).

In 2009, more than 1.7 million declarations were processed by the Cadastre services according to the following volumes:

<table>
<thead>
<tr>
<th></th>
<th>H1</th>
<th>H2</th>
<th>R</th>
<th>P</th>
<th>CBD</th>
<th>ILB</th>
<th>ME</th>
<th>U</th>
<th>UE</th>
<th>UG</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>676,733</td>
<td></td>
<td>3,699</td>
<td>4,099</td>
<td>167,877</td>
<td>66,642</td>
<td>1,689</td>
<td>12,548</td>
<td>1,443</td>
<td>21</td>
<td>1,727,458</td>
</tr>
</tbody>
</table>

Legend:
- H1: individual house
- H2: apartment
- R: summary declaration for collective buildings
- P and CBD: professional premises, shops and miscellaneous properties
- ILB: modifications of a built-on property
- ME: exceptional houses:
- U: industrial establishments
- UE: electrical facilities
- UG: gas facilities

\textsuperscript{25} Depending on the case, the declarations are made by: the owner, usufructuary, emphyteutic lessee, construction or rehabilitation lessee, holder of an authorisation to temporarily occupy the public domain constituting real or trustee rights.
Background information

The Land Registry was established in 1892 to provide a comprehensive and secure system of land registration. When title or ownership is registered in the Land Registry, the deeds are filed in the Registry and all relevant particulars concerning the property and its ownership are entered on folios which form the registers maintained in the Land Registry. In conjunction with folios, the Land Registry also maintains Land Registry maps. Both folios and maps are maintained in electronic form.

The core business of the Land Registry involves examining legal documents and related maps submitted as applications for registration, interpreting the legal effect of such documents and recording their legal impact on the registers and maps. Since the Irish land register is a public record, any person may inspect the folios and maps, on payment of the prescribed fees.

The title shown on the folio is guaranteed by the State which is bound to indemnify any person who suffers loss through a mistake made by the Land Registry. A purchaser therefore can accept the folio as evidence of title without having to read the relevant deeds.

Land Registration in Ireland

By international comparison, Ireland has a very extensive and well-developed system of land registration. Since the foundation of the Land Registry in 1892, there has been a gradual, ongoing and continuous programme of movement away from the older and limited system of recording Deeds (in the Registry of Deeds), to the more modern, flexible and comprehensive ‘title registration’ system provided through the Land Registry.

93% of the total land mass of the State, representing 88% of the legal titles in Ireland, is now registered in the Land Registry. As the map below illustrates, almost all legal titles in several counties are now registered. This map outlines the extent of land registration in Ireland on a county by county basis as of September 2009.
Much of the progress in recent years has been facilitated by the successful roll-out of a major programme of state of the art Information Technology, the most notable of which have been:

- Integrated Title Registration Information System - ITRIS - (1999-2002)
- Digital Mapping Project (2005-2010) and
- Conversion of the entire register and associated indices from paper into a fully digitised format (2006-2009)

As a result of these projects there are now some 1.9 million titles, representing more than 2.8 million individual parcels of land, registered in the Irish Land Registry.

An extensive programme is underway to advance the registration of the remaining titles. In fact, from January 1st 2010, compulsory registration applies in 24 of the 26 counties.
**Compulsory First Registration**

Registration in the Land Registry is compulsory in the following cases:

1. Land bought under the Land Purchase Acts
2. Land acquired after 1st January 1967 by a statutory authority.
3. *Certain transactions in relation to property located in the Counties and Cities listed in the table below:

<table>
<thead>
<tr>
<th>Counties affected</th>
<th>Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlow, Meath and Laois</td>
<td>1st January 1970</td>
</tr>
<tr>
<td>Longford, Westmeath and Roscommon</td>
<td>1st April 2006</td>
</tr>
<tr>
<td>Clare, Kilkenny, Louth, Sligo, Wexford and Wicklow</td>
<td>1st October 2008</td>
</tr>
<tr>
<td>Cavan, Donegal, Galway, Kerry, Kildare, Leitrim, Limerick, Mayo, Monaghan, North Tipperary, Offaly, South Tipperary and Waterford</td>
<td>1st January 2010</td>
</tr>
</tbody>
</table>

**Cities affected**

<table>
<thead>
<tr>
<th>Cities affected</th>
<th>Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galway, Limerick and Waterford [as defined in Section 10 of the Local Government Act 2001]</td>
<td>1st January 2010</td>
</tr>
</tbody>
</table>

*in the case of freehold land – conveyance on sale

*in the case of leasehold land – grant or assignment on sale
Contents of the information system

The Irish Land Register is one of the most advanced land registers in Europe. The Register is fully computerised and, all registered land parcels have been recently digitised. The conclusion of the final phase of our Digital Mapping Project in 2010 completed this work and marked a major milestone in the history of land registration in Ireland.

The Register consists of textual and spatial information (folios and maps). The land in each county is divided into folios, one for each individual ownership or title. Each folio is numbered sequentially within the county division.

Folios

The Register is **conclusive** evidence of title to property and any right, privilege, appurtenance or burden appearing thereon. The national register is comprised of individual “folios” and the title shown on the folio is guaranteed by the State which is bound to indemnify any person who suffers loss through a mistake made by the Land Registry. Below is a sample of the information held on the folio.
## Register of Ownership of Freehold Land

### Part 1 (A) – The Property

Note: Unless a note to the contrary appears, neither the description of the land in the register nor its identification by reference to the Registry Map is conclusive as to boundaries or extent

For parts transferred see Part 1 (B)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Official notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>A plot of ground situate in the townland of Ballynagaul More and in the Barony of Decies Within Drum) containing …..hectares shown as plan XY123 outlined in red on the Registry Map ( O.S ...)</td>
<td>From folio ..................F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>A plot of ground situate in the townland of Ballynagaul More and in the Barony of Decies Within Drum) containing …..hectares shown as plan AB456 outlined in red on the Registry Map ( O.S ...)</td>
<td>..................F</td>
</tr>
</tbody>
</table>

The Registration does not extend to Mines and Minerals

Filed plan issued:
Part 1 (B) – The Property

Parts Transferred

<table>
<thead>
<tr>
<th>No.</th>
<th>Property no.</th>
<th>Instrument</th>
<th>Date</th>
<th>Area (Hectares)</th>
<th>Plan</th>
<th>Folio no.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The devolution of the property is subject to the provisions of Part II of the Succession Act, 1965.

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>30 December 1999</td>
<td>Patrick Murphy and Mary Murphy both of ............, xxxx, County Waterford are full owners.</td>
</tr>
<tr>
<td>No.</td>
<td>Particulars</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>LR 2/00000</td>
<td>The Property no. 1 is subject to the fishing rights and fisheries (if any, retained by Fiat of the Land Commission.</td>
</tr>
<tr>
<td>2.</td>
<td>30 December 1999 D1999PS00000T</td>
<td>The covenants and conditions specified in Instrument no. D1999PS00000T relating to the use and enjoyment of the property.</td>
</tr>
<tr>
<td>3.</td>
<td>30 December 1999 D1999PS00000T</td>
<td>Charge for present and future advances repayable with interest. The XY Building Society is owner of this Charge.</td>
</tr>
</tbody>
</table>
The Irish Land Registry operates a **non-conclusive boundary system** which means that the map does not indicate whether a boundary includes a hedge or wall or ditch etc. However, the physical features along which the boundaries run must be accurately identified.

Land Registry Services play a vital role in maintaining and guaranteeing the title to property in the State.

**Public Register**

The folios and maps constitute a public record and any person can apply to inspect a folio on payment of the appropriate fee. You can also obtain certified copies of folios or folio/title plans by completing the relevant Forms and sending them along with the appropriate fee.

**Land Registry Services**

The core business of the Land Registry involves examining applications for registration. We also supply evidence of title and a range of associated services.

1. Applications for registration.
2. Applications for the purchase of the freehold under the Ground Rents Purchase Scheme.
3. Certified copy folios/title plans.
5. Search facilities - mapping search, names index search.
Online services – www.landdirect.ie:

Many of the Land Registry services listed above are available on-line to subscribers to our landdirect website. To avail of our online services a subscriber must open an account with a minimum pre-payment of €125 made payable to the Property Registration Authority.

If you are not a subscriber to www.landdirect.ie you may still avail of our services by post or by calling to one of our public offices.

1. Applications for registration

- Applications are normally prepared on behalf of the customer by qualified legal practitioners and submitted to the PRA for registration.
- In making decisions on applications, staff apply a wide range of legislation, take account of Court decisions and adhere to principles of natural and constitutional justice.
- The legal impact of the documents and related maps lodged are then recorded on the folios and title plans of Land Register.
- The type of application lodged ranges from applications for first registration, transfers of part of an existing title, charges (mortgages), burdens (e.g. right of way) etc.
- The Land Registry Practice Directions and Legal Office Notices on the organisation’s website, www.prai.ie, provide guidance on the principles and procedures followed in making decisions on applications. However, this does not constitute legal advice and it is always recommended that an applicant should consult a qualified legal practitioner. Note that the Land Registry/Property Registration Authority is not an advisory body and cannot give advice on individual cases.

2. Applications for the purchase of the freehold under the Ground Rents Purchase Scheme

This is a scheme under which owners of leasehold property can purchase their Ground Rent and enlarge their interest into a freehold.

The Ground Rents Purchase Explanatory leaflet, Application Forms and other relevant information are provided under Ground Rent Services on the website.

3. Certified Copy Folio/Title Map

The folios and title maps of the Land Register constitute a public record and any person may apply to inspect or obtain a copy folio/title plan, on payment of the appropriate fee.

- If you know the relevant folio number you can apply for a copy by downloading and completing the Application Form for Copy Folio (fee €6) or Application Form for Copy Folio/Title Map (fee €25 or €60 for a map showing appurtenant rights of way and/or other “special features” relating to the lands) and sending the completed form together with a cheque/postal order for the appropriate fee to:
  Customer Service Unit
  Property Registration Authority
4. Certified Copy Instruments

When an application for registration (a Dealing) is completed, the legal effect of the documents lodged is registered on the folio. A purchaser for value can rely on the folio as evidence of title without having to read the title deeds. The title documents are subsequently retained in the Land Registry in a file known as an “Instrument”.

- There are some circumstances in which an inspection of an Instrument may be applied for. However, an instrument is not a public document and can only be inspected by the registered owner of the property, his personal representative or any person authorised by such persons or by an order of the Court or under Rule 188 of the Land Registration Rules 1972.
- Before completing an Application Form for a Copy Instrument under Rule 188 it is advisable to read the guidelines attached to the form. An applicant must specify why they consider themselves to be entitled to inspect and/or obtain a copy of the Instrument (or part of an Instrument).
- Any person who is entitled to inspect an Instrument may obtain a copy of the Instrument, on payment of the appropriate fee.
- The completed application form along with appropriate identification and a cheque/postal order for the relevant fee (€25 per Instrument) should be lodged to:
  
  Customer Service Unit
  Property Registration Authority
  Chancery Street
  Dublin 7

Please note: Instruments are stored off-site and will not be available on the day of request.

5. Search facilities

The results of a mapping search will reveal if the property is registered in the Land Registry and will identify the relevant folio number.

The fee for a mapping search is €6.00

The fee for a names index search is €2.50

If the result of a Search indicates that the property is not registered in the Land Registry it may have been dealt with in the Registry of Deeds.
The relationship between the Cadastre and the real-estate rights registration database

The Property Registration Authority work very closely with the National Mapping Agency. The creation and maintenance of the national map is the responsibility of an organisation known as Ordnance Survey Ireland (OSi) - www.osi.ie. The Land Registry use the OSi map base to reference its legal boundaries. The mandate of OSi is the following:

- To maintain and develop the underlying physical infrastructure to support mapping and mapping applications, including to maintain a national grid and the geodetic and height frameworks and to link these to international systems.
- To create and maintain, for the entire State, mapping and related geographic databases which have national consistency of content, currency, style and manner.
- To provide mapping and related geographic data to the public and private sectors in support of social, economic, legislative, security, business and administrative functions and requirements.
- To encourage and promote the benefits of the use of OSi's national mapping and related databases and to promote the development of its products, services and markets to meet national and user needs.
- To advise Government and public sector organisations on matters relating to the policy and practice of survey, mapping and geographic information and on the development of national spatial database infrastructures.
- To represent the State at international level on matters relating to mapping and geographic information.
- To provide the necessary technical support to the Chief Boundary Surveyor in the performance of his/her duties in delimiting statutory boundaries and the delineation of such boundaries on maps.
- To depict placenames and ancient features in the national mapping and related databases as advised by An Coimisiun Logainmneacha and the Department of Arts, Heritage, Gaeltacht and the Islands.
- To protect Government copyright on OSi databases, products and published material.

In Ireland the valuation of land for taxation purposes is the responsibility of the Valuation Office, www.valoff.ie. The core business of the Valuation Office is:

- The maintenance of equitable Valuation Lists through the provision of accurate, up-to-date valuations of commercial and industrial properties to ratepayers and rating authorities as laid down by statute. The Office also provides, where possible, a non-statutory valuation consultancy service to other Government Departments and State Agencies.
1. About The State Land Service

1.1. The State Land Service of Latvia (SLS)
The SLS was created in 1992 in accordance with the law of the Republic of Latvia entitled “Concerning the State Land Service”, which was passed on December 15, 1992. The SLS is the only government institution of the Republic of Latvia that operates in the area of land administration, putting into effect government real estate policy within the comprehensive framework of government land policy, ensuring the registration of Latvia’s land, as its national wealth, and connected objects (land and structures), the updating of this data and the oversight of this process, as well as ensuring the protection and successful utilization of land, as Latvia’s national wealth, throughout the country.

SLS can logically be viewed as the continuator of longstanding land management and cadastre maintenance traditions in the territory of Latvia after the renewal of Latvia’s independence in 1991.

The SLS is subordinate to the Cabinet of Ministers of the Republic of Latvia (henceforth –CM and operates under the oversight of the Ministry of Justice (henceforth – MJ.
The SLS is headed by the director general, who is appointed (and removed) by the MK, and consists of the Central Administration, five Regional Bureaus and 27 Customer Service Places. On January 1, 2010, the SLS had 916 personnel positions.

1.2. The Importance of the SLS to the national economy
During its existence, the SLS has rendered a significant contribution to the development of the national and regional economies, of which the most important is:

• Participation in the implementation of the land reform, renewing and registering property rights, performing cadastre surveying and valuating real estate;
• The development of computerized Cadastre (the textual and graphic part) in 2001, the covering of the entire country by such being ensured;
• The maintenance of the State Address Register and its link to the Cadastre;
• The ensuring of real estate valuation for the purpose of land redemption, apartment privatization, government and municipality land privatization and real estate taxation;
• The ensuring of the dispensation of cadastre information for the purpose of administrative territorial planning and the development of detailed plans;
• The introduction of a geographical information system and the installation of the first network of base stations for the Global Positioning System in the Baltic States;
• The ensuring of NATO commissions (embarking on the development of military and civil versions of 1:50,000 scale maps that meet NATO requirements) until the reorganization of the SLS in 2006;
• The maintenance of the SLS’s document archive data base on the central and regional level;
• The ensuring of the accessibility of services rendered by the SLS and a uniform price for services in all of Latvia’s regions for clients involved in economic activity with real estate;
• The ensuring of electronic services, using data maintained by the SLS (KR Pārlūks, Apvidus, the latest and modernized data distribution portal www.kadastrs.lv (authorised and public version) since the year 2008.
1.3. The SLS functions
The SLS, in accordance with the Statutes of State Land Service, has the following functions:
- The participation in the implementation of land reform;
- The ensuring the functioning of the National real estate cadastre;
- The ensuring the functioning of the State Address Register;
- Maintenance of Rural Land Redemption Register;
- Maintenance of high-detailed scale (in a scale of 1:500 and greater) topographical surveying information; the securing of the registration process; the securing of the functioning of the Protective zone Information System.

1.4. The SLS’ commission
The realization of the functioning of the SLS is ensured in the fulfillment of these tasks:
- The registration in the Cadastre of real estate as a set of property objects, land units, structures, spatial groups, parts of land units and their characteristic data (including types of land use and changes in such), as well as the maintenance and development of the Cadastre;
- The cadastral valuation of real estate;
- The valuation of real estate in connection with land reform, privatization, expropriation and lease;
- The cadastre surveying of structural and groups of spaces;
- The examination of land border disputes (until the first registration of a land unit in the Land Register);
• The ensuring of the process of redeeming rural land and the maintenance of the Rural Land Redemption Register;
• The supervision of the work of the cadastral surveying of land;
• The maintenance of the Real estate market data base;
• The maintenance of the textual and graphic data of the State Address Register Information System;
• The preparation and updating of the description of administrative territorial borders and graphic data;
• The development and maintenance of the Protective Zone Information System;
• The storing of cadastral surveying information and the dispensing of data necessary for the performing of cadastral surveying;
• The maintenance of the SLS’s archive;
• The preparation and dispensing of information (including land summaries) from information systems maintained by the SLS and from the archive in the manner specified by normative acts;
• The preparation (formation) of rural real estate for its first registration in the Land Register;
• The preparation for the development of territorial planning and the rendering of adjudgment in regards to developing territorial planning.

2. Content of information system maintained by the SLS

The SLS maintains:
• Real National Real Estate Cadastre Information System (Cadastre IS), in which is included also the Real Estate Market Information system (RMIS);
• State Address Register (SAR);
• Rural Land Redemption Register (RLRR);
• Central data base of high-level detailed topographical information (certainty in the scale 1:500);
• Temporary system of protection zones data till the moment when the Data base of protection zones will be developed.

2.1. National Real Estate Cadastre Information System

Cadastre IS is the largest and the most important information system maintained by the SLS. Cadastre IS stores text and spatial data on real estates, land units forming them, buildings, groups of premises and parts of land unit existing in the territory of Latvia, their owners, legal possessors, users and leaseholders, as well as till 01.07.2010 - data on real estate tax objects. Contemporary cadastral history in Latvia started in year 1992, simultaneously with the land reform, which was necessary when Latvia renewed independence and entered into market economy. The size of cadastre has gradually grown since year 1993, when the ownership rights of physical persons on land were renewed.
Within the first eight years of the cadastre activity the data was collected and its registration was started up, but since year 2001 the topicality and quality of data has become the main priority. The activity of cadastre is stated by the Law on National Real Estate Cadastre (2006). 100% of the state territory is registered in the Cadastre IS, and it is arranged in digital form. 5 594 million cadastral units (including real estates and objects forming them), from them 69 759 cadastral units within year 2009, were registered in the Cadastre IS on December 31, 2009.

In Latvia are four types of properties:

- Property that consist of land;
- Property that consist of land and buildings;
- Property that consists only of buildings;
- Residential property.

Image 2. Development of content (information) of Cadastre IS
2.2. State Address Register
SAR is a state information system that ensures computerized registration of addressed objects in the form of text and graphical data and maintenance of classified list of addresses (Address classifier), in which each address has a single and constant code. Addresses can be registered in the SAR on the basis of order stated in the regulatory enactments and on decisions made by the municipality on allotment of addresses.

1 309 953 addressed objects were registered in the SAR till January 1, 2010.
59 892 new addressed objects (approximately 4991 objects within a month) were registered in the SAR data base within year 2009, and data of 61 809 addressed objects were updated; more than 30 300 objects were showed in the graphical part.

2.3. Rural Land Redemption Register
The RLRR is maintained with an objective to ensure redemption request on land of persons, information stated in the requests, information on redemption request, decisions made by the SLS on land redemption, as well as to ensure registration of land units requested for redemption.
Land unit requested for redemption from the SLS was included in the RLRR with a condition that a person will submit to the SLS document confirming rights to buy the land till August 31, 2009.
The SLS without person’s request included cadastral surveyed land units allotted for permanent usage in the RRLR because the plans of land borders in the Cadastre were registered till 31 August, 2006.
2.4. **High-level detailed topographical information**

High-level detailed topographical information (topographical data in the scale of 1:500) is accepted, stored and issued by the SLS in accordance with the legislations. Date in the SLS is submitted by persons licensed and certified in land surveying. In accordance with Latvian topographical map system’s TKS – 93 (LKS – 93) map nomenclature of scale 1:1000 of year 1993, the data is stored digitally in separate files in the format *.dgn of Bentley software. Stored topographical data is used in professional activity of persons licensed and certified in land surveying, utilities holders, municipalities, a.o. interested in persons. The SLS conclude a contract on exchange of data with the municipalities that maintain topographical data in scale 1:500.

A pilot project, within which topographical measures in the scale of 1:500 are registered by using electronic signature, was implemented in the Kurzeme regional department on year 2009. It is planned to implement this order in the territory of all state within the year 2010.

3. **Infrastructure of technologies**

3.1 **Technical development of the Cadastre IS**
Image 4. Technological development of Cadastre IS

3.1. General view of the system
Cadastre IS is included in the State Real Estate Cadastre, and it consists of:
- Cadastre IS’s text part;
- Cadastre IS’s graphical part;
- Real Estate Market Data Information System (REMDIS).

3.2. Descriptions of software
Cadastre IS’s text part:
- Application software is a program based on Oracle forms, which is working in the client – server architecture;
- Data are registered in the central data base (Oracle 10g), by using Oracle forms appropriate for the needs of SLS.

Cadastre IS’s graphical part (or spatial data):
- Data are edited in files of *.dgn format, by using standard Desktop type software Bentley MicroStation v7.

REMDIS:
- Section for data entry is planned for real estate market’s data registration in the state, as well as for data systematization and analysis for the needs of cadastral valuation.
Section of data analysis is developed as OLAP system, by using Oracle 9iAS Discoverer tool. Section for data entry in the REMDIS is developed as JAVA application.

3.3. Data exchange and distribution

Once every twenty-four-hours the cadastral text data are replicated to the Distribution data base (Oracle 10g), where:

- They are replicated to other IS’s data bases of outer clients and collaboration partners (data transfer);
- Access to applications of outer clients in online regime is ensured;
- They are delivered to outer clients with web-services based on XML standards;
- Together with other data sets by the SLS are published in the portal www.kadastras.lv.

