

CADASTRAL INFORMATION SYSTEM

a resource for the E.U. policies

OVERVIEW ON THE CADASTRAL SYSTEMS OF THE E.U. MEMBER STATES

PART II.



PERMANENT COMMITTEE ON CADASTRE IN THE EUROPEAN UNION

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PERMANENT COMMITTEE ON CADASTRE IN THE EUROPEAN UNION



The editing of second part of the PCC official document on the Member States cadastral systems “Cadastral information system: a resource for the E.U. policies” is part of the activities promoted by the Czech Office for Surveying, Mapping and Cadastre during the Czech PCC Presidency period.

In its first edition, the document included eight monographs drawn up by experts of the national cadastral institutions of Austria, Belgium, Czech Republic, Germany, Italy, Slovakia, Spain and Sweden.

This second part of the document contents monographs of further six cadastral institutions of following countries: Cyprus, Finland, Greece, Hungary, Poland and Slovenia to whom I would like to express many thanks for their contributions without which this second part of the document could not be issued.

The PCC will take great care in carrying on this work, in order to draw up the monographs concerning further Member Countries and provide complete information on cadastral systems throughout the European Union.

Prague, May 4th, 2009

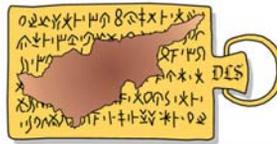
Karel Večeře

President of the Czech Office
for Surveying, Mapping and Cadastre
President of PCC

1st January – 30th June 2009

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THE CADASTRAL SYSTEM IN CYPRUS



<http://www.moi.gov.cy/dls>

March 2009

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1 THE DEPARTMENT OF LANDS AND SURVEYS

1.1 Introduction

The Department of Lands and Surveys (DLS), of the Ministry of Interior, is the oldest (started operations in 1858), and one of the largest departments of the Government of the Republic of Cyprus. Its role and responsibility have been of immense importance, particularly in operating the Cyprus Land Registration System. The Department, as an umbrella governmental organisation, manages all major land matters of Cyprus including surveying and maintenance of the state survey infrastructure, mapping, investigation into title, registration, conveyance, valuations of property, conservation and management of State Lands, land tenure and registration of encumbrances.

Map of Cyprus



The Department of Lands and Surveys of Cyprus initial and main responsibility is the registration of immovable property on the island. However, throughout the years, the Department has expanded its services and activities offered to the public, emerging into a dynamic and multifaceted organisation.

The Department of Lands and Surveys is highly noted throughout the world for its concrete legal system of land administration, ownership and tenure, as well as for the clear and solid procedures which are in effect throughout it. The function of land registration in Cyprus provides a safe and secure foundation for the acquisition, enjoyment and disposal of rights in land.

DLS administers statutes providing services for the property rights of individuals effectively and efficiently within a unified coordinated structure, with distinct branches in Tenure, Registration, Valuation, Management of State Lands, Survey, Cartography and Administration.

Additionally, the Department acts as the Official Cartographic Organisation of the Republic for the compilation, production and issue of maps and plans for which the state copyright is reserved through its Cartography Branch.

Although the system of land registration, ownership, valuation, survey, and cartography has the prime responsibility of ensuring the protection of the interests of individual landowners, it also serves as an instrument of national policy regarding the market of real estate, as well as a mechanism to support the economic development of Cyprus.

The ways in which a proper legal system of ownership in Cyprus serves the purpose of the real estate market, can be seen in the way the Department of Lands and Surveys land ownership recording systems operates. It contains a legal definition of real property units which accurately reflect the condition on the ground; it facilitates land transfer through a simple and secure system; it eliminates the need for extensive searching for a chain of titles like in other countries; it is supported by legislation which requires it to be up to date at all times; all rights are recorded including ownership and restrictions on properties; it covers all land including State land, as well as that held by individuals, firms or institutions. Nearly most processes are fully computerised, highly visible, and clearly understood by the public, enabling everybody to have confidence in the system.

The DLS Land Information System (C.I.L.I.S) is considered to be nationally uniform and sustainable; a basis for implementing local taxation, land use and building control; a flexible mean of administering property rights; a basis for land titling which is easily accessible and user-friendly; a basis for delivering social justice in relation to land reform and resource allocation.

In general, a multipurpose cadastre is the first priority for many countries nowadays; along this, the parcel of property will be the fundamental building block of an integrated system of land information. In Cyprus, the Department has managed to implement a fully integrated Land Information System that supports a wide range of decision making elements, including land conveyance, equitable taxation, resource management and environmental planning.

Overall, the general strategic objective of the Department has always been to establish a fixed boundary

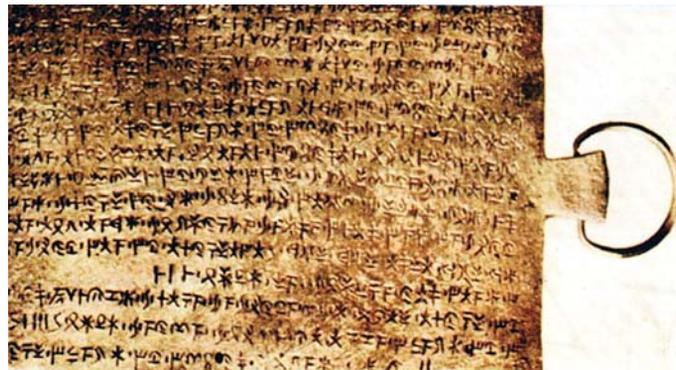
coordinated cadastral system after a systematic resurvey, the computerisation of land records/registers, cadastral plans and topographical maps, the complete development of the Land Information System, to fully support all the functions of the Department, and the staged development and implementation of a National Land Information System (N.I.L.I.S) where all agencies with land related activities can share available data for the benefit of the economy of the country.

2 HISTORICAL BACKGROUND

2.1 From 1858 to 1946

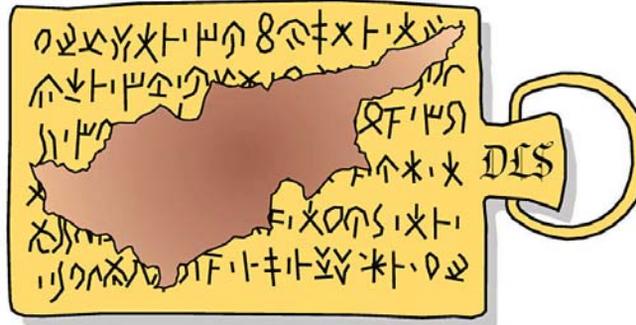
The Department of Lands and Surveys of Cyprus started its operations in the year 1858 and is considered to be the oldest governmental department of the public sector in Cyprus.

The “Idalio” Inscription – 5th century B.C.



Land ownership has always been very popular amongst Cypriots. For various reasons (social, economic and cultural), the people of Cyprus have been very closely attached to the land. There is archaeological evidence that from the 6th millennium B.C., the Cypriots practiced agriculture on a communal basis and by 1400 B.C. the idea of individual ownership had developed. What can be described as a title to land is an inscription of the 5th century B.C., excavated at Dali village, indicating the development of private ownership in ancient Cyprus. The interesting features of this so called sign, is that it provides us with the evidence that at that moment in history, clear laws regarding land ownership were developed, which included personal land property laws, land ownership of the kings – something today called ‘public or state land’, land ownership of the cities, property owned by the church, property taxation and security of tenure and ownership even as appointed by the Gods.

The New Emblem



The inscription excavated at Dali village has formed the basis for the creation of the new emblem of the Department of Lands and Surveys.