Once every twenty-four-hours spatial data of the cadastre are uploaded in the joint Distribution data base of the SLS spatial data (Oracle 10g, Spatial), where:

- they are replicated to other IS’s data bases of outer clients and collaboration partners (SDE replications);
- they are delivered to outer clients with web-services (WMS – raster format, ArcGIS server – vector data format);
- together with other data sets by the SLS are published in the portal www.kadastras.lv (in connection with text data).

![Image 5. Cadastre IS architecture](image-url)
4. Connection of Cadastre IS with other state information systems

The principles and amount of necessary data for Cadastre IS maintenance has been determined by normative acts of Latvia.

Image 6. Cadastre IS data exchange with other state information systems. Last update: 05.10.2010

5. Registration and data updating

Cadastre IS registers and maintains current text and spatial data on cadastral objects, cadastral subjects, real estate tax objects, as well as on payers of real estate tax, at the same time maintaining also the historical data.

**Cadastre IS ensures performance of such main functions:**
- Registration of new cadastral objects;
- Update of already registered cadastral objects.

**Cadastre IS registers and updates date on the ground of:**
- Regulatory enactments;
- Documents issued by municipality;
- Documents issued by state institutions;
- Contracts and Memorandums of understanding;
- Documents submitted by the person;
- Documents gained due to cadastral activity.
5.1. Registration of the cadastral object

Registration of land unit in the Cadastre IS contains:

- Institution of land unit registration in the Cadastre IS (on the ground of application);
- Pre-registration (allotment of cadastral designation to the planned land unit, record on the planned area, registration of decision made by local municipality in accordance to which the detail planning or land-utilization system project was confirmed);
- Registration of information of documents on land unit’s cadastral survey – land unit area and its zoning on type of land use is registered, as well as information of encumbrance on real estate object is registered;
- Insertion of vector data file on cadastral survey of spatial land unit in the cadastral information system;
- Display of land unit in the cadastral map;
- Entering of the information rendered by local municipality and state institutions – decision of local municipality or extract from decision on detail panning or confirmation of land-utilization system project, and acceptance of obligatory rules, decisions issued by local municipality both on allotment of addresses, and on statement of usage objectives;
- Cadastral value calculated to the land unit is registered in the order stated in the regulatory enactments
- Preparation of certification on real estate object – land unit – registration in the cadastral information system.

The registration of land unit in the Cadastre IS is terminated when the cadastral value is registered.

Registration of part of the land unit in the Cadastre IS contains:

- Institution of part of land unit registration;
- Allotment of cadastral designation to part of land unit;
- Entering of information from originator’s application and graphical appendix – area of part of land unit and its zoning on type of land use is registered;
- Display of part of land unit in the cadastral map;
- Entering of the information rendered by local municipality and state institutions – part of land unit area subordinate to real estate usage objectives of land unit and zoning of type of land use subordinate to real estate usage objectives is registered.

Registration of buildings in the Cadastre IS contains:

- Institution of registration of the building;
- Pre-registration of the building – cadastral designation is allotted to the building, number of floors of the construction site is registered;
- Registration of information on cadastral survey-
- Insertion of vector data file on cadastral survey of spatial building in the cadastral information system;
- Entering of the information rendered by local municipality and state institutions-
- Display of the building in the cadastral map;
- Registration of information from documents submitted by the owner of the building or legal possessor;
- Cadastral value calculated to the building is registered in the order stated in the regulatory enactments;
- Preparation of certification on real estate objects – building – registration in the cadastral information system.
The building is registered in the Cadastre IS if its cadastral value is calculated and registered.

5.2. **Registration of the real estate (including registration of residential property)**

Registration of new real estates in the Cadaste IS on the ground of submitted documents if:
- One or several real estate objects are separated from the real estate;
- Real estate is formed from real estate objects that are not included in the content of real estate registered in the Cadastre IS;
- The owner of the apartment merges all residential properties of one apartment house in one real estate.

The registration of the real estate in the cadastral information system is terminated when the cadastral value is calculated and registered.

When the registration is finished the SLS prepares a certification on real estate registration. The certification together with documents submitted for registration is placed in the cadastral case of the real estate.

![Image 7. Objects forming composition of the real estate registered in the cadastral information system](image)

5.3. **Update of data on cadastral object**

In order to register cadastral object or to update cadastral data, the cadastral subject should submit to the SLS an application and documents confirming the changes. Current (latest) cadastral data are used for cadastral activity and preparation of information.

Cadastral data are updated in the following cases:
- If the cadastral subject submits documents on changes;
- Information from state institutions or local municipality is rendered in the order stated in the regulatory enactments: in electronic form (including from state information systems), as well as in form of documents.

If the information has been submitted by the local municipality or state institution the Cadastre should update cadastral data without informing the cadastral subject.

**Update of data on land unit is performed in accordance with:**
• Documents on cadastral survey of the land unit – borders and area of the land unit, types of land use, their area, encumbrances on real estate object, as well as building’s location in the land unit is updated;
• Decisions made by local municipality or state institution – address of the land unit, name of the real estate, land use type of the real estate is updated.

**Update of data on part of land unit is performed in accordance with:**
• Documents on cadastral survey of part of land unit – area of part of land unit, zoning of areas on types of land use is updated;
• Decisions made by local municipality – usage objective of the real estate is updated.

**Update of data on building and group of spaces is performed in accordance with:**
• Documents on cadastral survey of the building (group of spaces) – data is updated if there has happened a reconstruction, restoration or renovation of the building or group of spaces, or if the physical state of the building has been changed;
• Documents of the local municipality – address of the building or group of premises, note on lawless construction, main usage type of the building or group of spaces, date when the building is received into exploitation is updated;
• Also with state information systems – encumbrance on real estate object is updated from the register of State Inspection for Heritage Protection if the building is defined as State protected cultural monument.

**Update of data on real estate and residential property is performed in accordance with:**
• Transaction act – cadastral subject, aliquot part of his owned real estate or residential property, composition of real estate and residential property is updated;
• Data of state information system from:
  - State Unified Computerised Land Register (Land Register) updates section number and the owner of the real estate;
  - Population register – name, surname, address of the cadastral subject (for physical persons);
  - Commercial Register or State Revenue Service Tax payer register (if the owner is a legal person) – name, registration number and legal address.
• Documents of the local municipality – updates the name of real estate (within rural area), leased real estate or its part owned by the municipality and the leaseholder;
• Documents of state institution – updates leased real estate (possession), or its part owned by state institution and the leaseholder.

**Update of data on encumbrance of real estate object is performed in accordance with:**
• Survey documents or documents on servitude of right of way foundation;
• Data from state information systems that maintain protective zones, especially protective nature territories and other objects that cause encumbrances on real estate objects. Cadastre IS updates encumbrances on real estate objects of the area occupied by land unit.
5.4. **Cadastral map**

The development of cadastral map has been started in year 1992, when the borders of allotted land units were put on photoplan only manually. Since year 1995 till year 2000 cadastral map was arranged both manually, and digitally.

Today cadastral map is formed as digital overview map on mutual location of land units, buildings, encumbrance on real estate objects and parts of land units around the territory of Latvia. The cadastral map is maintained in current state, in accordance with changes registered in the Cadastre Register.

Digital data of real estate cadastral survey in the format of vector data are used to create the map. Cadastral objects are displayed in the cadastral map according to accuracy of the cadastral survey.

In the cadastral map are displayed:

- Borders, border posts of the land units;
- Uutline of buildings and layout in land unit;
- Borders, border posts of the parts of land units;
- Border of territories occupied by real estate objects encumbrance and identifiers;
- Borders of cadastral groups, their codes, numbers and names;
- Borders of cadastral territories, their codes, numbers and names.

Graphical elements according to specification of cadastral map are arranged by thematic levels or layers.

Borders of land units within the cadastral map are updated taking into account cadastral survey data of higher accuracy and complying with the following priorities:

- Surveyed land unit – with the highest accuracy;
- Allotted land unit;
- Projected land unit – with the lowest accuracy.
Graphical elements of cadastral map are ranged in thematical layers in accordance to Specification of Cadastral map.
Modeling of Cadastral map is based on Bentley MicroStation programmature.

5.5. System of cadastral designations
System of cadastral designations is used for unambiguous designation of real estates and physical objects forming it, and the system is formed from cadastral numbers and cadastral designations. Cadastral designation is allotted to each physical object that forms real estate, and to real estate – a cadastral number. Within the territory of Latvia they are unique designations (codes), which are used when all kind of references are made to the real estate or physical object, which form it. Cancelled cadastral numbers are not used repeatedly. The cadastral number is allotted once, it does not change, and it exists for the same period of time as the corresponding real estate.

6. Delivery of cadastral information
Cadastral information is public, if it is not stated otherwise in regulatory enactments. Cadastral information that covers data identifying physical persons has limited accessibility.
The SLS issues cadastral information in the form of paper, in the form of electronic files by using electronic data carriers, especially for this purpose foreseen servers and other types of data transfer, in the regime of online data transmission.
Within the frameworks of data exchange with local municipalities for the performance of their functions, including for the needs of real estate tax administration, on cadastral objects within their administrative territory free of charge in electronic form issue:
• Data of cadastral texts, historical data of the Cadastre. Data is issued online in the form of database replication or using services of information system;
• Cadastral spatial data - in the form of DGN files.
Within the framework of data exchange the SLS prepares and in electronic form issues information in accordance with regulatory enactments on circulation of electronic documents. The data after a request are issued in the online data transmission regime by collaborating in the level of information systems.

The SLS free of charge ensures:
• Particular number of browser users in accordance to the concluded contract – to state security institutions and to the Corruption Prevention and Combating Bureau.
• Connection of one user to cadastral data browsing in the regime of online data transmission by using specially created browser – to Seaima, State Audit Office, prosecutor’s offices, courts and to the Maintenance Guarantee Fund in case of grounded request.

7. Services of the SLS

The SLS ensures society with more than 50 services in the sphere of real estate information. Services rendered by the SLS can be divided into three basic groups:
• Registration and update of data (see Section 5);
• Cadastral survey of buildings and groups of premises (see Section 12);
• Selection and issue of data (including copies of documents from the archive of documents) (see Section 8).
List of the services and descriptions of the services are available in the home page of the SLS www.vzd.gov.lv in the section “Services”, as well as in the portal www.latvija.lv.

Types of services and their price are stated in accordance with:
• Regulations No. 147 “Regulations Regarding a Price List of the Paid Services Provided by the State Land Service”;
• Regulations No. 561 “Regulations on State Duty for Cadastral Statement” issued by the Cabinet of Ministers on July 4, 2006.

Payment order is regulated by:
• Regulations No. 770 “Payment Order of Paid Services Rendered by the State Land Service” issued by the Cabinet of Ministers on July 14, 2009.

Services rendered by the SLS the clients can receive in 27 SLS Customer Service Places in all Latvia.
Separate services (for example, unique selection of data and conclusion of contracts on subscription of browser) are rendered only by the Department of Client Services and Data Distribution of the Central Administration of the SLS.

8. Data selections and issuance

8.1. Cadastral data
After receiving of client’s request the SLS:
• Prepares and issue data from the Cadastral text and graphical part on particular real estate or objects existing in its composition;
• Perform special data selections by client’s stated criterions, preparing the necessary amount of data for the client.
Law on National Real Estate Cadastre gives rights to the owner of the real estate (or to legal possessor or user) to request and to receive from SLS current cadastral data on his cadastral object free of charge once a calendar year, or to oversee them limitless by registering in the portal www.latvija.lv. Cadastral information of the SLS is available for clients also in the SLS data publishing portal www.kadastrs.lv.

8.2. Information on real estate market
Information on market transactions with real estate from the data base of Real Estate Market Data Information System (REMDIS) maintained by the SLS is prepared and issued after in accordance to the request of client of SLS.

8.3. Data of State Address Register
Text data of the SAR are available for every person who uses internet, and is free of charge in the public section of the data publishing portal www.kadastrs.lv. Data of the SAR in full amount can be received by concluding a contract with the SLS and agreeing upon data necessary for the client, and upon reception type and regularity of these data. Each physical and legal person can receive information upon the address of the concrete addressing object by paying a state duty.

8.4. Topographical data of high level detail– topographical plan in scale 1:500
The SLS after client’s request prepares and issue a plane-table for topographical plan M1:500 in which is included the territory in which the client is interested in. Clients can oversee topographical plan in scale 1:500 in the authorized section of the data publishing portal www.kadastrs.lv developed by the SLS.

8.5. Archive of the SLS
SLS clients have the possibility to get acquainted with documents from SLS archive face to face, as well as if it is necessary – to request and receive derivatives of documents (copies, extracts or duplicates).

9. E-services

Working in the direction of e-commerce, a new data publishing portal www.kadastrs.lv has been worked out due to convenience of SLS clients. Data published in the Portal are available for each its user and is available in online regime 24 h per day and 7 days per week. Information published in the www.kadastrs.lv is an information material in which information of informative character can be obtained operatively. Portal contains from public and authorised section. In the public section for each person without conclusion of subscription contract and free of charge are available the following data:

- Cadastral number of the property, cadastral designation of land value, building and group of premises;
- Address of land unit, building and group of premises;
- Name of the property;
- Section number in the Land Register (if the ownership rights have been registered in the Land Register);
- Display of land unit’s and building’s location place in the form of symbol in the satellite map in scale 1:50 000.
For the concealment of clients a possibility to perform unique overview of Cadastral data has been created (at the moment only the text part, but in the near future also the graphical part of Cadastre), the service can be disbursed through Mobilly (www.mobilly.lv) account. For clients, who want use Cadastral information in larger amount (including text and graphical data from SAR, topographical data in scale 1:500), the SLS offers to conclude a contract on subscription of www.kadastrs.lv authorized section. The SLS in collaboration with the State Regional Development Agency has developed an e-service “My data in the Cadastre”, which gives the possibility for owner of real estate (or legal possessor or user) to request and receive current data on one’s own cadastral object free of charge by using possibilities rendered by modern information technologies (requisites of the internet bank or smart card of e-signature can be used in order to register) in the National portal of Latvia www.latvija.lv. The search of property within the Cadastre is performed by user’s Personal identity number (personal code). Cadastral information is prepared in a PDF file and it is identical to information which the client would receive in Client Service Places of the SLS. The user can request this e-service for unlimited number of times.

10. Land reform in Latvia

10.1. Geographical context
The territory of the Republic of Latvia covers almost 64 457 square kilometers (6 456 998,8 ha). The length of state border is 1 866 km, the length of coastline – 498 km. Latvia has borders with Estonia, Russia, Belarus and Lithuania. Capital city of the state is Riga, in it lives almost one third of all inhabitants of the state. Lowlands and hills are characteristic of the landscape of Latvia. Average level of Latvia above the sea level is 87 m. Internal waters cover 2 543 km² or approximately 4% from all state territory. There are more than 750 rivers that are longer than 10 kilometres, and approximately 3000 lakes that are larger than 1 ha in Latvia. Forests cover 45.8% of the territory, land used in agriculture – 37.7%.

Image 10. Latvian national geographic position
[http://www.csb.lv/csp/content/?cat=9693]
There have happened four land reforms in the territory of the Republic of Latvia within the last 200 years.

<table>
<thead>
<tr>
<th>1804 - 1860</th>
<th>1861 - 1913</th>
<th>1920 - 1939</th>
<th>1940 - 1989</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st Land Reform</strong></td>
<td><strong>2nd Land Reform</strong></td>
<td><strong>3rd Land Reform</strong></td>
<td><strong>4th Land Reform</strong></td>
</tr>
<tr>
<td>Land in most of all cases belongs to landlords, later also to peasants</td>
<td>Land in ownership</td>
<td>Land only for collective use</td>
<td></td>
</tr>
</tbody>
</table>

**Image 11. The changes in land property forms within the time period 1804-1989.**

The purpose of the last land reform was to change property form when the land was owned by the state to a form that the land is a private property by restoring ownership rights of land to former land owners or their inheritors that was owned by them till July 21, 1940 and was nationalized by soviets, as well as to ensure a possibility for other inhabitants of the Latvia to acquire the land in one’s own property.

First features were seen already in year 1989 before the restitution of independence of the Republic of Latvia. Issued State Decrees broke the exclusive rights of collective farms and state farms to use land and defined the status of farms; it means that the lawfulness of individual activity was fully acknowledged.

Matter on rights of land property and its usage become topical after May 4, 1990, when the Declaration on Restoration of Independence of the Republic of Latvia was adopted.

The government issued necessary regulatory enactments, in which were stated order and terms for those, who requested land. Land Commissions of various governmental and territorial levels were established till September 1, 1990, but the necessary regulatory enactments for ensuring of agrarian reform were accepted by the Council of Ministers.

**Main basic principles for land privatization were stated when the land reform was carried out:**
- One could receive land in one’s property before acquiring it in usage;
• former land owners could receive the land free of charge by renewing the proprietary rights;
• Others, who requested land – for payment, remuneration was performed with privatisation certificates.

These laws regulated only privatization of the land and did not covered questions in relation to properties of state or municipality land. Later many regulatory enactments were amended repeatedly.

Implementation of land reform in urban and rural areas took place with significant differences, but in general following single basic principles.

**Land reform in rural areas was planned in two stages:**

- **First stage (1990-1996)** – users of the land and those who requested land for the first time should submitted request on land’s allocation for usage. The documents that confirm hereditary rights and plan of land of the requested property have been added to the request.
- **Second stage (1993 - till now)** – survey of land borders, renewal of land ownership rights to former land owners or they heirs should be performed, as well as transfer to possession for payment to those land users, which they did not own until the year 1940, was performed.

**Land reform in towns was planned in three stages:**

- **First stage (1991-1992)** – reception of land requests were received from former land owners and their inharitants, from current users and other persons, who request land.
- **Second stage** – the Councils of towns should worked out and confirmed program on economical and social development of towns on the ground of summarized requests;
- **Third stage** — land’s transfer to the possession, as well as its allocation for use should be ensured.

As the ownership rights on land were renewed not only to former owners, but also to their inharitants, in many cases scattering of the land was observed, because in the place of one former property were created several small properties.

Method of denationalization was frequently used by the Land Commission for restitution of proprietary rights on land in towns, in such way the borders of properties were exactly the same as previously determined.

Land privatization processes were performed intensive since the year 1996.

Next to properties of physical person’s creation of legal pesons, municipal and state institution properties also took place.

In order to ensure arrangement of proprietary rights it was necessary to state the date for termination of privatization process.

The Saeima of the Republic of Latvia in the year 2005 addopted a law that stated regulation to one of land privatization forms – acquisition of land in the property for charge:

- The term till which the person can submit a redemption proposal on land granted for permanent use;
- Creation order of Register on Redemption of land granted for use;
- further action with land that is not included in the Register or is include, but not redempted out;
- The term, when the usage rights on land granted for permanent use terminates in accordance of the law.

Land reform’s termination date in rural areas was amended by the government in year 2007, and new provisions for land reform’s termination were implemented. In accordance with these provisions the land reform can be considered as finished, if the corresponding municipality has reviewed all applications and made decisions on renewal of land’s proprietary rights or
acquisition in property with payment, if the borders of lands allotted for use and in property have been allotted or surveyed.

In current the land reform in Latvia is in the final stage. Necessary amendments in regulatory enactments regulating land reform have been made, and it is planned to finish land reform in towns until the end of the year 2011; in rural areas – until the end of the year 2012.

At present physical persons own already 61% from total area of the Republic of Latvia, in its turn, only 3% of area granted for permanent use is not bought out or in other any way not acquired in the property.

Actually none of the municipalities has fully fulfilled provisions stated in law on land reform implementation.

Data available for the SLS shows that an increase in land areas of formed properties was seen in last years that is 3% per year, a cause for that is rapid increase in real estate prices and increase in the number of transactions.

**Overall of physical and legal person’s possession of land in accordance to form of acquisition on 01.01.2010 distributed as follows:**

- 43% - Land acquired in transaction;
- 33% - Ownership on land have been restored;
- 24% - Land acquired by payment.

11. **Linking of the Cadastre with mass valuation system of real estate and with real estate taxation**

11.1. **Mass valuation principles**

Cadastral valuation in Latvia is performed by single principles in all state, and on the basis of information on real estate market and data on objects registered in the Cadastre IS. Term “Cadastral valuation” is a synonym for term used in all world “Mass valuation”.

**Order of cadastral valuation in Latvia is regulated by:**


Estimation of cadastral value is performed automatically in the Cadastre IS – in the section of valuation. Data on valuation objects are registered on the basis of documents mostly from the survey cases. Data update in cases of valuation object changes is regulated normatively.

Real Estate Market Data Information System is maintained for the needs of cadastral valuation (since the year 1998), in this data base are stored data on transactions with real estate in all country received from the State Unified Computerised Land Register.

**Specific classifications are used for the grouping of objects by their usage types:**

- Regulations No. 496 “Qualification of Real Estate Use Types and Determination and Change Order of Real Estate Usage” issued by the Cabinet of Ministers – on land use – stated by local municipalities;
- Regulations No. 1620 “Classification of Types of Construction” issued by the Cabinet of Ministers on December 22, 2009 – surveyor states the types of buildings in accordance with the project documentation.
11.2. **Object of taxation**

Real estate tax is imposed on land, buildings and engineering structures. Real estate tax is not imposed on:

- Municipality land that is not leased;
- Land owned by diplomatic or consular representations of foreign countries;
- Public waters, land under public roads, streets, railroads tracks;
- Land in especially protected nature territories, in which economic activity is forbidden with the law;
- Land that covers renewed or planted forest stands (young forest stands);
- Graveyards and real estate owned by religious organizations, which is not for economic activities;
- Engineering structures owned by the state and municipality and engineering structures that are not used for economic activity;
- National sports facility;
- Subsidiary buildings of dwelling houses;
- Buildings and engineering structures for agricultural production;
- Buildings of national armed forces, prison, police, border guard, fire and rescue services, as well as of state security institutions;
- Buildings of institutions financed by the state budget, buildings for education, health, social care, museums, libraries, buildings used for the need of environment protection.
11.3. **Tax rate**

Tax rate for land and buildings used for economic activity and engineering structures – 1.5%.
Tax rate for dwelling houses (from year 2010) from 0.1% till 0.3% regarding to the value of the building:
- 0.1% - value below LVL 40000;
- 0.2% - value starting from LVL 40000 till LVL 75 000;
- 0.3% - value above LVL 75000.