Over the Hellenistic Period, the Roman and Byzantine Times and the conquest of the Crusaders, the Franks and the Venetians, the land tenure patterns of Cyprus passed through a series of changes and transformations, with a prevailing characteristic of feudal tenure, a system of tenure based on social hierarchy, aiming at social order, without concern for the rights of the individual. There were the feudal lords – the owners of the land – and the serfs – slaves' cultivators who were attached to the soil and formed part of the land.

The period under the Ottoman occupation (1570-1878 AD) had the greatest influence on the patterns of land ownership and tenure of the 20th century. Initially, all rural land was declared by the Ottomans as crown land (miri) and the peasant-cultivator had a mere right of user, which, however, was inheritable, whereas certain lands were held in absolute ownership (M u l k). Under the Ottoman Land Code (1857), the Bundle of Property Rights was subdivided into the legal ownership (corpus) and the right of possession. There were five categories of land: Mulk, Arazi Mirie, Arazi Mevkoufe, Arazi Metrouke and Arazi Mevat. By far the most important were the first two. In Mulk (trees, buildings and residential land in 1920) both the legal ownership and the right of possession belonged to the owner of land (i.e. there was absolute ownership). In Arazi Mirie (cultivable land and forests), the legal ownership was vested in the State and the cultivator had the right of possession. There were different rules of inheritance for Mulk and for Arazi Mirie, for Moslems and for non-Moslems and also different periods of prescription. For this reason, separate registrations had to be issued for land and trees or buildings standing thereon.

2.2 The Land Ownership Problem

2.2.1 General Aspects

Title Certificate from the Ottoman Period



During the 19th century, the pattern of land tenure in Cyprus developed so as to serve the purposes of land use, within the framework imposed by the customs and traditions, and the economic, social, religious and political needs and circumstances of that time. The economy of the island was based on subsistence agriculture, with a self-supported, extensive cultivation, requiring a variety of soils and crops, to diversify the risks of unfriendly weather. This dictated the need for a scattered, fragmented type of ownership.

With changing economic conditions, intensive cultivation and specialisations of labour of the 20th century, the pattern of land tenure failed to adapt to changing circumstances and the Land Ownership Problem was created, a serious case of a heavily ailing system of land tenure. The Problem was composite and

its causes were many and varied. It had three main aspects, multiple ownership, co-ownership in shares, and fragmentation.

Multiple ownership - different owners for land and trees standing thereon - was mainly due to the need to issue separate registrations for land and trees as mentioned earlier. Co-ownership in shares was the result of the system of inheritance of Cyprus - all children inheriting a share in their parents' estate.

Fragmentation was the most serious defect of the tenure system and was accompanied by irrational subdivisions, bad shapes, lack of access, etc.

A gradual approach to a reform started with the revolutionary legislation of 1946. All rules and procedures of land tenure and ownership were restructured to be consistent with the overall requirements of the market and furthermore economic development. These included the abolition of old categories of land; fixing of minima to subdivision of land; gradual elimination of multiple ownership and co-ownership, rationalisation and simplification of the rights of way.

3 THE 1946 LEGISLATION

3.1 General Aspects

The Legislation of 1946 comprised mainly of two laws: The Immovable Property (Tenure, Registration and Valuation) Law and the Wills and Succession Law. The main objectives of the new legislation were pursued through two directions: by the immediate implementation of a series of negative measures, putting an end to the degenerating processes of multiple ownership and fragmentation and simultaneously, by the introduction of an ingenious set of voluntary positive stipulations, inviting an owner to seek the application of the remedy to his defective land.

The new legislation provided, in a nutshell, the following:

1. Abolition of the old categories of land;
2. Simplification of the periods and rights of prescription;
3. Fixing of minima to subdivision of land;
4. Gradual elimination of multiple ownership;
5. Gradual elimination of co-ownership;
6. Rationalisation of the rights of way;
7. Simplification of the law of inheritance.

The negative measures prevented the creation of more multiple ownership and excessive fragmentation. Already existing defects could be remedied by positive measures, the most important of which were rights of compulsory acquisition, rights of option, rights for re-adjustment of interest, rights of compulsory partition, or rights to sell a property at auction as indivisible. By a later stipulation, a right for compulsory acquisition of an easement was also created by the law.

The authority responsible for the application of the provisions of the Law was – and still is – the Director of the Department of Lands and Surveys, who was dressed with considerable powers. Under the Law, the Director has powers of enforcement of a quasi-judicial nature, as well as discretionary powers, both subject to the overriding power of the Courts.

3.2 The Significance of the 1946 Legislation

The legislation of 1946 must be seen as the first attempt by the State to put an end to the process of deterioration of the structure of land tenure which until then had been left to decline from generation to generation. Its introduction had a tremendous impact on the population, raising a wave of reaction, but welcomed also as a change which was long overdue.

Viewed in retrospect, the legislation of 1946 was the easiest way to a change. As a legal piece of work, it can be considered as a clever, well-balanced academic masterpiece offering a slow and risk-less remedy. Its restrictive provisions were a lesson for the creation of public conscience. Till 1946 there was an absolute immunity as to land use and the new law was introducing restrictions for the first time. On the other hand, it was something more than a mere series of static negative measures. It was a dynamic and positive approach to the problem of land tenure, offering ways and means to owners to achieve a remedy.

3.3 Effectiveness and Criticisms

The most striking effect of the new law was the rationalisation and simplification of the law of property (categories of land, prescription and inheritance). However, the targets set by the law have been criticised as being too limited and of restricted ambition. The generating forces creating more shares and fragmentation (system of inheritance and pressure on land) continued to exert their degenerative influence to the present day.

A specific point in the law which can be criticised is the way the two main categories of land – Mulk and Arazi Mirie – were merged into what was termed “Private Property”. As explained earlier, the extent of ownership for agricultural land (formerly Arazi Mirie) which was by far the most important category was in theory, limited to the Right of Possession, Legal Ownership having been reserved to the State. Had this Legal Ownership been retained by the State, it would facilitate more effective and cheaper land use control attempted by later legislation (Streets and Buildings Regulation Law and Town and Country Planning Law).

However, the most serious shortcoming of the 1946 legislation was that it came too late. By the late 1960’s it became evident that the sporadic and piecemeal remedy alone would not be sufficient to cope with the ever-worsening situation. A more drastic approach on a systematic basis was necessary, and this was land consolidation.

4 THE SYSTEM OF LAND REGISTRATION

4.1 Land Registration

Land registration is exercised in Cyprus by the Department of Lands and Surveys.

The system of land registration is a system of Registration of Title (as distinguished from Registration of Title deeds). The legal value of registration lies between an Indefeasible Title and a Defeasible Title. A registered person is considered to be the undisputed owner of the land and his title to ownership is absolute, subject to the Director’s power to correct errors or omissions under certain circumstances, and the inherent power of the Courts to order an amendment or cancellation of a registration.

Land registration is effected either systematically and is compulsory in areas decided, or sporadically at the instance of private owners. Registration may be either initial or by transfer.

The principal components of the land registration records include the Register, the Cadastral Plan, the Tax Register and the Certificate of Registration. Registrable interests are freeholds, leaseholds with a term of 15 years or more and easements. Horizontal ownership is also registrable, as well as encumbrances, i.e. mortgages.