**Tax rate for uncultivated agricultural land (from the year 2010) – 3%**

11.4. **Tax basis**

Cadastral value (mass value):
- For land – since the year 1998;
- For buildings - since the year 2007;
- For engineering structures – since the year 2010.

11.5. **Distribution of responsibility**

**SLS:**
- Ensures registration of real estates of all municipality territories, as well as register changes performed in the composition of concrete properties, and qualitative and quantitative showings;
- Ensure data necessary for cadastral valuation by performing cadastral survey (technical inventory of the buildings);
- Maintain database of real estate information;
- Develop and maintain base of current cadastral value and perform calculation of cadastral value to all objects registered in the Cadastre IS.

**Owner of the real estate:**
- Performs changes in the composition of the property and qualitative and quantitative showings, propose data update of his property in the Cadastre IS.

**Municipalities:**
- Define and change objectives on usage of real estate existing in its territory (except state properties – to which objectives are stated by the corresponding state institutions);
- Administer real estate tax – calculate real estate tax from the cadastral value, allotted tax reliefs, sends out tax notices, collect the tax.

Collected real estate tax in the amount of 100% is transferred into the budget of municipalities.

11.6. **Discretion in the history of mass valuation implementation**

- year 1998 – Law “On Real Estate Tax” – defines that mass value should be used in order to calculate real estate tax;
- year 1998 – data base of real estate market information was created;
- year 1999 – zonings of land units in city were worked out;
- year 2002 – value of rural construction land zonings were worked out;
- year 2002 – mass values of the buildings were stated for the first time (real estate tax in relation to mass value is imposed starting from year 2007);
- year 2006 – Law on National Real Estate Cadastre – defines basic principles of mass valuation, approval order of the value base, topicality of the value, order challenge;
starting from year 2007 a simultaneous development of the zoning of values was started up in all territory of the state. 

**Zonings were worked out cyclical (every four years, and update of base value – every two years) in accordance to four real estate groups:**

- group of rural real estate (separately for agricultural land and woods);
- group of dwelling construction property;
- group of industrial construction;
- group for commercial and social construction.


Taking into account rapid fluctuations of the estate market, starting from the year 2010 it is stated to update base values each year on January 1, but the cycle for the development of zoning remains the same.

**11.7. Base for cadastral values**

- Zoning of values (map with homogenous zones) – each real estate group has its zoning;
- Land for construction – base values of the land, coefficients of standard area and correction;
- Rural land – base values of land used in agriculture for each quality group (six groups) of the land used in agriculture, base value of land under woods for each quality group (four groups) of land under woods;
- Buildings – base values for buildings, standard size of the building and coefficients of corrections;
- Engineering structures – base values of engineering structures.

The base of values is confirmed by the Cabinet of Ministers after their developed till the June 15 of pre-taxation year. The confirmed base becomes valid in January 1 – is registered in the cadastral information system and cadastral values of all objects are automatically recalculated.
11.8. Methods used for the development of cadastral value bases:
- Method for the comparison of transactions (the most popular method – is used for the development of cadastral value base for buildings and rural lands, as well as for buildings);
- Method of income capitalization (is used for the development of cadastral value base for land under forests);
- Cost approach method (use additional transactions for comparison method for the development of value base of buildings and engineering structures).

![Image 14. Values (Ls/m²) of construction land of individual dwelling houses in Riga, year 2010](image)
12. Cadastral survey of the buildings

Cadastral survey of the buildings (CSB) (till January 1, 2006 – technical inventory of buildings) in Latvia was started up in year 1945. Its initial aim was to define the belonging, sizes, technical state and value of building premises. This process with small changes continued till year 1999. Right now CBS objective is to gain current data on building and group of premises forming it, as well as on showings characteristic for the building – sizes, physical state, type of usage and materials used in construction.

<table>
<thead>
<tr>
<th>Value level</th>
<th>I quality group</th>
<th>II quality group</th>
<th>III quality group</th>
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<td>230</td>
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<td>360</td>
</tr>
</tbody>
</table>

Image 15. Values (LVL/ha) of land used in agriculture

Image 16. Values of (LVL/ha) of land used in agriculture
The CBS is performed if a new building has been constructed, as well as in cases when building has been renovated or reconstructed. The CBS is performed by the SLS in accordance with Law on National Real Estate Cadastre and Regulations No.182 “Regulations on Specification of Real Estate Object” issued by the Cabinet of Ministers (2007). Data gained within the CBS process are stored in the Cadastre IS. Prepared documents are signed with safe electronic signature and are stored electronically. Data gained from the CBS are used for the needs of cadastral (mass) valuation of the real estate.

Within the SBS process are included the following activities:
- Survey (outer and internal sizes) and data (for example, number of floors, materials used in the construction, improvements) data gained in the area;
- Acquisition of data (for example, name of the building, year of exploitation) from the submitted documents;
- Calculation of size indicators (for example, site of the construction, total structural volume, total area);
- Specification of the physical state;
- Specification of the main usage form and type;
- Involvement in the Latvian Coordinate System LKS-92;
- Determination or cancellation of features on lawless construction;
- Cadastral survey cases, including preparation of graphical materials (construction plan, plan for floors, plans on engineering structure);
- Archiving of the submitted and issued documents.

13. Perspectives of further development

13.1. The development of the SLS geospatial information system
At the end of year 2009 the SLS started up realization of project co-finance by the European Regional Development Fund on the “Development of State Land Service’s Geospatial Data Geospatial Information System” (SLS GIS).

With the project of the SLS GIS the implementation of INSPIRE directive in the sphere of cadastral information and on INSPIRE themes existing under the responsibility of the SLS (Annex 1, Annex-3)

Till the end of year 2012, a joint system for the entry, storage and processing of SLS’s geospatial information will be developed, by ensuring migration of geospatial information already stored in the SLS to the new system, as well as rendering of e-services related with SLS geospatial data to the society will be ensured, and information services for the transfer of SLS geospatial data to other organizations, which need the information owned by SLS in order to fulfil their functions, will be developed.

Within the frameworks of the project, already till the end of year 2011, it is planned to develop new, centralized information system on SLS geospatial data, in which in a joint data base in a logically integrated way would be stored such spatial data owned by the SLS:
- Spatial data of the Cadastre (including, the zonings, cadastral survey data of the building);
- Spatial data of the State Address Register;
- Spatial data of administrative borders;
- Topographical data in scale of 1:500;
- Data on protection zones from documents regarding the planning of territory;
- Other data available for SLS;
- Background information (data):
- orthophoto;
- topographical data in scale of 1:2000 and 1:10 000;
- satellite map;
- thematic maps owned by the SLS.

**Image No.17: The SLS GIS technological framework**

The project plans to ensure mutual connection or integration of spatial data maintained by the SLS and to them connected text attribute data, as well as accessibility of stored data in the form comfortable for society and modern technologies (WEB services, e-services and supplements in portal for SLS data publishing).

**13.2. The Encumbred Territory Information System**

The SLS has been entrusted with the development and maintenance of the Encumbred Territory Information System (ET IS). ET IS is a SLS GIS module, in which data will be stored concerning encumbed territory and its borders, objects and their borders, as well as data from the Protective zone data base. The software of ET IS will be developed by the end of the year 2013, and it is planned that data from ET IS will be available from the year 2014.
THE LAND REGISTRY MALTA

CONTENTS:
- Background information
- Contents of the information system
- Technological infrastructure
- Updating procedures
- The services provided

Background information
Land administration systems usually fall within one of two categories: cadastre or land registration. Both are considered to be information systems that contain land-related data. But whilst land registration systems are exclusively concerned with ownership, a cadastre supports other land-related records such as usage and taxation values. So in effect land registration can be an integral part of a cadastre system. Malta does not have a cadastre system as interpreted by various countries since the Maltese Land Registry is exclusively concerned with ownership.

The Land Registry of Malta is a depository of titles to property. It is principally responsible for the registration of title to property within designated registration areas. The Land Registry is a Government Department established by means of the Land Registration Act of 1981 (Chapter 296 of the Laws of Malta). It is basically a repository of titles on immovable property. This Act states that property falling within registration areas must be registered by Notaries Public at the Land Registry within fifteen days of the transfer. This applies to both first time registrations and to any subsequent registration where the property had already been registered. Voluntary Registration is also accepted as long as the property falls within registration areas. The Act also provides for cautions against first registrations and cautions against dealings in property. The Caution is an objection to registration and may be lodged by the person who claims or pretends to have a right or interest in the property. Certificates of titles are issued by the Land Registry and these include all the information available on the register about a particular property. Each property is identified by means of an eight digit number which is unique to each particular property.

The purpose behind the Land Registry is to:

- maintain a reliable and effective land registration system initially in specified registration areas and ultimately throughout the Maltese Islands for the creation and free movement of interests in property;

- guarantee official searches and titles to estates and interests in land and property within the recognised registration areas, irrespective of whether the land is Government-owned or owned by third parties; and

- provide ready access and up-to-date information on property and interests so as to enable confident dealings in property and security of title.

Registration areas are declared to be so by subsidiary legislation. Registration areas are demarcated on maps in Registration Area Orders: 1982, 1983, 1984, 1986, 1990, 1991 and
2000. Properties in non-registration areas are registered only at the Public Registry. At present, the Land Registry runs in parallel with the Public Registry. In this regard an amalgamation process of these two departments is presently in progress and, in line with the one stop shop concept, the Searches Unit and the Enrolment Sections of the Public Registry have already been relocated at the Land Registry. Further duties emanate from the Condominium Act.

The Enrolments and Searches Units were transferred from the Public Registry to the Land Registry during 2002, in order to enhance the one stop shop concept in so far as property registration is concerned. The main function of the Searches Unit is the provision of official searches against individuals and entities in connection with the enrolment of notes (previously enrolled in the Enrolments Section) regarding the transfer, “inter vivos” as well as “causa mortis”, of immovable property and the registration of notes of hypothec and privilege which secure obligations such as loans, payment of ground-rents. Searches in connection with the transfer of property and obligations are commonly known as “Transfers and Liabilities” respectively and are normally requested when deeds regarding the transfer of property under any title and deeds in respect of obligations, are being drawn up. Those in connection with public wills are known as Certificates of Wills and establish solely whether there is enrolled in the Public Registries of Malta and Gozo any will made by a particular individual.

The Condominium Act (Cap. 398) aims at regulating, through general parameters, the relations between owners and in specific cases, tenants, thereby reducing conflicts concerning the common parts within a condominium. It gives direction and provides guidance as to how matters between the condomini are to be conducted. The Land Registrar is bound by the Condominium Act to register the administrators of condominia and the rules regulating such condominia. When rules are registered, the Land Registrar is bound to issue a notice in the Government Gazette. The Act also requires the Land Registrar to keep a register of the administrators. An electronic “Condominium Register System” was finalized and installed during 2004 and serves as a quick index for all Condominia registered with the Land Registry.

The Land Registry set up is as follows:

- The Receiving Office which acts as the front desk and customer care office of the Registry. It receives applications for registrations and also issues Land Registry Plans. It also processes applications for Searches in the Land Register. Cash payments for services rendered by the Registry are handled by this office.
• The Drawing Office which can be described as the technical arm of the Registry and which is responsible for processing all applications received. Information received is verified and plans are digitized. This Office also deals on a one-to-one basis with Notaries, Architects and the general public particularly in cases of overlaps.

• Data Inputting Section which records details of the transactions emerging from the applications and additional documentation submitted in the electronic register.

The Legal Office, Assistant Land Registrars and the Land Registrar review applications from a legal perspective. All applications and documents are scrutinised, vetted and approved by these officers.

Contents of the information system

The Land Registry Certification System (LRCS) is a GIS-based tailor-made program which serves as an electronic register of all data pertinent to the duties of the Land Registry.

This first implementation of LRCS was for the specific use of the Land Registry. At that time the Registry’s business process was re-engineered from the manual process to develop a GIS-based system. In the early 1990s the benefits of implementing Geographic Information Systems (GIS) within government started being recognised and hence a number of GIS initiatives which were not only project based, but also included an ongoing marketing effort promoting GIS as an integrating corporate technology, were embarked upon. To date GIS implementations have been extensively used within various government entities in Malta such as the Local Councils Department and the Transport Malta; and a number of GIS projects have been completed and demonstrated. These GIS projects range from small applications for the Government Property Division to holistic state-of-the-art applications for the Agriculture Department and Land Registry. The Land Registry was one of the first government entities to envisage the benefits offered by GIS for enhancing the internal business processes and for fostering effective communication between departments. Since land is very limited in Malta, it requires an effective management system for land decision making. LRCS has proven to be a very efficient tool, in providing a system for the registration of all legal rights and recording of the property boundaries. Since the inception of LRCS, over one third of all properties in Malta have been registered. This is an ongoing process, with the ultimate aim of registering all Maltese properties on the system. The LRCS success story is based on a strategy of continuous development where, over the years, the system was given facelifts and enhanced to keep abreast with technology and to support new requirements.

Technological infrastructure
The history of property transfer, as well as the division of land parcels, can be visualised with GIS technology because it is the backbone of the LRCS application. LRCS serves as a log book of all the properties in the Maltese Islands whether private or public property. The key function of LRCS is the maintenance of a register of details on every property. This involves the processing of applications for registration arising from property transactions and the visualisation of the property extent on maps. The system manipulates all land management aspects from the capturing of parcels, scanning architectural plans, generation of site-plans through registration procedures to general searches on all documentation relating to property (e.g. ownership, transfers, etc.), as well as all the associated archiving required to facilitate the rapid retrieval of data. Site plans generated by the LRCS can be generated with different layouts and scales and the LRCS site-plan is the only official site-plan that is accepted for the registration of property. Contracts and architectural plans can be scanned and appended to every transaction a property might have. The huge volume of information created for the Land Registration process can be shared among other departments. Through LRCS, the Land Registry and the Government Property Division use the same business process to register private or government owned property respectively. Currently there are 50 concurrent users.

LRCS was implemented in two tier client/server architecture. The client and server are connected to and communicate across a network. At present the LRCS-Land Registration Certification System is a desktop application, developed in Visual Basic 6, MapInfo and SQL Server. Initiatives are underway to migrate this system to a web based solution.

**Updating procedures**

In order to effect the registration of a property, the owner (or Notary) must compile and lodge the appropriate form together with the necessary supporting documentation and a marked Land Registration Plan at the Receiving Office. This applies to First Registrations and to subsequent registrations. The registration process follows the main steps listed below:

1. the details of the application are recorded in the day books
2. a file is opened by the Receiving Office and forwarded to the Drawing Office for further processing of the application
3. the Drawing Office distributes files according to zones and forwards them to the Data Inputting Office for the recording of the application details in the Register. Files are subsequently returned to the Drawing Office.
4. the boundaries of the property are on the basemap and digitised
5. technical details relating to the application are inserted in the registry by the Drawing Office

6. applications are forwarded to the legal Section, Assistant Land Registrar or Land Registrar according to their nature for legal verification of all documents and approval of applications.

7. upon approval, the Register is updated and the case is considered closed.

The above only indicates straightforward cases and on frequent occasions the Registry communicates with its clients requesting clarifications and/or additional information. On rare occasions, on site inspections are also undertaken.

The services provided

A: Sale of Land Registry Plans
The customer needs to give the Department a clear indication on the Registry’s base-map of the location of the property concerned through landmarks or reference points. (The property's official address is often not enough.)

B: Searches on Property
The client takes the registration plan to his architect who will mark the relevant property on the plan and sign it. If necessary, he will also prepare a detailed plan. The client’s notary will then fill in a search form (Form E) and attach the original registration plan together with the detailed plan. The notary should then file these plans together with Form E at the Land Registry.

Following the search, the client has the right to know whether:
- the property is in a registration area;
- the property is in a land registration area and has never been registered before;
- the property is in a land registration area and has been registered before;
- there are any hypothecs, privileges and / or cautions registered at the Land Registry; and / or
- any other known fact which may negatively influence your decision to deal in the property

C: Registration of the immovable property
Within 15 days (as specified by legislation) from the date of the deed of transfer of property, and where the property is in a registration area, the notary must apply for the registration of the property at the Land Registry. This is done by submitting Form A. This is applicable to
both first-time registration and subsequent registration where the property has been previously registered.

Under the current legislation, the client has a right to expect your notary to file this application within 15 days.

The client will normally have a right to a guaranteed title over the property on the lapse of 10 years from the date of the application for registration. If the client cannot register all or part of the property due to an anterior application, he may lodge a caution.

The client is expected to provide the Registry with proof of ownership, at least prima facie evidence. This includes the legal document on which his claim is based, such as a deed, the original registration plan and a detailed plan.

D: Registration of a charge
If a client wishes to register a charge; i.e. a hypothec or privilege on the property, his notary must submit Form B.

Charges are registered in the chronological order in which they are submitted.

E: Variation of a charge
To cancel or vary the original charge on the property, the notary will lodge Form C.

F: Objecting to a Registration - Cautions
Notices of application for a first registration are published in the Government Gazette. A third party willing to object must lodge a caution within 10 years from registration (application). As a first step, he may examine the application submitted at the Land Registry. The Land Registrar may request further information from all parties involved in the issue. If the parties fail to agree, the person objecting will lodge a caution (Form D), supported by a sworn declaration and documents substantiating the claim. If nobody objects within 10 years, then, normally, the registration can no longer be challenged. The holder then has a guaranteed title. In the cautions procedure, where the Registrar makes a decision, an appeal is lodged against the decision, and subsequently a final decision is made, the registration is considered rectified. A caution may also be lodged against a property not covered by a first registration. In this case, the Registrar takes note of the caution and informs the cautioner should anyone apply on the same site. What was stated above applies according to circumstances. In such instances, a caution is not tantamount to an application for
registration and at any time after the caution, the cautioner may, and should, apply for the registration of the title.

Land Registry staff is bound by a Quality Service Charter to:

- respond to a general information request within ten minutes from the request for service;
- issue a registration plan while you wait within ten minutes from the identification of the site;
- complete a search, including all enquiries, within eight working days, where the search is needed to deal in the property;
- complete a registration, including a first draft of the certificate of title, within twenty working days where registration is needed for eventual dealing in the property;
- complete a registration of a charge within twenty working days;
- complete the cancellation or variation of a charge within twenty working days;
- complete a full dealing of a previously registered property within ten working days;
- inform the client of a caution or other problem by sending you a registered letter within two working days.

G: Condominia

The Land Registrar is bound by this Condominium Act (Cap. 398) to register the administrators of condominium and the rules regulating such condominium. Application 1 is lodged to register every appointment, change or removal of the administrator and Application 2 is lodged to register the rules regulating the condominium or amendments thereto. When rules are registered, the Land Registrar is bound to issue a notice in the government gazette. These registrations are completed in two days.

The Future:

The Registry is presently participating in an exercise which will revolutionise present processes to make them as efficient and as IT-based as possible. This will obviously be complemented by a human resource capacity building exercise.
THE CADAstral SYSTEM IN THE NetherLands

www.kadaster.nl

May 2010
1 Background information

1.1 The Netherlands
The Netherlands is a constituent country of the Kingdom of the Netherlands, located in North-West Europe. It is a parliamentary democratic constitutional monarchy with an area of approximately 41,000 km² and approximately 17 million inhabitants. The Netherlands borders the North Sea to the north and west, Belgium to the south and Germany to the east. The capital is Amsterdam and the seat of government is The Hague.\(^2\)
1.2 History of the Dutch cadastre

In 1810 the introduction of a fiscal cadastre became actual after the annexation of the Kingdom of the Netherlands by France, when French legislation was put in force. Some years before, in 1808, Napoleon Bonaparte, who needed money to finance his activities, decided to establish a system of land taxation in France. This was based on an accurate inventory of land use and land ownership, with precise land survey of land parcels. A fiscal cadastre was born. In 1811 it was decided that also in the occupied Netherlands such a system of land taxation should be introduced. As a consequence, in 1812 work started to survey the land and to list users and owners of the land parcels. Updating of the cadastre was based on changes in the legal situation of land and buildings. It was a major effort to have knowledge of these changes. Legal documents could be recorded at the local courts. The registrar of the court acted as a land registrar. However, following another Napoleonic rule, in 1811 it was decided that these legal documents, mainly deeds of transfer and of mortgage, should be recorded at the local office of the national tax department, in order to levy transfer taxes. Such recording became compulsory in 1824. It became much easier when in 1825 it was decided to merge the legal land registers and the cadastre as a special department within the national tax department, the Ministry of Finance. In the meantime, in 1813 after the fall of Napoleon, the Netherlands had become independent again. King William I adopted the system of land and building taxation based on a fiscal cadastre, continuing the work. In 1838 the work was completed and a country-covering fiscal cadastre was established.

In the mentioned background lie the roots of the Netherlands' Cadastre, Land Registry and Mapping Agency, in which - unlike many other countries - the land registration and the cadastre are combined in one organisation. The cadastre became a key to the public registers, even more when in 1838 a new Civil Code was put in force. This new code provided for the requirement of citing the cadastral land parcel number in notarial deeds of transfer and deeds of mortgage. The fiscal cadastre also became a juridical or legal cadastre, a situation which is still a benefit at date. A major revision of the Civil Code came in power in 1992, symbolically called the ‘new’ Civil Code. Alongside, the Land Registry Act was introduced, as a specific elaboration of the parts in the Civil Code pertaining to the system of property rights (to an immovable object) and its aspects of registration and cadastre. This constituted the land registers and cadastral maps as a multi-purpose system aimed at providing legal security of tenure, facilitating the land market and supporting many government activities like spatial planning, development control, public acquisition of land, land taxation and management of natural resources.
1.3 Current organisation

Statutory framework
Kadaster exists primarily to perform six statutory tasks. These core tasks are performed in the interests of reliable information provision regarding property and space. Kadaster operates within the policy framework formally laid down in legislation, primarily the Netherlands Civil Code [Burgerlijk Wetboek], the Land Registry Organisation Act [Organisatiewet Kadaster] and the Land Registry Act [Kadasterwet]. The Land Registry Organisation Act provides for the establishment of Kadaster as a non-departmental public body governed by public law. In 2007 the Non-Departmental Public Bodies Framework Act came into effect. Kadaster has to comply with this Act. The Land Registry Organisation Act is being amended accordingly.