The New Title Certificate

ΑΙΤΗΣΗ ΤΙΤΩΝ ΚΑΙ ΕΚΔΟΣΗΣ
ΕΠΙΧΕΙΡΗΣΙΑΚΗΣ ΑΠΟΦΑΣΗΣ Αρ. 1809/03

Κατηγορία :	1) ΑΣΤΙΚΗ	Αριθμός Εγγράφου :	1/23
Αδρας/Βοηθός :	012) ΚΑΘΟΣ ΕΥΡΩΠΑΙΩΣ	Αναφορά Κτηματολόγιο	
Ενοίκιο :	01) ΚΥΡΙΑΡΧΕΙΑ	Φύλλο :	23
Προσέλευση :	ΕΚΚΕΝΤΑ ΚΑΛΩΣ	Επέση :	1012/91
Αιτιολογία :		Τόμος :	3
Κατάσταση :	Διακρίση : — Τετρ. Μέτρο : 325	Τεμάχιο :	20
Πόνο :	Όπως περιγράφεται στο σχέδιο Κτηματολόγιο αριθ. 1809/03	Εμβαδόν :	3.1350

ΣΤΟΙΧΕΙΑ ΙΣΙΟΚΤΗΤΗ ΚΑΙ ΣΥΜΦΕΡΟΝ		
Αστυνομικός Αριθμός	Όνομα και Διεύθυνση	Μερίδιο
ΑΔΑΡΧΗ/170/7/10 ΑΦΣ 243	ΠΑΝΑΓΙΩΤΗΣ ΒΑΣΙΛΗΣ ΚΑΘΟΣ ΕΥΡΩΠΑΙΩΣ, ΑΣΤΙΚΗ	1/2

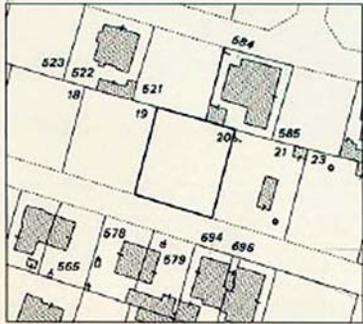
Παραγωγή Εγγράφου : 27/11/1969 Αριθμός Φακέλου : 1/72/10225/1969
ΠΕΡΙΓΡΑΦΗ ΑΚΙΜΩΤΗΣ ΙΣΙΟΚΤΗΣΙΑΣ
ΠΡΟΣΤΑΣΗ
Αγοραία Αξία με βάση 01/31/1990 : 637,505,00 Βετιγμένη Αξία : 6430,00

ΕΠΙΣΗΜΕΙΩΣΕΙΣ
Υπόκεινται κτίρια που δεν αναφέρονται στην εγγραφή (11/22/10/1998)

ΕΠΙΣΗΜΑΝΣΕΙΣ / ΣΗΜΕΙΩΣΕΙΣ

Ηλεκτρονική Έκδοση : 14/02/2003

Επίσημο Σφραγισμένο Κτηματολόγιο και Διαγραφές



Βλ. και τις επισημάνσεις στον κτηματολόγιο φύλλο

4.2 Right of Ownership

Since the dawn of civilisation when the importance of land started to be realised, land ownership has been linked with certain rights and duties for the owner which has evolved over the centuries to the idea of ownership, as it is understood today.

The most important duties of ownership are the duty to comply with all legislative requirements as to land use, enjoyment, development, or transfer of land, the duty to honour any contracts such as leases, grants or easements that may exist and the duty to pay all taxes and rates upon the land.

The basic rights in land are the right to the use and enjoyment of land, the right to income arising from land and the right to alienate or transfer land. The aggregate of ownership rights over a piece of land, comprises what has been termed as the Bundle of Property Rights.

4.3 Bundle of Property Rights

Even in freehold, land ownership rights are rarely absolute but may be restricted in different ways. If viewed as a Bundle, it is easy to understand how the rights of land ownership may be restricted.

The Bundle of Rights may be affected by contract entered into by the owner, by legislation, or by tenure. Examples of restriction of a right by contract are the grant of an easement (e.g. right of passage) by the owner to the dominant tenement. In such a case, the owner restricts his ownership rights in favour of the dominant owner, by grant.