Core tasks
Kadaster’s tasks are defined in several acts.
Land Registry Act
• the maintenance of the Public Registers and the Cadastral Registration, and the provision of information from those records to society;
• the registration and issuing of topographical information;
• the maintenance of the National Triangulation Network;
Rural Development Act
In addition to these statutory tasks, Kadaster also carries out two secondary activities with the permission of the Minister of Housing, Spatial Planning and the Environment [VROM]:

- providing services for the Large-Scale Base Map of the Netherlands [GBKN]
- international consultancy.

Mission

The core tasks are translated into the following mission:

to promote legal certainty within the movement of real estate in society (including ships and aircraft), to optimise the geographic information infrastructure and to effectively inform society in these areas, all at the lowest possible cost.
Organisational structure

The organisational structure of Kadaster is in line with that of large companies. This applies in particular to the Board of Management, the Supervisory Board (which is similar to a company supervisory board) and the relationships between those bodies. As provided for in the Dutch Land Registry (Organisation) Act, each of these bodies is assigned its own responsibilities. The organisation also includes a Users Council consisting of representatives of the fifteen principal customer groups.

Kadaster has been a Non-Departmental Public Body [ZBO] since 1994. This means that Kadaster is a legal entity under public law that carries out its statutory tasks independently and is accountable in that regard to the Minister of Housing, Spatial Planning and the Environment [VROM].

Kadaster has followed the organisational structure shown below as regards internal reporting since 1 January 2006. The new organisational structure has been fully in place since the beginning of 2008.

Five directorates operate under the Board of Management. The Legal Certainty and the Geo Directorates deal with the primary production process. The Legal Certainty directorate is responsible for the legal registration processes and for advising on land use and land development. The Geo(graphic) Directorate is responsible for surveying activities (measuring and updating the cadastral map), maintaining the National Triangulation Network and registration of ships. The former Mapping Agency and the Large-Scale Base Map
of the Netherlands Department were combined in 2008 to form the Geographic Information Department within the Geo Directorate.

The Board of Management and the two production directorates are supported by the Services Directorate. Provision of services includes internal services (personnel, financial, facilities, legal and communication), IT services, project management and customer services (front office, marketing and account management).

The Board of Management is further supported by the Strategy and Policy Directorate for the long and medium-term strategy and by the Financing, Planning and Control Directorate with regard to the operational management.

Kadaster has 9 offices, among them the headquarters in the city of Apeldoorn.4

2 Contents of the information system
In the Netherlands today there exists one single land registry and cadastre. It comprises all lands, and all territorial waters, whoever is the owner.

Specialty and publicity
The main concept of the system of land registry and cadastre is the recording of the relationship between man and land, through a formal right. The concept includes the principles of specialty and publicity. The specialty principle results in a proper identification of the right holders through personal identification at the notary office and the recording of ID numbers. In case of a legal body, such as a company, identification is required by the ID number of the company at the Chamber of Commerce and the ID number of the legal representatives of the company. Furthermore, the specialty principle has consequences for the object to which the rights are linked: the land parcel, which requires unique identification by parcel number and boundary survey. The right as such has to be legally recognisable, it is required to belong to the closed system of real rights as mentioned in the Civil Code. The right should be precisely identified in the deed.

The recording of the relationship man-right-land is based on the recording of notarial deeds. In order for a submitted deed to be accepted for recording, by the land registrar, the legal validity of the transfer is not entirely investigated and reviewed. The acceptance check is done on the basis of a precisely described number of formal requirements only. Unlike a title-registration system, the system in the Netherlands does not provide state-guaranteed proof of title. The publicity principle, however, results in the compulsory recording of all deeds pertaining to land. These are open for inspection without any restriction and provide the base for knowledge about the status of tenure. The combination of Latin Notariat and land registers and cadastre provide de facto title security. According to the legal rules of accession, buildings belong to the land, as are subsurface features and above surface air column. Buildings and minerals can be separated from the land ownership through, for instance, rights of superficies.

**Two different types of rights**

Dutch Law differentiates between personal rights and absolute rights. Personal rights are only valid in relation to the counter party in a contract. Absolute rights are generally enforceable. The absolutely rights, in Roman right the so-called 'actiones in rem' is hereafter called 'rights in rem'. The number of these 'in rem rights' is limited. Ownership or freehold is an 'in rem right' but also some encumbrances are in rem rights. The encumbrances can be divided in independent and accessory rights. Independent 'in rem rights' are usufruct, leasehold and ownership of a building. Accessory rights are mortgage and easements. Mortgage rights are accessory in the claim on a specific person. If the claim is paid off or if the duration of the loan is updated, the mortgage right expires and a new mortgage right must be established. Easements are accessory in the ownership of a specific piece of land. Also we have a Dutch type of commonhold that is called apartment ownership. This right provides co-ownership of a building and the right to use a specific part of the building.
Public registers of deeds
Public registers are registers in which notarial deeds are recorded in the order in which they are submitted (later on we call these public registers ‘public registers of deeds’ to make the difference with the ‘registers of title’). Public registers are comparable with the land registers kept by the courts in other countries. The reason for filing in this order is the importance of the ranking of real rights. The Civil Code (roman French law family) assigns two important characteristics to real rights, namely a real right moves with the object and older real rights have priority over younger real rights. With respect to the latter, the moment of recording can therefore be of crucial importance, for instance, regarding legal foreclosure and enforcement.

Cadastre
To enhance public access to the public registers, employees of Kadaster extract the essential elements from the deed. These data form the input for the cadastral registers and maps, providing for registers on name, parcel (both administration and cartography), street address and zip code. In essence the cadastral registers and maps are auxiliary registers, containing the access keys to the public registers. The public registers were originally kept in analogue format: books with paper deeds, copied to microfiche. Nowadays, all new deeds are entered digitally. A large project is being carried out in which all historic analogue deeds as from 1950 are scanned and indexed from the microfiches. Deeds of recent years are now digitally available. Both cadastral registers and cadastral maps are 100% in digital format.

In addition to the basic relationship man-right-parcel, there are many attributes, among which: land use, purchase prices, various legal essential data and parcel surface area.

The Dutch Key Registers Act defines several state and municipal registers as a key register. The cadastral register is one of them. The key register status implies that a specific type of information is continually gathered and managed in a single place. Public bodies are obliged to use these key registers for their own processes. For example, data on persons are only to be acquired from the municipal Key Register on Persons. For cadastral data public bodies are obliged to use the cadastral register. Other key registers are defined for, for instance, buildings, addresses, topography, income and vehicles.
Cadastral maps

The cadastral maps show the national grid, cadastral boundaries, parcel identifiers, street addresses, buildings, house numbers and geodetic reference points. Parcel-related attributes could be visualised on the cadastral map. All together about 300 million coordinate pairs are represented in the spatial cadastral...
database. Cadastral parcel data are stored in one mapping layer; buildings are included in a separate layer.

**Auxiliary registers**
Connected to the cadastral map Kadaster maintains two auxiliary registers: auxiliary maps and field sketches. Auxiliary maps show the cadastral parcels which are involved in a single parcel creation process. The maps visualise the relationship between old parcels and the new parcels created from them by subdivision, merging or reallocation. This relationship is important when tracing the history of a parcel.

Field sketches are produced by the land surveyor during the surveying activities. A field sketch is a sketch of the new cadastral boundary with exact measures and a declaration of the people who have pointed out this boundary. Field sketches can be used when owners wish to get a reconstruction of the cadastral boundary in the terrain. The archives of both auxiliary maps and field sketches were completely scanned and indexed in recent years. New field sketches are directly manufactured in a digital format.

### 3 Technological infrastructure

**Geodetic network**
In the Netherlands a geodetic network exists to support all land surveying, including cadastral boundary surveys. This network of first-, second- and third-order geodetic points is, however, being replaced by a GPS-network consisting of 400 core-points, five points of which are permanently monitored, together with
the altitude coordinate of the Ministry of Public Works. This is the base for a so-called Actual Reference GPS-network. The coordinate system of the Netherlands [RD-systeem] is based on a stereographic projection with its centre point in the city of Amersfoort. Coordinates in this system can be transformed to and from formats such as WGS84 and UTM.

**Information standards**

The cadastral registers are based on the Information Model Cadaster [IMKAD], which is a sector specific implementation of the General Information Model for Geo Information (National standard NEN3610). All relevant sectors have their own NEN3610-compliant information model, for example Topography, Cables and Pipelines, Cultural heritage, Water and Spatial planning. This common general information model makes combined use of data easier. As the cadastral parcel is one of the layers defined in the EU-directive INSPIRE, the cadastral registers are compatible with INSPIRE standards.
**IT infrastructure**

Kadaster’s IT infrastructure is completely centralised with a double equipped central computer centre. Some processes are serviced through separate computer centres, for example the cadastral registers and the salary processing. Employees use thin clients to log on to Citrix servers on which the applications are running. Customers and chain partners can connect to Kadaster’s IT infrastructure from their own local networks through secure internet connections. For example: notaries can connect for uploading deeds. Brokers, notaries, banks and government bodies can connect for acquiring cadastral information.

Government services can connect for the exchange of data between key registers. Most hardware and software is acquired through European tenders.
4 Updating procedures

Registration of real estate property
Registration of a notarial deed of transfer is compulsory in order to obtain legal ownership. The normal procedure is as follows. The seller hires a real estate agent to sell his/her property (on a voluntary basis). The buyer gets in touch with the seller through the agent. If seller and buyer agree, a contract of sale is signed. The contract of sale stipulates conditions, such as the buyer managing to obtain a mortgage. If the conditions are fulfilled, buyer and seller are obliged to engage the notary.

The Notary Public will investigate whether the seller has obtained the right and is competent to make the transfer. He also checks the identity of the concerned parties and whether limitations are applicable to the transfer. He handles the payment of the purchase price. Prior to the transfer, the purchaser and his mortgage bank will deposit the purchase price. After the Registrar has notified the Notary Public that he has received the deed, the Notary Public verifies whether liens and seizures are recorded at the last minute. If not, the Notary Public will hand over the purchase price to the seller. The mandatory involvement of Notaries Public promotes electronic recording. Signatures of the parties are not required for the recording. The Association of Notaries Public itself ensures the reliability of the electronic signatures of notaries. This made it possible to electronically receive 40% of all deeds within half a year after launching the electronic conveyance system. Through the signature, the Notary Public accepts the responsibility for differences between the registered copy or extract and the original. Depending on the judicial fact to be certified and the type of real estate, the Notary Public also has to make a declaration stating that specific laws have been followed and that requisite permits have been granted.

The Registrar checks whether the required declarations and signatures have been submitted by the Notary Public; whether the document can be properly referred to and whether the seller is registered in the land registry as the owner. If that is not the case, he will send a letter to the concerned parties, expressing his reservations about the legal consequences. In all other cases the Registrar confirms the registration, after which an indication of change is placed in the database with the involved cadastral parcel. According to the law, the actual legal delivery takes place at that very moment, but is effective not earlier than the date of recording of the deed with Kadaster. After receiving the confirmation, the notary transfers the purchase price to the seller. Within four working days the cadastral database are updated. Regarding the update the Registrar sends a formal notification to all involved parties, with possibility for appeal.

**Position of the registrars**

The Land Registration Act lays down that the Registrar should be a lawyer (article 6 Cadastre Act) and that he has an independent position. No appeal may be made to a higher official within the Land Registry against refusal of recording in the public registers and against the updating of the land registry. The court
has the power to revoke the decisions of the Registrar. The board of directors of the Land Registry may give directives to the Registrar (article 7 Cadastre Act). Since 2006 regional public registers and land registries are a part of national public registers and a national landregistry. Separate national public registers are still maintained for real estate, ships and aircraft. There are seven Registrars located at the head office of Kadaster in Apeldoorn. Together, they are responsible for the national public registers and land registration. One of the Registrars is the Chief Registrar who distributes tasks and oversees the maintenance of uniformity.

Legal certainty
As the Netherlands does not have a register of titles, property information from the cadastral registers does not automatically indicate ownership. Nevertheless, the cadastral information provides near to 100% legal certainty because of the following law statements:

a. an acquirer of registered property may not plead good faith if, by doing so, he/she would invoke his/her ignorance of facts which would have been known to him/her by consultation of the registers;

b. if at the time of a registration of a juridical act to acquire a right to registered property by particular title, a fact which is also susceptible of entry in the registers was not entered in reference to that registered property, this fact cannot be opposed to the acquirer, unless he/she knew it.

Cadastral survey process
In case of transfer of a subdivision of a parcel new boundaries must be determined by a field survey. In the Netherlands boundary survey is usually done after the land transfer. The process of cadastral survey is as follows:

a. in case of transfer of a subdivision of a parcel a survey job is created;

b. the buyer and seller of the subdivided parcel are requested to point out the new boundary to the land surveyor;

c. if the indicated new boundary is in agreement with the description of the subdivision in the notarial deed of transfer (to the judgement of the surveyor), the land surveyor surveys the new boundary, in such a way that it meets the requirements from Kadaster’s Quality Manual. One of the requirements is reference to the geodetic network. The geometric construction should not be more accurate than the requirements of relative precision of √2x20 cm for urban areas and √2x40 cm for rural areas.

d. the land surveyor draws up a declaration of what he/she did, including the names of the buyer and seller or their representatives;

e. the survey results are laid down in a field sheet that meets the technical requirements that provide for reconstruction in the future;
f. the field sheet and the declaration are filed. Both documents have to be signed by the land surveyor. All cadastral surveyors are employees of Kadaster (The Netherlands does not have a system of independent licensed surveyors);

g. the survey results and the declaration together form the source for updating the cadastral map. New boundaries are mapped, old ones deleted. The newly created parcels are assigned unique cadastral numbers automatically. Ownership data are taken from the cadastral registers and manually linked to the new parcel. After that the cadastral registers are updated automatically.

**Boundaries**

The boundaries of cadastral parcels are intended to coincide with the boundaries of objects of rights (hereafter called legal boundaries). Cadastral boundaries are established on the basis of co-ordinates, which are measured with respect to an x and y-axis. The x-axis runs horizontally, the y-axis vertically. The central point of the Dutch stereographic map projection is situated in the city of Amersfoort. New cadastral boundaries can be formed both before and after a transfer. When the parties choose to establish boundaries afterwards the deed contains a broad description. The legal boundary then is determined by the original intention of the parties when signing the deed. Afterwards the buyer and seller will point out the physical boundary to the surveyor of Kadaster, who will make this physical boundary the new cadastral boundary. Because the original intention of the parties as described in the deed is leading, it may happen that the legal boundary differs from the physical and cadastral boundary. The most important reason for differences however is prescription. After undisturbed possession by a presumed owner and his legal predecessors for more than 20 years, the physical boundary becomes legal boundary. No recording of a
deed or of a decision by the court is necessary. In practice the difference between legal and cadastral boundaries scarcely occurs in boundary disputes. The court bases itself on the assumption that cadastral boundaries are legal boundaries until evidence to the contrary is delivered.

The correct legal order of operations is to conduct a boundary survey after the transfer of subdivided parcels. In the period of time between the moment of transfer and the moment of updating the cadastral map, legal certainty is limited: the registration status does not fully reflect the actual status. Between 2009 and 2013 the process of parcel creation is being changed in such a way that parcel subdivision will always take place before the moment of transfer. The very new aspect in this approach is the possibility to create new parcels (with permanent new numbers) while the new boundaries have only provisionally been determined by the buyer and seller. A pilot is being carried out with a number of public land owners (on municipal, regional and national level).

Feedback service for key registers
As a consequence of the status of key register, Kadaster has to provide a feedback service for presumed failures in the cadastral registers. This is an obligation by law (Dutch Key Registers Act).

5 The services provided
Most of Kadaster’s services refer to standard products, but also customised products and services are supplied.

5.1 Standard products
For standard products Kadaster applies three main channels: web services, telephone and personal contact (‘click, call, face’).

5.1.1 Click: information products through the Internet
My Kadaster
The Internet portal My Kadaster [Mijn Kadaster] is the largest supplier of cadastral products: over 20 million orders for information products in 2009. The portal is used by professional customers. They have their own username/password. Invoicing is done weekly. Most products that are delivered through My Kadaster supply information regarding one single parcel or one single owner. The main objective of these information products is to provide legal certainty.
Also, maps and cadastral data of larger areas can be obtained through My Kadaster, as well as aggregations and special data selections from the cadastral database.

My Kadaster is also the portal for non-cadastral information for which Kadaster has a supplying task, for example topography, public encumbrances, cable and pipeline information.

www.kadaster.nl

The general website of Kadaster is also the portal for private citizens to obtain cadastral information products. Payment is done by online banking or credit card. After payment the customer immediately receives the required product. The main purpose of this portal is to assist citizens when they wish to buy or sell a house. The information products provide, for instance, ownership information and prices of houses.
Non-Kadaster portals
All data from the Key Register Cadastre can be provided through XML-queries and answers. This creates the possibility for other organisations to supply cadastral data through their own portal. Thus, cadastral information can be fully integrated in customer applications. An example is the website www.geoz.nl: here customers can obtain both municipal and cadastral information concerning one object in one request. Other examples are My Government.nl [MijnOverheid.nl] where citizens can view their own data as registered in several government registers. Through the EULIS portal, especially notaries can inquire into the cadastral information from several European countries.

5.1.2 Call: Customer Contact Centre
The Customer Contact Centre can be approached by telephone. The main purpose of this channel is to provide assistance in ordering or using cadastral information products. The actual ordering of products should be done through the ‘click’ or ‘face’ channel.
5.1.3 Face: personal service and assistance

Informations desks
The traditional way of informing customers is through the information desks. These information desks still exist in the Kadaster offices and in most municipal offices. As a consequence of the possibilities of online information supply, only very few customers still visit the information desks in the offices.

Boundary reconstruction
When people have a dispute over a cadastral boundary, they may request Kadaster to reconstruct the cadastral boundary in the terrain.

Account management
Professional customers are serviced by account managers. Especially when these customers desire customised products or services the account manager can translate these requests into operational products.
6 The relationship between the cadastre and the real-estate rights registration database
Kadaster has kept both the real-estate rights registration and the cadastral registration since early nineteenth century. Both registrations are fully integrated.

7 The relationship between the cadastre, the valuation system and real-estate taxation
The valuation system of property in the Netherlands is based on the Valuation of Immovable Property Act [Wet waardering onroerende zaken, or WOZ]. The WOZ-value of properties is the one and only value for several taxes: income tax (by central government), immovable property tax (by municipalities) and water authority tax (by regional water authorities).

The units of valuation are the so called ‘WOZ-objects’. The Dutch municipalities define these objects as being units of single use. In many cases the WOZ-object is similar to a cadastral parcel. If a cadastral parcel consists of several units of use, for example appartments, then the WOZ-objects are parts of the parcel. On the other hand, if several parcels together make one unit of use, for example a farm, then the WOZ-object consists of several parcels. WOZ-object boundaries are copied from cadastral boundaries wherever possible. All municipalities use the January 1st version of the cadastral registration as a basis for the WOZ-object definition.
Real-estate taxation is also a municipal task. Each year, real-estate values of all WOZ-objects must be redefined. Usually, municipalities compare each WOZ-object with several reference objects that have recently been sold. Prices of these recently sold properties are available from the cadastral registration. Only a small minority of the objects is being taxed individually.

1 Overall editor Ernst Peter Oosterbroek, Kadaster, Strategy & Policy
2 Wikipedia 8 March 2010
3 Parts of this article are with author’s permission taken from:
Van der Molen, P. (2009) Land registration and cadastre in the Netherlands. In: Land registration and

4 Annual report Kadaster 2008 and 2009
THE CADASTRAL SYSTEMS OF THE EU MEMBER STATES

An overview of the land information system within the United Kingdom

Land valuation
Land registration
National mapping
Land use

Prepared for the Permanent Committee on Cadastre in the European Union by the agencies responsible for land administration (cadastral) activities in the United Kingdom

April 2010
THE LAND INFORMATION (CADASTRAL) SYSTEM WITHIN THE UNITED KINGDOM

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   Defining characteristics of the United Kingdom system

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2. INTRODUCTION

DEFINING CHARACTERISTICS OF THE UNITED KINGDOM SYSTEM

In order to understand the land administration system in the United Kingdom the following important characteristics need to be understood.

Firstly, all the functions normally to be found in the varying cadastral systems of continental Europe are to be found in the United Kingdom. The misconception that the United Kingdom does not have a cadastre is true only to the extent that the term is not used. The history and constitutional structure of the United Kingdom has meant that functions described as ‘cadastral’ in some but not all countries in continental Europe are administered in a particular way in the United Kingdom.

Secondly, England and Wales, Scotland and Northern Ireland each have their own law making powers. This means that separate agencies in these three jurisdictions, which together constitute the United Kingdom, have responsibility, under separate legislation, for the functions of land valuation, land registration and recording land use.

Thirdly, the national mapping agencies, Ordnance Survey for England, Wales and Scotland and Land and Property Services for Northern Ireland, maintain high quality large-scale topographic mapping and make it available in paper and electronic formats to all users, continually developing products that meet the public and private needs of customers. Other land administration agencies are customers of the national mapping agencies and have normal customer/commercial relationships in purchasing map and survey services based upon these large-scale topographic datasets.

Fourthly, one distinguishing characteristic of the land administration system in the United Kingdom is the institutional framework and structure within government. Historically the four main elements of land administration – the process of land valuation, the registration of real rights in land, the creation and maintenance of national mapping, and the recording of land use – were, and still are, the responsibilities of separate government ministries.

Fifthly, all the agencies are in the public sector. All operate in a customer led and business driven environment where financial and customer service standards are a priority and where targets are set and announced and actual performance is measured and reported publicly. All draw on private sector support where this contributes to the standard of public service that can be delivered.

Sixthly, the functions of land valuation, land registration, national mapping and land use are all highly developed and well established over centuries.

The sections that follow describe the various land administration functions, agencies involved and the inter-relationships of the agencies in the various jurisdictions that make up the United Kingdom.
The agencies responsible for land administration (cadastral) functions in the United Kingdom are as follows.

<table>
<thead>
<tr>
<th></th>
<th>England and Wales</th>
<th>Scotland</th>
<th>Northern Ireland</th>
</tr>
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<tbody>
<tr>
<td><strong>Land valuation</strong></td>
<td>Valuation Office Agency</td>
<td>Scottish Assessors Association*</td>
<td>Land and Property Services</td>
</tr>
<tr>
<td><strong>Land registration</strong></td>
<td>Her Majesty’s Land Registry</td>
<td>Registers of Scotland</td>
<td>Land and Property Services</td>
</tr>
<tr>
<td><strong>National mapping</strong></td>
<td>Ordnance Survey</td>
<td>Ordnance Survey</td>
<td>Land and Property Services</td>
</tr>
<tr>
<td><strong>Land use</strong></td>
<td>Department for Environment, Food &amp; Rural Affairs and Welsh Assembly Government; County councils, Local Borough and District councils and Unitary authorities</td>
<td>Scottish Government and Local authorities</td>
<td>Department of Agriculture and Rural Development and Local councils</td>
</tr>
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* This is a non-statutory body representing Scotland’s 14 assessors who are independent of the 32 local authorities who appoint them.
The inter-relationship of the land administration or cadastral functions in the United Kingdom can be illustrated as follows.

**Land valuation**

The responsibility for maintaining public registers of property valuations for local taxation purposes rests for England and Wales with the Valuation Office Agency (VOA), with the Scottish Assessors Association (SAA) in Scotland and with Land and Property Services (LPS) in Northern Ireland.

Taking the situation in England and Wales as an example, the VOA is an executive agency of Her Majesty’s Revenue & Customs (HMRC). The Chief Executive of VOA is accountable directly to the Chief Executive and Permanent Secretary of HMRC, who is accountable to Parliament. The VOA has a national network of staff in some 83 locations who maintain, by survey, inspection and from other sources, authoritative information on the ‘annual value’ of non-domestic property for rating purposes, and capital value bandings for residential properties for council tax. These assessments take account of physical characteristics, ground area, use, and location to arrive at open market value. The VOA uses and relies on property transaction information from HMRC, and works in partnership with Her Majesty’s Land Registry (Land Registry). It also uses large-scale topographic maps produced by the Ordnance Survey. Local authorities use the valuations as the basis for raising local land taxes to finance local services. VOA property information is also used widely in support of public policy.

**Land registration**

The responsibility for registering applications relating to land rights including ownership, mortgages, burdens and easements in England and Wales rests with Land Registry. In Scotland this role is fulfilled by Registers of Scotland (RoS) and in Northern Ireland by Land and Property Services (LPS).

Again using England and Wales as an example, the head of Land Registry is the Chief Land Registrar (Registrar), appointed under statute by the Lord Chancellor and Secretary of State for Justice. The Registrar is also the Land Registry Chief Executive and directly accountable to the minister responsible for Land Registry, the Lord Chancellor. The Registrar has extensive quasi-judicial powers and, with Land Registry’s staff, will determine the great majority of all issues and disputes relating to land rights. The interests registered are guaranteed by the state and those whose rights are registered can be indemnified if they suffer loss through an error or omission on the register. Citizens are free to appeal to the High Court if they wish to challenge the decision of the Registrar.
Land Registry’s main purpose is to register ownership of land in England and Wales and to record dealings with land once it is registered. When Land Registry registers a property, it prepares both a register and a title plan. The register shows the name(s) of the owner(s) and contains other information about the property, which is open to public inspection. The title plan, prepared by Land Registry’s staff, depicts the extent of the registered property and any registered rights or burdens. It is based on the largest available scale of the national topographic map published by the Ordnance Survey (the national survey and mapping agency). When an owner seeks to sell or otherwise deal with the land, they use a copy of their registered title as proof of their ownership or other rights.

**National mapping**

Responsibility for ensuring that national topographic mapping is maintained to specified high standards rests with Ordnance Survey in England, Wales and Scotland and with LPS in Northern Ireland. The head of each agency is directly responsible to their minister, who is accountable to UK Parliament and to the Northern Ireland Assembly respectively for ensuring that national surveying and mapping meets the specified requirements of the government.

It is the task of each agency to maintain a continuously updated topographic survey of the country, providing to its statutory customers survey and mapping products which meet agreed specifications that enable those agencies to carry out their statutory functions. It follows from this that each agency must maintain high professional and technical standards in producing source mapping information, which forms the basis of the specialist mapping records maintained, by the other land institutions.

What distinguishes the arrangements in the United Kingdom from many other countries is that while Ordnance Survey/LPS does record the physical features on the ground they are not themselves the holders or recorders of specialist data on, for instance, ownership rights, land valuation or land use. Such records are maintained by the particular agencies referred to below who, because of their specialist responsibilities are able to tailor their records based on Ordnance Survey maps with whatever information is considered necessary. In this scenario the national mapping agencies are the supplier and the Land Registry departments, valuation offices, government ministries, municipalities and other users are customers. These government agencies, as customers, pay the national mapping agencies for the products and services provided, as do other non-statutory and private users of the agencies’ maps. In Northern Ireland the situation is slightly different as the Ordnance Survey of Northern Ireland mapping and Land Registry function are now the responsibility of one single agency – LPS (which also includes the former Valuation and Lands Agency and the Rate Collection Agency). While the functions of these former agencies are now merged the mapping and registration databases remain separate.

Whilst the remit and separate accountability for these land and mapping related government functions are clear the ‘commercial’ relationship ensures the closest of technical and service arrangements between statutory map users and the mapping agencies as providers.
Land use

The overall responsibility for ensuring that information on land use and land classification is maintained rests:

- in England with the Department for Environment, Food and Rural Affairs (for information relating to Agriculture) and the Department for Communities and Local Government (for most other information). In many instances the department delegates to municipal authorities the statutory responsibility for maintaining the necessary records on land use and planning information.
- in Wales partly with the Department for Environment, Sustainability and Housing and partly with the Department for Rural Affairs, both of which are departments of the devolved Welsh Assembly Government. As in England, in many instances these departments delegate to municipal authorities the statutory responsibility for maintaining the necessary records on land use and planning information.
- in Scotland, with the Scottish Government.
- in Northern Ireland, with no one organisation. Elements of land use are captured across a number of organisations for their own purposes such as LPS, Department of the Environment, Department of Regional Development and the Department of Agriculture and Rural Development.

The various agencies and departments of the ministries with direct responsibility for maintaining these statutory records also use the large-scale topographic maps produced by Ordnance Survey or LPS. The ministers are accountable to the relevant parliament or national assembly for ensuring that these statutory land records are maintained although, in practice, day-to-day responsibility lies with the appointed heads of the departments and agencies in central or local government.
3. LAND VALUATION

This section describes the functions, structure and relationships of the land valuation agencies in the three jurisdictions of the United Kingdom

a) England and Wales
b) Scotland
c) Northern Ireland

a) LAND AND PROPERTY VALUATION IN ENGLAND & WALES: VALUATION OFFICE AGENCY (VOA)

Overview of the Valuation Office Agency

The VOA is an executive agency of Her Majesty’s Revenue and Customs (HMRC). It brings together the previously separate organisations in England and Wales (established in 1910) and in Scotland (established in 1911), and was launched under the Next Steps initiative on 30 September 1991. On 1 April 2009 the VOA merged with The Rent Service (TRS) and continues to provide valuation and estate surveying services, including advice on minerals, to government departments, the wider public sector and other areas in the public interest.

The head of VOA is the Chief Executive, who is accountable to the Chief Executive of HMRC and the Financial Secretary to the Treasury.

The VOA operates with a network of 83 offices across England and Wales, providing statutory local taxation services for business rates and council tax, plus five offices in Scotland (although note in Scotland council tax and business rates are dealt with by the Scottish Assessors Association). This network is managed regionally by 21 group valuation officers.

The annual expenditure of the VOA was around £208 million in 2008/9. The VOA’s head office is at Wingate House, Shaftesbury Avenue, London W1D 5BU with the website available at www.voa.gov.uk

Services

The work of the VOA encompasses:

- compiling and maintaining lists of rateable values of the 1.7 million non-domestic properties in England and the 100,000 in Wales to support the collection of around £20 billion in business rates. These lists are maintained and updated as changes to properties occur and are revised completely every five years. For each non-domestic property that is rateable (i.e. each
hereditament) the VOA provides an entry in the list based on its open market rental value at a specific date two years prior to the introduction of each list, known as the antecedent valuation date. While the VOA provides rateable values for current lists based on levels of value as at 1 April 2003, it is the local billing authorities that issue bills each year to ratepayers based on nationally-set rate poundages and collect the revenue on behalf of central government. They also administer any reliefs and exemptions. This separation of responsibilities ensures that issues connected purely with the valuation of properties lies with the VOA and ratepayers may query their rateable value either informally or through a statutorily determined process involving the independent Valuation Tribunal Service (VTS) where eligible. The next set of new lists come into effect 1 April 2010 with an antecedent valuation date of 1 April 2008

- compiling and maintaining the list of council tax bandings of some 22 million domestic properties in England and 1.3 million in Wales to support the collection of around £25 billion in council tax. Local billing authorities levy bills on householders dependent on one of eight property bandings (A to H) in England although since the 2005 revaluation Wales has nine bands (A to I). These are determined by the VOA. The local billing authorities also administer reliefs and exemptions. First introduced in 1993, bandings in England continue to remain related to levels of capital values as at April 1991 (the antecedent valuation date), unlike the quinquennial revaluations for non-domestic properties. There are some differences in the process, but council tax payers like ratepayers can query their banding informally or where eligible appeal direct to the VTS

- determining local housing allowances across 153 Broad Market Rental Areas in England, providing 450,000 rental assessments for housing benefit purposes and registering some 80,000 Rent Act 1977 fair rents in England

- advising government ministers on property valuation matters

- providing valuation services and policy advice to the Scottish Government and Welsh Assembly Government

- providing valuation advice to HMRC in connection with inheritance tax (IHT) capital gains tax (CGT), and other compliance work, and

- delivering a range of non-statutory valuation and estate surveying services to government departments and the wider public sector.

The VOA apportions the costs between its main clients as follows.

- Local taxation work 77%.
- National taxation and other statutory work 15%.
- Non-statutory/commercial work 8%.

The local taxation work is carried out on behalf of Communities and Local Government and the Welsh Assembly Government. National taxation and other statutory work covers work for HMRC and for the Department for Work and Pensions. Non-statutory work includes services for clients such as the Highways Agency and health authorities.
The VOA operates three business streams.

- The above figures demonstrate that Local Taxation & Housing Allowances Directorate is the largest stream by some margin and is responsible for policy and operational delivery of statutory work in relation to council tax and non-domestic rating and includes work previously undertaken by The Rent Service (housing allowances).
- National & Central Services (N&CS) undertakes valuation work for HMRC in connection with national taxation (predominantly IHT but also CGT).
- Commercial Services (CS) provide valuations and property advice to government departments and other public sector organisations including health and local authorities, often having secured instructions through successful tendering in competition with other professionals.

**Local taxation**

The role of the local taxation business stream is to assess property as the basis for generating around £48 billion in business rates and council tax across England and Wales, to help finance local government. The VOA does this by compiling and maintaining rating and council tax lists which have some 25 million property entries in total, with nearly 750,000 revisions made annually, to reflect new or altered properties or changed circumstances.

Further advances in the way it conducts this vital area of work has seen improved timeliness in keeping the lists up to date. It has continued to place emphasis on closer and better coordinated working with local billing authorities, including transferring information electronically wherever possible to support the most effective and efficient working processes.

The VOA screens incoming notifications of new or altered properties, or where there is a change of use, in order to assign the right level of resource and skill to the work, ensuring that it only visits a property where it is strictly necessary to do so to confirm, or supplement, information. This has helped it to issue bandings and assessments more quickly to its customers. Work that used to be scheduled for completion in two months in 2006/7, is now, only three years on, being completed in 10 days for rating cases and 11 days for council tax cases. This, along with other service improvements, has been reflected in a further increase in customer satisfaction across its local taxation work.

**Moving to electronic channels**

The VOA is committed to moving all of its web-based communications to BusinessLink for businesses and to Directgov for citizens by the end of 2010. This does not mean that other channels of communication such as letters and leaflets are being replaced – it is simply working to balance them with customer needs and preferences, while delivering better value for money to the taxpayer.

In 2008/9, the VOA introduced an electronic form of return for business rates. This was VOA’s first major application designed, from the ground up, based upon customer insight and knowledge of industry best practice. Customers were consulted to ensure the VOA fully understood their experience in completing and submitting the form and their stated preferences were incorporated into the design. The seamless joining of front and back office functions also delivers a more
accurate and productive solution – the requirement to re-key information is
removed, reducing the margin for error and saving time.

Underpinning the VOA move towards better use of electronic channels are new
internal processes for quick and accurate retrieval and use of its data resources. It
has made significant steps towards transferring key hard copy records to electronic
format. This has taken a significant investment in both time and effort. Over the
last year, some 96 per cent of domestic property survey records have been
scanned, enabling a speedier and more flexible customer service and supporting
better use of office space as bulky paper records are disposed of safely and
securely.

**Working in partnership**

Recently the VOA has developed new working arrangements with Land Registry to
utilise information obtained from its Business e-services. The VOA has continued to
liaise with Land Registry over its development of e-conveyancing. The VOA has also
worked closely with Ordnance Survey to enhance the quality of the VOA database
and with the use of their digital mapping products. Working in partnership with
Land Registry and Ordnance Survey continues to be an important part of the VOA
plans for the future.

**Partnership working with LPS and Scottish Assessors Association**

The VOA maintains close links with the agencies which undertake similar local
taxation functions in Northern Ireland and Scotland.
b) LANDS VALUATION IN SCOTLAND: SCOTTISH ASSESSORS ASSOCIATION (SAA)

Historical background

Although there is still debate on the exact timing, lands valuation in Scotland can be traced back to the 12th century when separate arrangements were made for taxation of the Spiritual and Temporal Lands. In 1326 there was a partial revaluation of the Temporal Lands so as to provide aid to Robert I and in 1357 a general revaluation to raise taxation to meet a ransom for King David II. In 1275 Pope Gregory X caused a valuation of all Church property (Bagimont’s Roll) to provide revenue for the relief of the Holy Land. At this time there remained assessment of personal property, particularly in the burghs.

In 1643, in order to support the Scottish army, commissioners were appointed to make up a roll of the net rental values in every sheriffdom. Similar arrangements applied under Oliver Cromwell’s Parliament in 1656. In 1670 Parliament enacted that the ‘valued rent’ be the only basis for land taxation. However due to the passage of time and the lack of a cohesive system of land valuation many difficulties arose in the local assessment, levy and collection of taxes. This was addressed by the Poor Law Amendment (Scotland) Act 1845 which prescribed that to provide for relief of the poor, a rate be levied according to the annual value of the lands and heritages within each parish.

Difficulties continued however in dealing with new developments, such as the railways which crossed through many parishes and the need for several valuation rolls to cope with the many different rates collected for municipal and local purposes. Finally, in 1854 there was enacted the legislation which is regarded as the foundation of today’s system of lands valuation in Scotland.

The modern system

Since the enactment of the Lands Valuation (Scotland) Act 1854, Assessors have been responsible for the valuation of all heritable properties for local taxation purposes within their respective valuation areas. Revaluation however remained piecemeal until the enactment of the Valuation and Rating (Scotland) Act 1956, which established the quinquennial system that continues today but with the roll being made up on an annual basis. New properties were entered in a Supplementary Roll but altered properties could only be dealt with in the next year. The Local Government (Scotland) Act 1975 provided for a revaluation roll to remain in force until it was superseded by a new roll, with changes being made on a daily basis and the ‘effective date’ shown in the roll.

Until the Abolition of Domestic Rates Etc (Scotland) Act 1987 both domestic and non-domestic properties were subject to rating valuation but from 1 April 1989 all domestic property was deleted from the valuation roll and taxation raised instead by personal, standard and collective Community Charges (the ‘Poll Tax’). These were short lived however and eventually abandoned in 1993 following major civil unrest and demonstrations, particularly in England, where they had been introduced a year later than in Scotland. Poll Tax was replaced by the council tax.
Currently all non-domestic properties are shown in the valuation roll and domestic subjects are contained within the council tax valuation list. These documents form the basis for levying non-domestic rates and council tax by Scotland’s 32 local authorities.

Each of the 32 local councils within Scotland is a valuation authority and responsible for appointing an assessor who, in terms of statute, must compile and maintain a valuation roll and a council tax valuation list. There are however only 14 assessors in Scotland; four are appointed directly by single councils and the remaining 10 are appointed by valuation joint boards comprising elected members appointed by two or more councils. Where a valuation joint board exists, all the duties, powers and responsibilities of the constituent councils as valuation authorities are delegated to the board.

The assessor

The functions of the assessor are different from those of most other local government officers whose duties are to carry out the policies of authorities, as determined by elected councillors. The assessor requires to balance the interests of individual ratepayers and taxpayers against those of others, in terms of valuation levels and the independence of the assessor is necessary to ensure that decisions are made on considerations of value without political pressure.

The assessor is an independent statutory official and the duties imposed by the relevant legislation are imposed on the assessor and not the employing authority. In carrying out the statutory duties the assessor does not act as an officer of the employing authority. The actions of the assessor are subject to scrutiny through an appeals process, initially at local level before a valuation appeal committee whose members are appointed by the Sheriff Principal. Appeals at first instance may also be heard by the Lands Tribunal for Scotland if the issues involve facts or evidence likely to be ‘complex’. A right of appeal on a point of law is available from the local committee or Lands Tribunal to the Lands Valuation Appeal Court (part of the Court of Session), which is the final arbiter in such matters.

Unlike the English equivalent (VOA valuation officer) the assessor is not part of a government agency and does not have the same type of relationship with Ordnance Survey or Registers of Scotland. In essence the assessor is a commercial customer of these organisations although with the development of an all Scotland website for assessors this is changing.

Scottish Assessors Association

The Scottish Assessors Association (SAA) was instituted in 1975 when Scottish local government was previously reorganised and is the successor body to the Association of Lands Valuation Assessors of Scotland (1957) and earlier bodies extending back to The Association of Lands Valuation Assessors (1886). The SAA continued in being after the 1996 reorganisation of Scottish local government.

Although a non-statutory organisation, all assessors and their senior staff are members of the association. One of the principal functions of the association is to facilitate a consistency of approach in the administration of the non-domestic and council tax valuation legislation. The policies and decisions of the association have a
bearing on how individual assessors carry out their statutory duties, but each assessor is an independent official.

The association works through a series of committees and associated working parties, which meet in advance of quarterly plenary sessions. The SAA also liaises with the Valuation Office Agency in England and Wales, the Northern Ireland Land and Property Services Agency and the Republic of Ireland Valuation Office in matters of common interest.

Revaluation

A valuation of non-domestic properties is undertaken every five years and is referred to as revaluation. The assessor must provide a valuation roll listing of these properties, which is available for public inspection. Each entry in the roll includes the names of the proprietor, tenant and occupier as appropriate and the net annual value which has been set by the assessor. The most recent rating revaluation of all non-domestic property took effect on 1 April 2010. This was the 10th regular revaluation to have taken place in Scotland since their introduction by the 1956 Act.

The valuation roll remains in force until the next revaluation. It is amended by the assessor to reflect all changes to properties. This may mean the inclusion of new properties, the amendment of entries for existing properties in terms of both tenure and valuation or the removal of entries for demolished properties. The assessor is required to notify proprietors and occupiers of any changes which they make to the valuation roll by issuing a valuation notice.

Assessors and the public now benefit from an all Scotland website (The Assessors’ Portal – www.saa.gov.uk) which launched in August 2004. As well as providing general advice and guidance, the site shows details of all current valuation roll entries, a history of changes since 1 April 2010 and a note of the values that existed in March 2010 before the latest revaluation was carried out. Additionally, for the 2010 revaluation, summary valuations have been provided for subjects in the ‘bulk classes’, such as shops, offices and workshops/factories/stores, being repetitive type properties generally valued by reference to levels of rent paid in the market place.

Net annual value is determined by the assessor and is their estimate of the annual rent, which the property would command on the open market at the ‘tone date’. The tone or ‘as at’ date is determined by statute as 1 April, two years before the roll comes into force. Rateable value is determined from the net value and is currently fixed at the same level for the majority of properties. The purpose of revaluation is to update rateable values to more up-to-date rental levels. This creates a closer, fairer link between modern property values and the amount of rates paid by individual ratepayers.

There are two principal factors which contribute to the rates bill received by every non-domestic ratepayer; the rateable value of the property and the non-domestic rate (or rate poundage) fixed by the Scottish Parliament. In addition actual liability will vary depending on other factors such as small business bonus, rural rate and vacant property reliefs.

In a revaluation year every ratepayer has a right to lodge an appeal but must do so by a fixed deadline (for the 2010 revaluation this is 30 September 2010). New
owners, tenants or occupiers may appeal within six months of acquiring an interest in a property and where the assessor alters the valuation roll (by making a new entry or changing the rateable value) the appeal must be lodged within six months of the date of the valuation notice. Appeals may be lodged on the grounds of error or in the event of a material change of circumstances, with the lodging and resolution of such appeals also being subject to statutory time limits.

Methods of valuation

In calculating net annual value the assessor will employ one of three methods, or principles, of valuation depending on the type of property being valued.

- **The comparative principle**
  This is the most common method employed and relies on analysis of actual rents passing, from which a general level of valuation for each location and property type (shops, offices, warehouses etc) can be determined.

- **The revenue principle (or receipts and expenditure method)**
  This method was originally used to value ‘public undertakings’ (gas, electricity, railways etc) but fell out of regular use in the 1980s with the demise of the Assessor of Public Undertakings. Subsequent changes saw the introduction of prescribed values for this class of subject. However, the 2005 revaluation saw the return to conventional rating of these classes of subjects with the revenue principle being predominant in their valuation. The principle has always been used for a limited range of properties, such as harbours and ski lifts, where the ‘monopoly of the place’ makes the use of the profits of the business conducted relevant in estimating annual value.

- **The contractor’s principle**
  Often dubbed ‘the principle of last resort’, the contractor’s basis relies on the cost of construction and an assumed rate of return to produce annual value. Since 1990 the rate of return or decapitalisation rate has been prescribed so as to avoid the often lengthy and costly litigation which followed each revaluation as ratepayers from different classes of property sought to argue special reasons why an alternative rate should apply in their case. Considerable work was done by the Joint Professional Institutions’ Valuation Rating Forum in the run-up to the 1995 revaluation to set down a modern explanation of the contractor’s basis. Both the SAA and VOA contributed heavily to the production of *The Contractor’s Basis of Valuation for Rating Purposes - A Guidance Note*.

Council tax

The assessor is responsible for the preparation and maintenance of the council tax valuation list, which places each domestic property (‘dwelling’) in one of eight valuation bands. The band reflects the assessor’s opinion of the property’s open market value as at 1 April 1991, but taking account of its physical state and its locality as at 1 April 1993 (or, for new dwellings, the date of valuation) and subject to a number of important statutory assumptions relating to tenure, state of repair and planning. Owners and occupiers may make a proposal (appeal) if they consider the council tax band to be wrong, but subject to strict time limits.

The council tax valuation list is a public document and contains the addresses and council tax bands of all domestic properties in the valuation area. In general terms any kind of house or flat will count as a dwelling if it used as such, including second
homes that are not let out commercially. Caravans count as dwellings if they are someone’s main home. Certain properties in multiple occupation where facilities are shared may also count as one dwelling. Access to all council tax valuation lists is available on the assessors’ portal.

Currently there are no plans for a council tax revaluation in Scotland. The Scottish Government is, however, considering the future of council tax as part of a review of local government finance. At the time of writing, it is clear that council tax will remain in force during the currency of the present Parliament (until May 2011).
c) LAND AND PROPERTY VALUATION IN NORTHERN IRELAND: LAND AND PROPERTY SERVICES (LPS)

Status and functions

The Land and Property Services (LPS) is an executive agency of the Department of Finance and Personnel in Northern Ireland. Originally known as the Valuation Office and Valuation and Lands Agency, it has for nearly 150 years been responsible for rating assessments and since 1945 for a growing range of general valuation and estate management duties within the public sector.

The LPS has three main functions.

- The maintenance of the valuation list for rating purposes in Northern Ireland, and periodically, the preparation of a new valuation list. The current valuation list contains more than 739,000 entries with a total net annual value of £1,064 million. This is the LPS's core business and involves the completion of more than 45,000 separate valuation assessments annually.
- Provision of a valuation, estate management and property data service to the public sector. LPS delivers to more than 150 clients a wide range of professional valuation and advisory services involving more than 20,000 cases annually.
- Advice on all matters relating to land management and valuation is provided to the department and ministers, and through the Central Advisory Unit to property centres throughout the Northern Ireland public sector.

The rating system in Northern Ireland

Like the Valuation Office Agency in England and Wales and the Scottish Assessors Association in Scotland the core business of LPS is the maintenance of the valuation list. The rating system in Northern Ireland is different in several important respects from the rest of the United Kingdom.

Non-domestic valuation

Non-domestic property in Northern Ireland is assessed on the basis of its rental value (known as the net annual value or NAV). The current valuation list for non-domestic properties became operative on 1 April 2005 and is based on rental values as at 1 April 2003.

Each non-domestic property has been valued in line with comparable properties in the vicinity.

Some non-domestic properties require specialist assessment to reflect their particular characteristics e.g. schools, licensed premises, petrol filling stations, sporting facilities. The valuation of such properties involves the application of specialised methods of assessment, which may involve examination of the property's receipts and expenditure, or its estimated replacement costs.
Revaluation of non-domestic properties

A revaluation of non-domestic properties is currently being undertaken and will be implemented in April 2011.

From April 2011 the valuation date for all non-domestic properties will be fixed at 1 April 2008.

Revaluations are usually carried out every five years. The purpose of a revaluation is to redistribute the rating burden more fairly, based on up-to-date rental values. Previous revaluations based on current rental value information have taken place in 1997 and 2003. It is envisaged that this regular pattern of revaluations will continue on the same basis of assessment.

Domestic properties

In April 2007 a change took place to the domestic rating system and was based on discrete assessments of the capital value of all of the approximately 700,000 domestic properties in Northern Ireland. The former way of working out the rates was based on how much it would have cost to rent the property 30 years ago.

A revaluation of all properties was conducted to restore fairness and make sure everyone would pay rates in line with an up-to-date value of their house. The rates bills are now based on the ‘capital value’ of the home. Capital value is the amount the property could reasonably have been sold for on the open market on 1 January 2005. LPS uses this date to make sure that all values are consistent. In assessing this value they use information on the sale prices of houses in the same neighbourhood.

LPS make some assumptions to keep the capital values fair; for example, they assume that properties have the same standard of kitchen and bathroom for their age, type of property and location.

Like its counterparts in England and Scotland LPS is committed to play a key role in the modernisation of the property taxation system in Northern Ireland. The introduction of the new system of domestic property assessment was a very challenging task in which the LPS continued to play a key development role in addition to its ultimate responsibility for delivering fair and accurate valuations.

Valuation and estate management advice service to the Northern Ireland public sector

Due to the structure of local government in Northern Ireland, LPS has historically played a much wider role in this regard than its equivalent organisations in the rest of the UK. This role comprises the provision of a full range of professional advice on all property matters to a large number of public bodies. This advice is not just limited to the areas of compensation and national taxation, but also includes the provision of asset valuations, negotiation of leases and many other services.
4. LAND REGISTRATION

This section describes the functions, structure and relationships of the land registration agencies in the three jurisdictions of the United Kingdom

a) England and Wales
b) Scotland
c) Northern Ireland

a) LAND REGISTRATION IN ENGLAND AND WALES: HER MAJESTY’S LAND REGISTRY (LAND REGISTRY)

Land registration – historical background

The 'English' system of land registration is part of the common law system of the United Kingdom and so is distinguishable from many systems of continental Europe. Similar systems are to be found in many of the former British colonies. Its objectives are the same as in mainland Europe and its modern systems similar in many respects as the following narrative endeavours to explain.

Before 1862, when the first Land Registry Act became law, there were no systems of land registration in England and Wales apart from deeds registries in two counties - Yorkshire and Middlesex. Characteristics of the feudal systems of tenure still prevailed. As late as 1925, as little as 14 per cent of the population owned property. The great majority of the people lived in rented or tied houses or apartments. There was little personal wealth for the majority of the population.

One of the great initiatives of the social and economic reforms of the 19th century was to promote the introduction of public registers of land ownership and to establish effective systems of land and property transfer. Their aim was to widen the number of private owners or stakeholders in land and property.

The Land Registry Act 1862 introduced a voluntary system of land registration. This failed because of a too high requirement of accuracy of boundary demarcation and of title examination leading to expense and even dispute. Successive laws in the late 19th century sought to remedy the defects. In 1875 the concept of registration with 'general boundaries' was established and in 1897 the law required that the national Ordnance Survey map would become the basis of registered mapping. In 1899 compulsory registration on sale was first introduced.

These developments – compulsory registration on sale, and registered mapping based on the Ordnance Survey map with general boundaries – are the cornerstones on which the land registration system in England and Wales has been built. The major land law reforms of 1925, including the Land Registration Act of that year,
provided the statutory basis of the present day system. The law gave the Chief Land Registrar the powers to grant secure and guaranteed marketable titles so building public confidence in the registration system. A fundamental review of the 1925 legislation was undertaken in the late 20th century leading to the new Land Registration Act 2002.

Status

Her Majesty’s Land Registry has been a non-ministerial government department since 1862. It was established as an executive agency of the Lord Chancellor in July 1990 and as a trading fund in April 1993. It has the formal title Her Majesty’s Land Registry but in everyday use, the term Land Registry is used. Like other non-ministerial departments, Land Registry’s functions have always been entirely statutory. It has no prerogative powers.

Land Registry’s existence was expressly continued by section 99(1) of the Land Registration Act 2002, which provides that it ‘is to deal with the business of registration under this Act’.

By virtue of section 99(2) of the Land Registration Act, Land Registry consists of the Chief Land Registrar, who is its head, and the staff appointed by the Chief Land Registrar.

Land Registry operates as a trading fund in accordance with the Government Trading Funds Act 1973, as amended by the Government Trading Act 1990. The Chief Land Registrar is Land Registry’s Accounting Officer for the trading fund.

Functions

The main statutory function of Land Registry is to keep a register of title to freehold and leasehold land throughout England and Wales. On behalf of the Crown, it guarantees title to registered estates and interests in land. State-backed registration gives greater security of title, providing protection against claims of adverse possession.

The volume of business ‘on the register’ is very large. In 2008/9 nearly 6 million transactions creating new ownerships and other rights were registered and more than 20 million enquiries, requests for copies of registers and plans, or requests for guaranteed searches were made. All sales of freehold land and all leases for more than seven years are handled by Land Registry as are many other registrable rights and burdens such as mortgages. Purchasers, lenders and others only secure the legal title to their new interests once an application for registration has been received at Land Registry.

The guaranteed land register provides the certainty and security which has made it possible for people and businesses to buy and sell land and property with confidence using simple and inexpensive procedures. The ability to deal in land and to raise money on property has facilitated investment for development and improvement.

In addition to the registration of title, Land Registry also has responsibility for the functions of the Land Charges Department and the Agricultural Credits Department.
The Land Charges Department operates under the authority of the Land Charges Act 1972. It maintains registers of land charges, pending actions, writs and orders affecting land and other encumbrances registered against the named owners of property not registered under the Land Registration Act 2002.

The Agricultural Credits Department is responsible for maintaining a register of short-term loans by banks under Part II of the Agricultural Credits Act 1928. These charges are secured on farming stock and other agricultural assets of the farmer.

Under the Land Registration Act 2002, Land Registry is able to pursue additional statutory functions relating to the provision of land and property information, consultancy/advisory and training/education services relating to land registration. It is also able to develop and provide services facilitating the process of electronic conveyancing in England and Wales.

**Mission**

To provide the world's best service for securely registering ownership of land and facilitating property transactions.

**Aim**

In pursuit of its mission, Land Registry’s principal aims are:

- to maintain and develop a stable and effective land registration system throughout England and Wales, providing the cornerstone for the creation and free movement of interests in land
- to provide state backed security for title to registered estates and interests in land for the whole of England and Wales
- to provide ready access to up-to-date and guaranteed land information, enabling confident dealings in property and security of title
- to achieve progressively improving performance targets set by the Secretary of State and Lord Chancellor, so that high quality, cost effective services are delivered promptly to its customers.

**Vision**

Making property transactions easier for all.

**Strategic objectives**

To fulfill this vision, Land Registry strategy seeks to develop or enhance existing services as well as introduce new ‘add value’ services for its customers which will be delivered through clear identification of customer needs and behaviours. Land Registry has identified four key areas for development: customer engagement and customer service, land registration, electronic service delivery, and customer and business development.

To ensure it delivers improvements within each of those areas, it agrees with the ministers a number of longer term strategic objectives, affirmed each year, which are set out as follows.
Customer engagement and customer service

1. Continue to make improvements to the delivery of services to its customers through identification of their needs and behaviours.

Land registration

2. Deliver timely and effective secondary legislation in relation to land registration.
3. Create a comprehensive Land Register for England and Wales.

Electronic service delivery

4. Introduce further electronic services through which an increasing number of property transactions will be effected.

Customer and business development

5. Develop a broader range of ‘add value’ statutory and non-statutory products and services that meet the needs of its customers.

Each year Land Registry addresses strategic objectives 1 and 2 by continually improving its services and ensuring that its legislation is up to date and meets the needs of its stakeholders. For strategic objective 3, Land Registry commits each year to register a challenging target of additional hectares of land for the first time. Strategic objectives 4 and 5 will be achieved progressively through the year-on-year introduction of new products and services and service delivery systems and channels. To ensure Land Registry delivers annually against these objectives, it sets key performance targets for each of its development areas.

Definitions

Under the land registration system in England and Wales land is defined as not just the surface of the earth but includes the buildings on the land and the structures beneath the surface. Land registration is defined as the process of maintaining a register of real rights in land. A land register is described in some jurisdictions as an immovable property register or as a cadastre.

Scope

When land registration was established in England and Wales in the 19th century it was realised that not all land could be brought on to the register at once. Priorities had to be established. As a result it was decided to progressively designate local authority areas (municipalities) as areas in which land become compulsorily registrable ‘on sale’. London was the first area (in 1899-1901) and now the whole of England and Wales is subject to compulsory registration. Land can be registered voluntarily at any time. Once land has been first registered other transactions and dealings, such as mortgages, discharges, the creation of new rights of way, bankruptcies, covenants, leases and so on affecting the land are registrable. On this basis the register constitutes a complete record of subsisting legal interests, rights and burdens.

All land, whether owned by private persons, farmers, businesses, public and private institutions, local or central government or the Crown, is subject to the provisions
of the Land Registration Acts. The legal estate in land, or an interest in land, is not established until an application for registration is properly submitted to Land Registry. No priorities for registration were established between different categories of land (for example publicly owned land or agricultural land). Once a municipal area was established as a compulsory area all sales were registered as they occurred. Since April 1998 new legislation has extended compulsory registration from just sales to all changes of ownership, and to first mortgages relating to unregistered land.

Guarantees and indemnity

Under the provisions of the Land Registration Act titles are guaranteed by the state. In practice this means that if anyone suffers actual loss as a result of an error or omission on the register they are entitled to rectification of the title and/or indemnity. The Chief Land Registrar acts as a title insurer. A feature of the protection is that rectification and/or indemnity can be effected even if the error or omission has not arisen as a result of a mistake by Land Registry. This means that if Land Registry unwittingly gives effect to a registration of an interest, and it then transpires that the transaction or the documents were the subject of fraud, anyone who has suffered loss as a result of registration can be indemnified. Indemnity payments take account of the extent to which a person has contributed to any such loss by their carelessness. Land Registry is able to seek recovery of any indemnity that is actually paid and any costs from the persons guilty of the fraud. The Land Registry guarantee extends not only to the land register but also to any search certificates or official copies of registers and plans issued in response to a properly lodged application.

In 2008/9 Land Registry paid out £10,058,945.39 for 1,364 claims. It saw an increase in the number of claims and the amount paid as a result of fraud, such as the registration of fraudulent transfers and charges. It paid £5,072,113.43 for 62 claims. A review took place consequently of its anti-fraud procedures, whereby it introduced new measures intended to counteract registration fraud. The strength of the system is that the state guarantee, backed by indemnity, provides the confidence on which the property market depends.

Land Registry maintains an indemnity fund from which any payments must be made. This fund currently stands at £23 million. It is financed from Land Registry’s income from fees paid for services and transactions and would be replenished or increased from income or reserves as required.

Size of the system

Land Registry serves a population of 54 million in England and Wales. It facilitates one of the most active property and mortgage markets in the world. The Land Register comprises more than 22 million titles, and more than 10 million hectares. At the end of March 2004 less than 45 per cent of England and Wales was registered, a figure that has now increased to more than 73 per cent.

Services to the public

The work of Land Registry can be divided into two broad areas.

1) Transactions which create, change or cancel entries on the register. The land register, which is wholly open to public inspection, is constantly updated by the registration of sales of property, associated mortgages and discharges of mortgages. Other registrations relate to the creation of new rights or a mortgage or discharge not associated with a purchase.
2) Searches and information enquiries. The majority of searches and enquiries are made by those contemplating buying or otherwise dealing with land or lending money on land. These are the essential enquiries made by an intending buyer or lender to ensure that there are no impediments, risks, or unknown burdens affecting the land. Under the English system the issue of an official certificate of search also gives the applicant ‘priority’ for 30 working days ahead of any other transaction that may arise. This system of protection is greatly valued by purchasers and lenders.

A significant number of enquiries will also be made by those who wish to find out ownership and other information about the legal interests in a property. These enquiries could be from tenants, neighbours, family members, creditors, law enforcement agencies, local municipalities and other official bodies.

**Structure**

Land Registry operates through 19 offices located throughout England and Wales. It has a head office in London and 17 local offices, and with the Land Charges and Agricultural Credit Departments and the Information Systems Directorate situated in Plymouth.

In each local office the land registrar is responsible for maintaining the land register for the region. Under the provisions of the Land Registrations Act the Land Registrar must be a lawyer. They have extensive quasi-judicial powers under the law to grant title and to resolve disputes. Each local office is managed by an area manager who is responsible for finance, personnel, production and meeting operational and financial targets.

**Targets and performance measures**

These are defined in measurable terms relating to costs, outputs, financial performance, speed of service, quality of service and specific developmental targets. Performance measurement systems exist and are independently evaluated to record actual results against targets set. The range of targets and the performance measurement system operates at every level of management from the agency at national level, at local offices and in operational sections within local offices. The pay of the Chief Executive and annual bonuses that can be earned by staff are influenced by the results achieved against target.

**Computerisation**

Until 1974 the Land Registry’s records and procedures were wholly paper based. In that year Land Registry introduced a system, then revolutionary, of telephone searching for those seeking to establish whether or not third party interests subsisted on unregistered land (a name index was maintained of land charges).

In 1986 the main land register project was launched whereby individual land registers were computerised. All transaction and enquiry processing was done by staff using terminals. All 22 million plus computerised registers can now be accessed online by any user.
Land Registry, working with the Ordnance Survey, the Valuation Office Agency, local authorities and others, led the development of the National Land Information Service (NLIS) and is a participating member of the European Union Land Information Service (EULIS) project.

E-services

Business e-services

Land Registry has introduced a secure website platform from which to launch all existing and future electronic services. This platform is called the Land Registry portal. The portal is a common interface which provides a personalised, single point of access to web-based applications and information.

The portal provides property professionals with instant access to more than 22 million registers of title covering the great majority of properties in England and Wales. Customers can get results online for searches of whole with priority and Land Charges searches (private individuals and limited companies) and currently make simple non-dispositionary applications. The current e-services within it include information services and network services. Information services are made up of official copies, searches and enquiries and include land charge searches; network services are for the creation and lodgement of electronic documents.

The portal was initially launched to a limited number of pilot customers, replacing Land Registry Direct, and a migration project was formed to transfer all existing customers to the portal. To handle applications for and enquiries about portal services, Land Registry established customer contact centres to support portal and e-conveyancing users.

Land Registry celebrated a milestone in its history when it registered the first mortgage to be signed electronically. The mortgage, or e-charge, in favour of Coventry Building Society was signed electronically by the borrower and registered at 11.20am on 24 March 2009. This landmark occasion marked an important step in Land Registry's programme of introducing new electronic services.

Business Gateway

The need for Business Gateway was one of the outcomes of the Chain Matrix prototype project run by Land Registry in 2007. Many conveyancers stated their preference for a method of dealing with Land Registry directly from their case management software.

Business Gateway provides direct access to Land Registry services from case management systems, using XML (extensible mark-up language) to exchange the data. The direct interface allows for a more streamlined process that eliminates the errors that can creep in when data is rekeyed, saving time and money.

Land Registry worked closely with e-business standards body PISCES to define the XML schemas that were to be used. The initial package of Business Gateway services was targeted at the remortgage market and enables customers to submit
official searches, request official copies of the title and creates e-charges to be signed by borrowers electronically.

In the case of e-charges, the conveyancer prepares the e-CSF (electronic charge in standard form) document via Business Gateway. Land Registry then sends the borrower their login and e-signature details. On receipt, the borrower will log into the portal and sign the charge. Once the conveyancer is ready to register the charge, they will access the portal and apply for registration.

Future packages will provide electronic transfers and other add value and statutory services. Customers will be able to choose all or some of the services on offer.

The registration of the first electronic charge (e-charge) to be delivered via Business Gateway took place on 5 February 2010.

**Find a property**

The Land Registry web pages at Find a property provide easy public access to details of more than 22 million registered properties in England and Wales. They can search by postcode, address or visually using maps and aerial photos, and download PDF copies of title registers, title plans and some other documents, for a small charge. To purchase property information from this service they must be a registered user and will be asked to register for an account or log in once they are ready to purchase information for a selected property.

**Financing Land Registry services**

Central to the fee policy is the requirement in the Land Registration Act that fees should be set at a level sufficient to cover the financial expenditures and outgoings of Land Registry. Under the Land Registration Acts it is the minister who has the power to set fees, but does this on the advice of a Statutory Rule Committee under the chairmanship of a High Court judge. The Chief Land Registrar, a representative of the Bar, of the Law Society and of the Royal Institution of Chartered Surveyors are members of the Rule Committee. Its recommendations require the concurrence of the Treasury (finance ministry). The objective is to contain fees at as low a level as is possible consistent with delivering an improving service. In practice it is the Chief Land Registrar who takes the initiative on fees changes, reflecting the targets set for Land Registry and the prevailing market position.

**Fee income**

In 2008/9 the total Land Registry fee income was more than £308 million.

**Consultation – and reference**

There are three joint consultative and advisory committees. These are with the professional institutions representing main users: the Law Society (lawyers), the Council of Mortgage Lenders (banks and other lenders) and the Royal Institution of Chartered Surveyors (surveyors).
The consultative process and the customer surveys are to ensure that Land Registry is aware of areas requiring improvement or where new services are needed. An Independent Complaints Reviewer investigates complaints against Land Registry where an individual is not satisfied with the way Land Registry has handled an application or complaint. References may also be made by a constituent, through their Member of Parliament, to the Parliamentary Commissioner (the Ombudsman) where a person considers Land Registry has been guilty of maladministration.
b) LAND REGISTRATION IN SCOTLAND: REGISTERS OF SCOTLAND (RoS)

Land registration – historical background

Land registration in Scotland dates back as far as the 13th century. Scotland’s law of property is fairly complex in its origin. It derives from a mixture of statutes: statutes of the 'old' Scottish Parliament prior to the union of England and Scotland in 1707; statutes of the United Kingdom Parliament in London; and statutes of the 'new' devolved Scottish Parliament established in 1999. A major influence on the law of property in Scotland was feudal law, but this is no longer the case. Influences can also be traced back to Roman law. Though Scotland is now a constituent part of the United Kingdom, it retains its own distinctive legal system that is quite different from the legal system operating in England.

The process of land registration in Scotland has always been dynamic, and even today land registration is in transition between the General Register of Sasines, a register of deeds established in 1617, and the Land Register, a state-guaranteed, map-based register established by the Land Registration (Scotland) Act 1979. It is a register of titles to interests in land, which is progressively superseding the General Register of Sasines as the Scottish national land register. The accuracy of the titles on the Land Register is guaranteed and backed by a statutory indemnity scheme.

As with the Land Registry for England and Wales, Registers of Scotland, the government agency responsible for land registration in Scotland, also operates closely with the government agency for national mapping, Ordnance Survey, and uses its digital maps as the basis for the mapping element of land registration.

Legislation

The Registration Act of 1617 introduced the Register of Sasines to Scotland. Under the terms of this Act, a symbolic ceremony involving the passing of a handful of earth from the seller to the buyer marked the transfer of title to the land. The Infeftment Act of 1845 abolished this ceremony, which was inconvenient and time-consuming. Following on from this Act, title was transferred purely by deed, and not by symbolic act.

In the 350 years since the introduction of the Register of Sasines, there has been much legislation that has influenced the land registration process in Scotland. By far the most dynamic legislative change, however, was brought about by the Land Registration (Scotland) Act 1979, which introduced title registration to Scotland. The Land Register is a register of interests in land and reveals the current state of the title to any registered interest. The land to which the interest relates is identified on the Ordnance Survey map. When an interest is registered, Registers of Scotland issues a certificate of title, called the land certificate. This defines precisely the extent of the property on the Ordnance Survey map and also gives details of current registered owners as well as charges over and rights and burdens affecting the property. The accuracy of the information is guaranteed by the state and
compensation is payable for loss suffered as a result of an error or inaccuracy in the register.

Land registration is not compulsory in Scotland, but since registration is the root of a real right to property, all property tends to be registered. Without registration there is no real title, only the personal right of the buyer against the seller under the written contract.

The Land Register is guaranteed, public and accessible. As with the Sasine register, there is full public access to the information on the Land Register. A property on the register can be searched for by the name of the owner or by the address of the property and a search can be conducted by telephone, letter, email, fax or by a visit to one of the Registers of Scotland customer service centres. These three features provide citizens with the certainty and security to transact with land and property with confidence and contribute to simpler conveyancing procedures being required.

Any remaining traces of feudal land tenure within the Scottish land registration system were completely abolished on 28 November 2004 when the Abolition of Feudal Tenure (Scotland) Act 2000 came into force. The main effect of this Act is the replacement of the feudal system of land tenure with a system of outright ownership of land. Feudal superiorities and their attendant rights to collect feu duty and enforce burdens have been largely abolished.

The Title Conditions (Scotland) Act 2003 modernises and clarifies the law on real burdens and other title conditions that remain following the abolition of the feudal system. It sets out a framework of rules for the imposition of conditions in the system of ownership of land, complementing feudal abolition. Together with the Abolition of Feudal Tenure Act, the Act will necessitate a full reappraisal of every registered title to land in Scotland.

**RoS purpose, values and outcomes**

Registers of Scotland is responsible for 16 public registers in Scotland. Its work is dominated by two registers that relate to rights in land - the Land Register of Scotland and the General Register of Sasines.

**Purpose**

To set the standard in the accurate, impartial and secure recording, analysis and use of land, people and property information for the benefit of the people of Scotland.

**Values**

To undertake our business at all times with pace, passion, pride and professionalism.

**Outcomes**

RoS Outcome 1 - The accurate, efficient, impartial and secure recording, storage and presentation of information will continue to be the bedrock service provided by RoS for the benefit of the people of Scotland.
RoS Outcome 2 - We will continue to develop robust and sustainable systems of electronic registration, data capture and delivery of information, designed and tested to meet the needs and expectations of our customers.

RoS Outcome 3 - Working with others, we will use the information we hold and the services we provide to increase the efficiency of, and add value to, the Scottish economy.

RoS Outcome 4 - We will maximise the application of our unique skills and expertise to support and improve the economic well being of Scotland.

Definitions

Scots law recognises the difference between moveable and immovable property. 'Immovable' property is land (including things attached to the land) and rights to land. The ownership of a parcel of land normally implies ownership of any building situated on the parcel. 'Moveable' property is anything other than land. The Land Register is concerned solely with the registration of immovable property.

The Land Register is a register of interests in land. It reveals the current state of the title to any registered interest, and the land to which the interest relates is identified on the Ordnance Survey map (Ordnance Survey is the national mapping agency for Great Britain which provides Registers of Scotland with digitised mapping data). The word ‘cadastre’ is not one commonly used in the UK, where for historical reasons the development of land administration institutions has taken place in a different way from many other countries in Europe. To all intents and purposes, however, the ‘cadastral’ functions as they relate to identification of property for land registration purposes are carried out by the respective land registration organisations within the UK.

Scope

Scotland was converted to the Land Register on a county-by-county basis, starting with the county of Renfrew on 6 April 1981, as it would have been impractical to transfer the whole of Scotland to the Land Register at the same time. By 1 April 2003 all 33 counties of Scotland had been converted to the Land Register. Only when a property is sold or leased is it registered in the Land Register and so the Sasine Register remains operational for transactions that do not induce registration in the new register, such as remortgages. At the end of March 2010 the Land Register contained 1,396,685 registered titles. It is more than halfway to the complete coverage desired, with Land Register coverage standing at 54.8 per cent at the end of March 2010. It is estimated that 1,153,534 titles remain to be registered. As the remaining properties transfer for value they will enter the register as time progresses. There is a possibility that Registers of Scotland may also introduce a policy of conversion from the Sasines Register to the Land Register for all transactions in order to speed up the conversion process or include the voluntary registration of public land.

Once land has been registered in the Land Register, all other transactions affecting that land, such as mortgages, discharges, the creation of new rights of way, bankruptcies, covenants, leases and so on are registerable. On this basis the register constitutes a complete record of subsisting legal interests, rights and burdens.
Guarantees and indemnity

The Land Registration (Scotland) Act 1979 establishes the entitlement of a person who suffers loss to indemnity (ie financial compensation) when the loss is as a result of an error in any land certificate or in any information provided by Registers of Scotland. The register may be rectified, but only if there is no prejudice to ‘a proprietor in possession’.

A feature of the protection is that rectification and/or indemnity can be effected even if the error or omission has not arisen as a result of a mistake by Registers of Scotland. This means that if the Registers of Scotland unwittingly gives effect to a registration of an interest, and it then transpires that the transaction or the documents were the subject of fraud, anyone who has suffered loss as a result of registration can be indemnified. Indemnity payments take account of the extent to which a person has contributed to any such loss by their carelessness. The Registers of Scotland is able to seek recovery of any indemnity that is actually paid and any costs from the persons guilty of the fraud.

The Registers of Scotland will enlist the help of independent advisers such as the District Valuer in order to effect a fair quantification of the amount of indemnity to be paid. A dissatisfied claimant may resort to the Lands Tribunal (provision for which is made at section 25 of the 1979 Act) or take other action in law. Unsuccessful claims can also give rise to complaints to members of the Scottish Parliament and/or the Parliamentary Ombudsman.

In 2008/9 indemnity payments totalling £673,556.97 were paid on 99 successful claims and in 2009/10 payments totalling £444,607.48 were paid on 102 successful claims. These figures have to be set against the total value of the transactions processed by Registers of Scotland each year (estimated to exceed £20 billion).

There is no separate Indemnity Fund in Scotland. Payments are made from Registers of Scotland’s funds and a contingency for indemnity is provided for in the accounts, based on a review of the outstanding claims, potential claims and an estimate of the settlement values. The provision for indemnity included in the current accounts for 2010/11 is £500,000.

Size of the system

In 2006 the population of Scotland was estimated to be 5,168,500. It is estimated that there are 2,500,000 separate parcels of land of which nearly 1,396,685 are registered. The majority of unregistered properties are government or municipal properties, or large estates in the north of Scotland, which have not been subject of any sale since compulsory registration provisions became law.

Large volumes of transactions are registered each year. In 2009/10 307,782 transactions creating new ownerships and other rights were registered in the Land Register and 122,840 were recorded on the Sasine Register, and more than 155,000 enquiries and requests for copies of registers and plans were made.

Services to the public

The work of Registers of Scotland in relation to the Land Register and the Register of Sasines can be divided into two broad areas.
1) Transactions which create, change or cancel entries on the registers

The Sasine Register is updated with registrations related to the creation of new rights and/or conditions, or a mortgage or discharge of mortgage not associated with a purchase. The registration of a sale or of a lease will result in the interest being transferred onto the Land Register. The Land Register is constantly updated by the registration of sales, leases (lasting more than 20 years) of property, and associated mortgages and discharges of mortgages. Once land has been first registered other transactions and dealings, such as mortgages, discharges, the creation of new rights and/or conditions, bankruptcies, covenants, leases etc. affecting the land are registerable in the Land Register. Both registers are wholly open to public inspection.

2) Searches and information enquiries

The majority of searches and enquiries are made by those contemplating buying or otherwise dealing with land or lending money on land. These are the essential enquiries made by an intending buyer or lender to ensure that there are no impediments, risks, or unknown burdens affecting the land. Searches are undertaken using the Registers Direct system noted below.

Customers include citizens and organisations whose property we register as well as solicitors and financial institutions with whom we deal directly. A significant number of enquiries will also be made by those who wish to find out ownership and other information about the legal interests in a property. These enquiries could be from tenants, neighbours, family members, creditors, law enforcement agencies, local municipalities and other official bodies.

Customers can also search for information direct via the internet through online service Registers Direct and via www.scotlandhouseprices.gov.uk

Organisation of Registers of Scotland

Registers of Scotland has more than 1,300 staff occupying four offices in Edinburgh and Glasgow. The main office is in Edinburgh, with a branch in Glasgow, and there are two customer service centres, one in Edinburgh and one in Glasgow.

At the head of the organisation is the Chief Executive who is known by the title of the Keeper of the Registers. Two Deputy Keepers and the ROS Board, made up of both executive and non-executive members, support the Keeper.

An organisation diagram of Registers of Scotland is shown below.
Policy - privatisation - and improving management in government

As with Land Registry in England and Wales, Registers of Scotland was also subject to the extensive reforms of public sector management during the Conservative administrations from 1979 to 1997.

Registers of Scotland, as a self-financing organisation delivering services to the public, became both an executive agency (in 1990) and a trading fund (in 1996). Registers of Scotland is operationally autonomous, which automatically comes with the status of an executive agency. It is managed by its own Chief Executive, the Keeper, who is appointed by the Justice Minister. The appointment is not political, but it is normally made under a contract for a fixed number of years. The Keeper is the Accounting Officer for the Registers of Scotland Trading Fund and, as such, is liable to appear before Parliamentary Committees. The Secretary of State is responsible for setting the policy and resources framework within which Registers of Scotland operates.

Targets and performance measures

As a specialist organisation, Registers of Scotland is allowed to set its own policies and strategy. It is accountable to the Scottish Parliament through the Scottish Executive. The Scottish Minister for Justice has political responsibility for Registers of Scotland. In practice, they delegate their responsibility to their department, the Justice Department. Registers of Scotland submits an annual report to the Scottish Minister of Justice and it has to agree its business objectives and targets with Scottish ministers.

Over the period of the Corporate Plan 2010/13, Registers of Scotland will be striving to meet the ministerial financial target and the Keeper's registration and customer service targets that were agreed. These targets will be reviewed over the course of the year.
The ministerial target is to deliver 2 per cent increasing cash-releasing efficiencies in each year of the corporate plan. The registration targets set by the Keeper have been informed by the outcome from the most recent customer survey, where customers have indicated that undertaking first registration work more quickly is their highest priority.

Like other Scottish public bodies, Registers of Scotland operates within the National Performance Framework set by Scottish ministers. The framework underpins delivery of the Scottish Government's purpose and is supported by 15 national outcomes. Registers of Scotland has aligned all of its activities to each of its own outcomes and to those relevant national outcomes. All activities are included in an implementation matrix that will be monitored throughout the year.

**Computerisation and access to information**

Registers of Scotland has made rapid advances in the computerisation of all its registration processes, with heavy investment in new technology. Both the Sasine Register and the Land Register are fully computerised. The Land Register was computerised from its inception in 1981, with digital maps being introduced in 1993 and the Digital Mapping System (DMS) being introduced in 1995. The DMS contains digital maps, title plans and an electronic gazetteer. The Sasine Register was computerised in 1993 and some 9 million pages of historic paper records were scanned and digitally imaged. All documents now submitted for registration are scanned and digitally imaged. No paper records are kept.

**Registers Direct**

The development of online services started in the late 1980s, with a full internet service, Registers Direct, being launched in 2001 and subsequently updated in 2009. This subscription service provides immediate access to the information held by Registers of Scotland over the internet. Fees are based on each search carried out and customers are invoiced fortnightly. Ownership details, mortgage information, rights and encumbrances affecting the property, title plans and house price information are all available through Registers Direct. The primary users of Registers Direct are property professionals, local authorities, investigative bodies (including police, Inland Revenue and customs and excise) and finance and credit institutions. Ordinary members of the public who wish to access information can do so by visiting one of the customer service centres or writing/emailing with their request. Information can also be obtained on house prices in a particular area, the website www.scotlandshouseprices.gov.uk provides the prices paid for property in a particular postcode in any six month period. This service was originally a chargeable but has now moved to a free service provided through the Registers of Scotland website.

**Automated Registration of Title to Land**

In line with the British Government policy on the development of the delivery of public services by electronic commerce, Registers of Scotland has developed a system of electronic registration of applications for registration of property in the Land Register. This system provides a quicker more efficient and cheaper system of registration. The new system is called Automated Registration of Title to Land (artl) and enables registration of land and property that is already registered in the Land Register with little or no human intervention in the process.
Artl introduces paper-free applications in respect any transaction by which the whole of the registered land or property is transferred and any transaction by which any charge in or over registered land is created or removed, e.g. mortgage deeds, discharges and so on. Artl does not extend to first registrations and transfers of part as these do not lend themselves easily to a concept of automated registration.

Under the system of automated registration, applications to register dealings are registered electronically, with the Land Register being updated automatically subject to back-office checks by ROS staff.

Any system of land registration must be able to retain public confidence and it is essential that the high level of protection and security that is presently afforded to the public through current registration procedures must continue with any new system of registration. Robust safeguards have therefore been built into the structure of artl. The aim has been to develop a system of registration that will provide improved security.

The artl project has included many stakeholder groups who are all actively involved in the project. They include firms of solicitors, financial institutions and their representative bodies, respectively the Law Society of Scotland and the Council of Mortgage Lenders, as well as Her Majesty's Revenue and Customs (HMRC) and the Scottish Consumer Council.

**EULIS**

Registers of Scotland is a member of EULIS (European Land Information Service). EULIS provides subscribed land registry customers such as banks, lenders, estate agents and lawyers with reliable, direct and easy access to land and property information in member European countries. It is owned by a consortium of member countries with expertise in the area of land registration, most of which are government organisations. The service was developed by people who understand land registration and the differences in practices and procedures between different European countries.

**ELRA**

Registers of Scotland is a founding member of ELRA (European Land Registry Association). ELRA was set up in 2004 and today has 23 member organisations representing land registries in 20 EU member states. The primary purpose of ELRA is the development and understanding of the role of land registration in real property and capital markets. ELRA aims to raise awareness of the significance of land registries in Europe as juridical institutions and the importance of land registration law within the framework of national property law systems. The association also acts as a contact point between its members and the EU institutions and represents its members in discussions with other European organisations.

**Financing Registers of Scotland services**

Registers of Scotland is self-financing, and has been since the year 1868. Its finances come solely from earned income, most of which comes from registration fees. These fees are set by Registers of Scotland, under sub-statutory regulations,
and are calculated according to the basic principle that costs should be fully recovered. Approximately 4 per cent of income comes from the online Registers Direct service.

**Fee income**

The turnover of Registers of Scotland was £45,641,000 for 2009/10.

**Consultation and reference**

The Joint Consultative Committee meets twice a year and consists of members of the Law Society of Scotland and members of the ROS Management Board. This committee was inaugurated in 1975 to provide a useful forum for the discussion of legal and registration matters of mutual concern to the legal profession and the Keeper of the Registers. The ROS Management Board contains both executive and non-executive directors.

Registers of Scotland has an established complaints procedure and the aim is to settle matters at the point of service delivery whenever possible. Timescales for dealing with complaints are published and they are all properly investigated.

If an individual is not satisfied with the way Registers of Scotland has handled an application or complaint, they may seek the advice of a Member of Parliament who may refer it to the Scottish Legal Services Ombudsman.
c) LAND REGISTRATION IN NORTHERN IRELAND: 
LAND AND PROPERTY SERVICES (LPS)

The historical background – a general overview

Land registration was introduced in Ireland in 1891 as a result of land reform legislation. Prior to that a Registry of Deeds system had been in operation since 1708.

The origins of the land reform date back to the period following the Great Famine of 1845 to 1848, when landlords had set about evicting tenants and creating larger, more economic holdings. The Land League was founded to fight for the rights of tenants, at first demanding fair rents, fixture of tenure and freedom of sale. Subsequently the Irish Party in the British Parliament took up the demands of the tenants and, eventually, the Land Purchase Acts were passed. Under these acts the government bought the land from the landlords and transferred the title to the tenants, who repaid the purchase price by annuities paid over a period of years.

To secure the repayments of the land purchase annuities the government required a system of sure knowledge of the titles of the former tenants. To enable land to be sold by the new owners, a reliable system of proving their titles was also needed. The Registration of Deeds system would clearly be inadequate. Its functionality was too limited, and it would not be able to cope with the huge increase in the number of ‘owners’ brought about by the Land Purchase Acts (from a few thousand to potentially millions). A precedent for what was apparently an effective system of title registration was available from Australia, where Robert Torrens (a graduate of Trinity College Dublin) had succeeded in having such a system introduced in 1857. Torrens visited England and Ireland promoting his system. In 1891, the Local Registration of Title Act was passed, setting up a Land Registry in Ireland, based on a modified version of the Torrens system.

Following the partitioning of Ireland in 1921 the records relating to the six counties forming the new state of Northern Ireland were moved to Belfast. A number of further Land Purchases Acts were passed in the period leading up to the Second World War which significantly increased in the number of titles held in the register.

Due to the way in which the land reform was enacted, changes to titles relating to properties in towns and cities continued to be recorded in the Registry of Deeds while transactions affecting rural farmland were recorded in the Land Registry. Annual transaction volumes affecting rural land remained constant until the late 1960s when the demand for housing meant the encroachment of urban property into rural land. The growth in private sector house building plus the introduction of right to buy legislation for tenants of public sector housing resulted in continual growth in business volumes.

The Land Registration Act of 1970 introduced legislation enabling the registry to commence a programme of compulsory first registration to bring those titles registered in the Registry of Deeds under the umbrella of the Land Registry. Due to budgetary constraints and other priorities the programme did not commence until 1996 with a small pilot project. Only properties sold for value are affected by the legislation. It was quickly recognised that the viability of extending the programme
Beyond the initial pilot area was dependent on the introduction of computerisation to the registry. The extension of the programme is discussed further in the section on computerisation.

The more stable economic conditions created by the reduction in terrorist activity and lower interest rates have in recent times created a boom in house building and remortgaging which has resulted in a dramatic increase in business volumes. In 2003/4 in excess of 220,000 transactions necessitating a change to the register were received along with 266,000 requests for searches and copies of documents.

The registry operates a general map system as opposed to the filed plan mapping systems in use in the other United Kingdom registries. Under the general map system the boundaries of all holding are shown on a single map sheet in conjunction with one another.

The register is an open register and anyone can, on payment of the appropriate fee, view the map and text records or any document relating to those records.

**Aims and objectives**

The principal aims of the Land Registry are to support the conveyancing and property markets in Northern Ireland by:

- guaranteeing the validity of title to registered land
- responding quickly and accurately to requests for land information
- providing electronic services to customers in accordance with the Modernising Government initiative and in pursuance of the department’s E-business strategy and the over-arching ISIT Corporate Strategy Framework which is the key reference for government organisations in Northern Ireland
- increase the amount of land information available to the public by extending compulsory registration of title throughout Northern Ireland, and
- resolving disputes regarding registered land.

Targets and objectives are agreed each year between the Minister and Chief Executive.

**Guarantees and indemnity**

In common with the other United Kingdom registries, titles in the Land Registry of Northern Ireland are guaranteed by the state. The guarantee does not however extend to the information contained in the registry map unless all parties common to a legal boundary request that it be registered as conclusive. The number of applications to register boundaries as conclusive in any given year is extremely small.

The registry has had few if any claims for compensation in recent years.

**Size of the system**

The population of Northern Ireland is approximately 1.7 million.
It is estimated that there are around 500,000 titles registered in the Land Registry, equating to approximately 60 per cent of the total of all titles to land in Northern Ireland. The remaining 40 per cent of titles are registered in the Registry of Deeds. A progressive increase in the number of titles registered in the Land Registry will happen over the next 10 years due to the impact of the recent extension of the programme of compulsory first registration to all of Northern Ireland.

Services to the public

The work of the Land Registry can be divided into two main areas.

Applications for registration

These are applications to update the information held in the register. On average 400 are received each day. The most common application is that relating to the sale of an existing house where the previous owner’s mortgage is released, the ownership updated with the new owners’ name and a new mortgage recorded against the title.

Land information services

These services relate to personal searching, official searching and the provision of copy documentation. These are important services that assist purchasers in ensuring that there are no matters, which will prevent the final completion of a sale. The registry also operates a priority search service where anyone entering into a transaction affecting a title can apply to have priority for 40 days ahead of any other transaction that may arise.

These services are now totally electronic and the registry has noticed a considerable broadening of the customer base in relation to personal searching. Prior to the introduction of electronic searching the main customers would have been those dealing with land transactions such as solicitors, legal services providers and so on. The customer base has now extended to include local councils, law enforcement agencies, banks and revenue collectors.

Organisation of the Land Registry

Due to the small size of Northern Ireland all Land Registry operations are centered on the headquarters building in central Belfast.

The Registrar of Titles is responsible for maintaining the Land Registry of Northern Ireland and the post is supported by a Deputy Registrar of Titles. Under the provisions of the Land Registration Act the Registrar of Titles must be a lawyer. The post holder has quasi-judicial powers to grant title and resolve disputes.

Day-to-day operational matters relating to finance, personnel and achievement of performance targets are the responsibility of the Director of Corporate Services and Planning. Currently there are 200 staff employed by the Land Registry.

Policy, privatisation and improving the management of government

During the early 1990s there was extensive reform of the Northern Ireland Civil Service. The reforms focused on the need improve services and increase value for
money and mirrored those which had been successfully applied to the Civil Service in England, Wales and Scotland in the 1980s.

Following a comprehensive options review in 1995 a decision was taken that the Land Registry should become an executive agency within the Department of the Environment. In 1996 the Land Registers of Northern Ireland agency was established. The agency has responsibility for three separate registries: Land Registry, Registry of Deeds and the Statutory Charges Registry (a registry recording statutory restrictions against land or property).

Executive agencies are headed by a Chief Executive who is accountable to the minister. Given the small size of the Land Registers agency the Chief Executive also fulfills the role of Registrar of Titles. On launch the Chief Executive made customer focus as a key aim for the agency, establishing communication channels with customers and concentrating on their main service requirements.

The agency operates under a framework document which sets out the requirements of the minister, the agency's targets, lines of accountability and delegation limits. The agency operates under a net running cost funding regime. Under this arrangement it has access to the fees generated by workload over and above that which was projected. This arrangement has worked well, however it is recognised that a move to trading fund status may ultimately prove more appropriate. The potential to become a trading fund is currently under investigation.

Agency status has had a very positive impact on the organisation, focusing managers on being more businesslike in the delivery of services.

To recognise its establishment the agency hosted a land registration conference attended by representatives from a number of other registries. This conference was the foundation for bi-annual conferences where issues of mutual interest are discussed. The popularity of the conference has grown with registries rotating its hosting and the number of participants broadened to include a number of European registries.

**Targets and performance measures**

The agency's key performance measures are:

1. Finance
   1.1. Level of financial and budgetary control achieved.
   1.2. Percentage efficiency gains on running costs expenditure.
   1.3. Full cost recovery achieved.

2. Output
   2.1. Number of application units processed per member of staff per month.

3. Efficiency
   3.1. Turnaround times for registration and land information services.
   3.2. Unit cost targets achieved.

4. Quality of service
4.1. To achieve an accuracy rate of at least X per cent in processing applications for registration.
4.2. To achieve an X per cent customer satisfaction rate based on independent customer surveying.

**Computerisation**

The registry has only recently introduced computerised processes. The delay was in the main due to:

- the small size of the registry
- a failure by the parent department to make a firm commitment to the considerable capital funding required to deliver the computerisation programme, and
- limited technical capability within both the parent department’s information technology unit and the registry to deliver the system.

As a result of a number of major failures with public sector IT procurement the last Conservative Government introduced the Private Finance Initiative (PFI). The major tenets of the initiative were to lever in private sector finance and expertise into the delivery of public services. Using this procurement approach the specification of requirements is expressed in output terms thereby allowing for innovation and the use of emerging technologies. Design and development risks and any associated cost overruns are hence passed to the private sector. The private sector gets its return on its initial investment via staged payments over the lifetime of the contract.

Following its introduction in 1993 all IT procurements were required to demonstrate that they had testing for the suitability or otherwise of using the initiative as a procurement option. Following the election of the Labour Government in 1997 the initiative was re-named the Public Private Partnership (PPP) initiative.

Following a lengthy procurement exercise Land Registers awarded a PFI/PPP contract to Syntegra, the systems integration division of British Telecom (BT), in the summer of 1999 for a range of computer related business services. The contract is for an initial 10-year period with a review option at year seven and possible extension to 15 years. The main elements of the service are:

- back conversion of the map and text archives of the three registries into computerised format
- provision of a suite of standard office products, email, word processing and so on
- the replacement and upgrading of the computer network within the headquarters building
- the provision and ongoing maintenance of all computer hardware
- the development of a computerised registration system with integrated workflow, text processing and digital mapping capability
• leasing of the Ordnance Survey large scale digital map for all of Northern Ireland, and

• change management and training services.

The contract was the first fully financially free standing (PFI/PPP) in IT. Land Registers did not make any up-front investment in the project. BT gets a return on its investment by receiving a payment each time a transaction is completed by the system. Given the demand-led nature of the Land Registry’s business, the arrangement fits well with any future upward or downward trends in business volumes.

BT viewed the advancement of the compulsory first registration programme and the increased levels of business it would generate as key to the recovery of its investment. In order to ensure that the system was capable of dealing with the increased volumes Land Registers made the extension programme dependent on confirmation of the systems performance.

The computerised system is known as LandWeb and has been developed by close collaboration between Land Registers and Syntegra project teams. Land Registers providing the detailed business knowledge and Syntegra the design and development innovation. A key success of the project has been the opportunity to examine and totally re-engineer the registration process. The integration of workflow, text processing and digital mapping means that a single user can now complete all registration tasks at a single session. This provides a major efficiency when viewed against the previous compartmentalised approach to registration.

The digital map consists of two distinct data sets, i.e. vectorised Land Registry data and Ordnance Survey Northern Ireland large-scale digital mapping data. The two data sets are subject to update independent of one another. Land Registry receives regular updates from OSNI of areas where there is continuous change, for example a new housing development, which are used to update the information underlying the Land Registry data. This approach allows the registry to quickly confirm that a legal boundary is or is not reflective of its ground position.

Computerisation of data and operations has allowed the registry to introduce direct access services. LandWeb Direct went live in September 2002. Currently the service is only available to registered users who apply for the service. However it is intended to extend the service to the general public. The service allows users to search, view and download locally information held in the archives. The service uses the Government Gateway as a means of securely authenticating users accessing the service. Its popularity has grown rapidly since its introduction with in excess of 20,000 transactions now being completed each month. Eighty four per cent of all Land Registry searches are now completed via the internet. The system provides the following payment options: suspense account, credit or debit card. A recent survey by the Law Society of Northern Ireland of its members confirmed that LandWeb Direct is the most used website by practitioners.

The LandWeb project has totally transformed operations and has allowed Land Registers to, in a very short timeframe, get on a par with the other United Kingdom registries. The LandWeb project has received many commendations, the highest being winner of the IT category at the United Kingdom PFI of the year awards in 2000 where it was described by the judging panel as truly demonstrating the transformative nature of PFI.
E-conveyancing

The success of the online access for information enquiries has created a firm foundation for the potential to extend the service to online registration. The Law Society for Northern Ireland have expressed a keen interest in becoming involved. However a number of changes to Land Registry legislation will be required to enable e-conveyancing to become a reality.

Financing Land Registry services

The Land Registration Act requires that fees for services must be set at a level sufficient to cover the expenditure incurred in operating the registry. The setting of fees is the subject of consultation with the Land Registry Rules committee, the minister and those bodies forming the customer forum: the Law Society of Northern Ireland, Estate Agents representative body, the Council of Mortgage Lenders, the Northern Ireland Housing Executive and the Northern Ireland Consumer Council.

The main objective in setting fees is to set them as low as is practical while continuing to improve the delivery of service.

Fee income

In 2009 the total Land Registry fee income was just in excess of £14 million.

Consultation and reference

The Land Registry has established the following communication channels to seek feedback on all aspects of customer service.

- The Customers’ Forum, which represents the views of solicitors, estate agents, mortgage lenders, law searchers and public sector customers.
- Regular meetings of the Land Registry/Law Society Liaison Committee.
- Analysis of customers complaints.
- Comment sheets at public offices.
- Annual customer satisfaction survey.
5. NATIONAL MAPPING

This section describes the functions, structure and relationships of the national mapping agencies in the three jurisdictions of the United Kingdom

a) England and Wales, and Scotland  
b) Northern Ireland

a) NATIONAL MAPPING FOR ENGLAND AND WALES, AND SCOTLAND: ORDNANCE SURVEY

Ordnance Survey is the national mapping agency of Great Britain, with a long history of producing paper maps and intelligent geographic data. This information benefits tens of millions of people every day, assisting public sector activities from helping police to detect crime patterns and locating sites for house building, to planning new countryside access and controlling the flow of urban traffic. A study in 1999 found that the information produced by Ordnance Survey underpins £100 billion economic activity in the country.

In the ‘cadastral’ environment Ordnance Survey provides contextual detailed topographic mapping information to help defining the spatial extent of a property or title in the real world. Ordnance Survey’s data is used as reference data by the other organisations mentioned in this document to define the spatial context of their own map data, which is often derived from Ordnance Survey data.

Staff numbers and geographic spread

Ordnance Survey’s 1,300-strong workforce includes more than 250 surveyors who constantly measure and record the changing British landscape from a network of field bases stretching from Inverness in north-eastern Scotland to Truro in south-west England.

Information gathered by ground and air surveys is added to a large database (The National Geographic Database – NGD) at the Southampton head office, building an electronic map documenting the whole of Britain. This new generation of data is called OS MasterMap®, which references more than 440 million man-made and natural landscape features. Aerial photographic images, property address data and integrated transport information complement this topographic mapping, with around 5,000 changes made to the database every day.
Historical background

Ordnance Survey was formed in 1791, when the government realised that in planning defences to repel invasion the south coast of England needed to be accurately mapped. It instructed its Board of Ordnance – part of the defence ministry of its day – to complete the necessary survey work. This led to the decision to map the whole country, with the first Ordnance Survey map published at a scale of 1 inch to 1 mile in 1801 of the County of Kent.

Large-scale surveys commenced in the 1850s. The first large-scale map was converted to computer form in 1973 and by 1995 the last of the 230,000 maps was digitised. As a result, Britain became the first country in the world to complete a national 'electronic jigsaw' of highly detailed maps, with urban areas mapped at a nominal scale of 1:1250 and developed rural and mountain and moorland areas at nominal scales of 1:2500 and 1:10 000 respectively.

Trading fund

An independent government department since the mid-1800s, Ordnance Survey was established as an executive agency of UK government in 1991 and became a government trading fund in 1999. This means that it is financed through data licensing rather than direct funding from the taxpayer. This gives it the freedom to innovate and develop with a duty to observe specific financial targets set by the Treasury. The finances of the collection, maintenance and provision of national geographical information are separated from general taxation revenue, providing a sharper focus on achieving value for money and providing key services and supplies more effectively.

Ordnance Survey does not seek general funding from Parliament each year but reports to Parliament through the Secretary of State for Communities and Local Government. Its trading fund status means it can reinvest profits and plan for the longer term rather than on a year-to-year basis. In 2010 Ordnance Survey concluded a commercial arrangement with UK government to license a range of medium and small scales datasets to government, for free distribution and re-use by citizens and businesses including commercially.

Revenue

Ordnance Survey is required to earn sufficient revenue from the licensing of digital information and sales of paper mapping to meet its operating costs, fund investments in enhancements to the data in response to the developing demands of users, and to cover payment of a dividend to government as a return on capital employed. After 10 years as a trading fund Ordnance Survey has grown to be a £120 million per annum business which trades both directly with end users in both public and private sectors. Ordnance Survey also works in partnership with around 500 private sector businesses who trade Ordnance Survey data or form part of the paper map supply chain. With the exception of years 2000/1 and 2001/2, when pre-planned losses were made during a period of investment, Ordnance Survey has made a trading surplus in each year of the trading fund, enabling it to invest significantly in enhanced data content, currency and specification, and cost efficiencies, for the benefit of all users.
Geodetic reference

Ordnance Survey maintains the geodetic reference system in Great Britain. All mapping products are currently based on a consistent coordinate system for Great Britain, the British National Grid. Ordnance Survey offers a definitive, high accuracy coordinate transformation between the British National Grid and the pan-European GPS-based ETRS89, and also defines and looks after the height datums in Great Britain along with their transformations to ETRS89. A real time GPS reference network covering the whole of Great Britain is also maintained with raw GPS data being served to the public for free over the internet. Ordnance Survey has also developed a national Real Time Kinematic (RTK) network that enables centimetric positioning for internal use – with external potential.

Topographic mapping

The mapping data that is most widely used by the other organisations mentioned in this document is topographic data. This data comprises representations of physical landscape features a surveyor can record on the ground or from aerial photography. The data contains no explicit property boundaries but does contain administrative boundaries such as counties or districts. Typical features in the data are building-footprints, road carriageways, pavement extents, fences, hedges and vegetation boundaries. While the corner of a building is a feature that can accurately be identified in the real world even decades after the building has being built (but not altered) the position of a hedge or fence is naturally less accurately defined, but generally still used to suggest property extents. Physical markers, as used in continental Europe to physically define otherwise non-physical boundaries, such as the title extent of a property, are not used in Great Britain.

National coverage for the digital topographic database has been available since 1995 in a tile-based (digital map sheet) environment. Since 2001 the data has been available in a seamless database product called OS MasterMap. Every feature in this database has its own unique identifier or TOID® – a 16-digit reference number that can be shared with other users across different applications and systems. This allows easy data association and greater accuracy, focusing on real–world objects on the map. OS MasterMap's unique polygons can be coloured, improving visual display, hence facilitating the interpretation of what is actually on the ground.

The accuracy to which this data has been collected is closely related to the scale of the original mapping. This was 1:1250 in urban areas, 1:2500 in rural areas and 1:10 000 in mountain areas. Thus data in the mountain areas is captured to a lower positional accuracy than that in the urban areas.

Positional Accuracy Improvement

A large amount of the surveys that formed the backbone of the initial large-scale digital base data was acquired during the latter part of the 19th and first half of the 20th centuries. At that time it was common practice to use separate, county-specific reference and coordinate systems to survey and display the maps (County Series maps). A fundamental approach to integrate those projections into one common metric coordinate system for Great Britain, the British National Grid, was initiated in 1935 and completed around 1980. With the technology available at the time, the maps were repositioned into the National Grid using a semi-graphical method of adjustment, but could not always be re-assembled without discrepancies. Efforts were made to absorb these into more flexible features, such
as rivers or open land, rather than built-up areas, but the inevitable result was the inclusion of non-systematic errors in the resulting map. At the time, and in the decades following these discrepancies were not significant to the users of the maps. However, the arrival of GPS highlighted them.

To allow the use of GPS measurements in conjunctions with these maps, achieve internal efficiency gains, and offer a better accuracy standard to the users, in 2001 Ordnance Survey commenced a programme to improve the Absolute Positional Accuracy of its rural large-scale map base. This affected all rural mapping totalling about 155 000 km² or two thirds of Great Britain’s land area. The programme was completed in March 2006.

For users of this data, particularly in the ‘cadastral’ environment this potential results in the need to bring derived datasets, such as digitised property extents, back in sympathy with the positionally improved reference data.

**Maintenance and collaboration**

One of Ordnance Survey’s core tasks is to constantly collect physical changes in the real world, integrate them into the map data and make them available to the data users. Modern capture technologies such as GPS, mono and stereo plotting from aerial photography are utilised.

Features that require a high currency of updates, such as new buildings, are guaranteed to be available in the map data within six months of Ordnance Survey becoming aware that they have been built. Minor detail changes, such as a changed fence line, are collected through a cyclic revision programme.

In the case of Land Registry, Ordnance Survey’s topographic map data is used to digitise the extent of a title. Ordnance Survey data does not define the legal extent of a title as such, but can be indicative. In order to meet Land Registry’s need to access new property developments very closely after they have been built, Ordnance Survey has agreed to survey such developments on request by Land Registry within an agreed time of less than one month and deliver the surveyed features to them through a very efficient delivery mechanism on a daily basis.

Ordnance Survey also co-operates very closely with the Valuation Office Agency, Registers of Scotland and most local and central government departments, who are all licensed to hold digital map data from Ordnance Survey.

Ordnance Survey’s active engagement on a European and worldwide level on issues relating to data include EuroGeographics, EuroSDR, the Permanent Committee on the Cadastre, the UNECE WPLA, the International Federation of Surveyors (FIG) and the Open GeoSpatial Consortium.

**Products and services**

Ordnance Survey offers a wide range of digital and paper map products which are relied upon by users within both the public and private sectors. These include large, medium and small scales topographic mapping, road network data, administrative boundary polygon data, address, gazetteer and postal code information, aerial imagery and height data in both contour and DTM formats.
These digital datasets are supplemented by a range of medium and small scales printed paper maps, together with plot on demand, user defined mapping and a GPS positioning service.

In addition to these data-based products Ordnance Survey also offers an Applications Programming Interface (OS OpenSpace™) through which developers, charities and small businesses can build web-based mapping-related applications using Open Source software and a wide range of freely accessible data. This service has been supplemented from 1 April 2010 by OS OpenData™ - the provision of a portfolio of datasets for free reuse.
b) NATIONAL MAPPING FOR NORTHERN IRELAND: LAND AND PROPERTY SERVICES (LPS)

National mapping for Northern Ireland was provided by Ordnance Survey of Northern Ireland (OSNI) until 2008 when the agency merged with the Land Registers, the Valuation and Lands Agency and the Rate Collection Agency to form Land and Property Services (LPS). Mapping products created by LPS still carry the OSNI® brand. LPS is an executive agency in the Department of Finance (DFP). It is the official government organisation responsible for supplying mapping and geographic information services for Northern Ireland.

LPS’s work provides the foundation for information about location. It captures and records data about place and location, it defines direction, distance, area and height, and it provides the unique record of Northern Ireland’s landscape and built environment.

LPS mapping information is supplied under licence to many customers, primarily to support the work undertaken by government in the public’s interest. However, LPS also provides its mapping information to many other organisations to support their operations of for their commercial exploitation.

Historical background

Early in the 19th century it became obvious that the local taxes in Ireland, which were called the County cess and based on townland units, were inequitable and that although the names and outlines of the divisions were assumed to be well known, the acreages and rateable values were doubtful. On the recommendations of the Spring Rice Committee a survey of all Ireland at a scale of 6 inches to one mile was authorised by the British Parliament in 1824. Lt Col Thomas Colby was chosen to undertake this task and established his headquarters in Mountjoy House in Phoenix Park, Dublin, where Ordnance Survey Ireland remains to this day.

The division of Ireland in 1922 resulted in the emergence of separate Ordnance Surveys: the original body, which had been responsible for mapping Great Britain and Ireland, now responsible for England, Wales and Scotland; the Ordnance Survey of Northern Ireland; and a third Ordnance Survey, which remained in Mountjoy House, taking responsibility for the survey of the rest of Ireland.

In 1981 OSNI carried out a feasibility study to establish the benefits of replacing conventional map production with computer-based systems. The plan involved digital conversion and updating of the paper map archive (completed in 2000) to provide not only a complete digital topographical database of Northern Ireland but, more importantly, form the basis for the development of a geographic information infrastructure linking all major government and public utility functions.

OSNI/LPS in the 21st century

Today LPS employs more than 160 staff on mapping activities based in its headquarters in Colby House, Belfast, and in a number of regional offices throughout Northern Ireland. The job of maintaining the mapping infrastructure provides the main focus of the Data and Information Systems (DIS) Directorate
within LPS. The provisions of detailed and up-to-date maps is essential to the needs of a modern society; not only are maps needed for land registration and planning purposes, they are fundamental to the emergency services and for emergency planning purposes.

LPS mapping does not in itself define the extent of the legal tile. However it is used by the land registration function of LPS as the basis for the vectorised Land Registry data.

LPS surveys all of Northern Ireland at scales of either 1:1250 or 1:2500 and the mapping is kept up-to-date through two revision programmes: Continuous Revision (CR) where major\(^1\) topographic change is captured into the database within six months of notification and the Periodic Revision (PR) programme where all other topographic change is captured on a regular basis.

In instances where the land registration sector of LPS requires a survey of a new building development that, due to its unit count, would not be included within the normal CR programme, DIS will usually undertake a special survey and fast track the supply of the updated digital map tile.

The mapping is updated from aerial photography on digital stereo workstations and by field survey teams using pen computers.

OSNI implemented an internet-based system for the production of address centred maps in November 2003. The online address centred extract (ACEmap) is widely used within the land registration process.

**POINTER**

Pointer® is the name given to the address database for Northern Ireland created from data supplied by LPS, Royal Mail and the local councils. It provides a common standard address for every property in Northern Ireland. Each property has been allocated a unique reference number and geo-spatial coordinates.

The Pointer database was created following a complex data matching exercise on the address datasets originally maintained by Ordnance Survey of Northern Ireland, Royal Mail and the Valuation & Lands Agency. Following this data matching exercise, extensive ground validation work was undertaken in order to verify the accuracy of addresses. This exercise was undertaken across Northern Ireland, and ended in November 2003.

A team has been established within LPS to manage the development of the Pointer system, and to fully develop and implement the address life cycle to ensure that the integrity of the address data is maintained.

**Geographic Information (GI) strategy for Northern Ireland**

LPS is currently driving the implementation of a new 10-year GI Strategy for NI 2009 – 2019, Effectively using information on location. Northern Ireland was the first UK region to devise a GI strategy in 2003 and this work has been evolving ever

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\(^1\) Major topographic change is defined as properties or road changes of 10 units or more, where a unit is a house and its associated property boundary, or 20 metres of road complete with footpaths.
since. The new strategy sets out a clear vision for the use of GI in NI in 10 years’
time and identifies strategic action areas to enable the vision to be realised by
building on the strength of the previous strategy. The vision is:

“We will improve the services and thereby develop the economy, the environment,
and the society of Northern Ireland by placing information about location at
everyone’s fingertips and supporting the development of sufficient skills and
knowledge to exploit this information.”

The strategic action areas for the strategy are:

- **realising the business benefits** – ensuring that senior managers
  understand the benefits that flow from using geographic information
effectively, so that it becomes a standard part of decision making
- **education, skills and staffing** – ensuring that a sustainable, skilled
  workforce is in place to drive the development of GI and the subsequent
  increased efficiencies
- **data sharing** – improving data sharing to remove barriers to improving
  services
- **data collection and project collaboration** - developing a standardised
  approach to these key areas.

The governance structure for the GI Strategy consists of a delivery board which is
tasked with implementing the strategy, chaired by the Chief Survey Officer and
consists of a broad representation of sectors. There is also an overarching GI
Council chaired by the Permanent Secretary with a non-executive role to broaden
the awareness of GI and its benefits. There are links with the UK via the Chair of
the Delivery Board sitting on the Location Council. Informal links have also been
built with the other devolved administrations in Scotland and Wales and with the
Republic of Ireland – recognising the shared land border.
### 6. CONTACT NAMES AND EMAIL ADDRESSES

*The following agencies in the United Kingdom provided the information in this document*

<table>
<thead>
<tr>
<th>Agency</th>
<th>Contact person</th>
<th>Email address</th>
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<tbody>
<tr>
<td>Valuation Office Agency for England (VOA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scottish Assessors Association (SAA)</td>
<td>Clark Low</td>
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