Examples of a restriction of ownership rights by legislation are the inclusion of a property in Schedule “B” of the Antiquities Law, the publication of a street widening scheme under S.12 of the Streets and Buildings Regulation Law or the declaration of a road as a “Trunk Road” under the provisions of the same law and many others. An example of restriction by tenure is a case where under certain circumstances, on an owner’s death, his property “escheats” to the State (e.g. Mahlul). Also, in the case of a lease (tenancy), the duration of enjoyment is restricted.

5 ORGANISATIONAL ISSUES

5.1 Land Related Laws

The Department of Lands and Surveys is the state agency responsible for the application of the laws related to land property matters, for example:

The Immovable Property (Tenure, Registration and Valuation) Law, Capital 224 (1946);

The Immovable Property (Transfer and Mortgage) Law (9/1965);

The Compulsory Acquisition of Property Law (15/1962);

The Requisition of Property Law (21/1962);

and provisions of many other laws which deal with land. The Director exercises quasi-judicial powers in respect of boundary disputes, correction of errors or omissions in the Land Register and on the plans; compulsory partitions of immovable property held in undivided shares and eliminating ownership in shares where partition of the property is impossible.

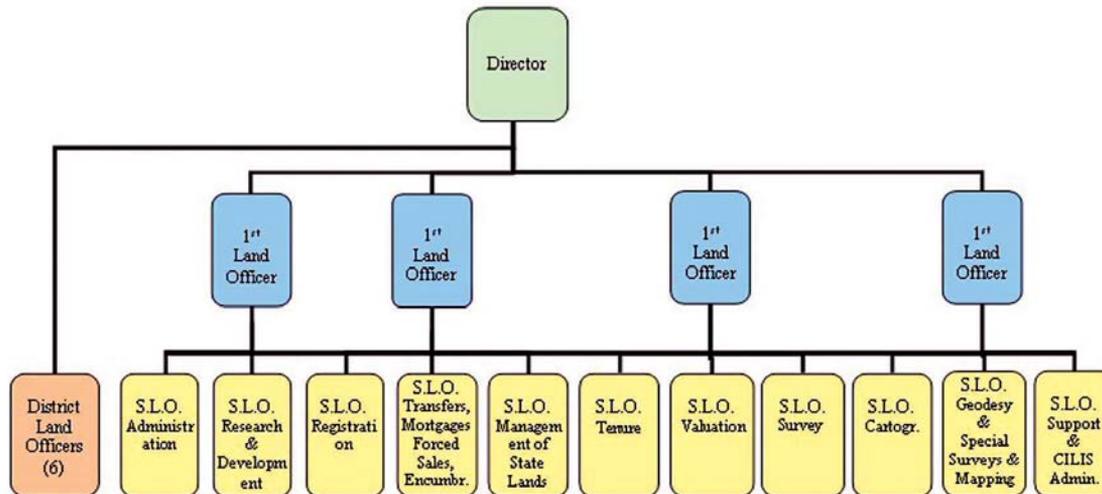
5.2 DLS Branches

In order to achieve its mission, the DLS is divided into seven branches, which independently or in cooperation are dealing with all the matters related to the legal, fiscal and spatial aspects of land in Cyprus.

- The DLS current Branches are:
- The Administration Branch responsible for all personnel administrative matters, the preparation of annual budgets and control of expenditure;
- The Registration Branch undertakes all the work associated with the registration of title, (issuing of certificates of registration, transfers, mortgages, keeping records for all charges and prohibitions);
- The Tenure Branch is responsible for land tenure matters including general registration and land consolidation;
- The Management of State Lands Branch is responsible for the management of the state land; under the provisions of the Law and Regulations, the Council of Ministers may dispose, i.e. grant lease, exchange or otherwise alienate any property of the Republic, to any person entitled thereto as well as to any corporation or local administration authority;
- The Valuation Branch is responsible for carrying out property valuations for various purposes. As one of the main branches of the Department, with a multipurpose role, is responsible for carrying out valuation reports for all kinds of valuations demanded, as well as for any kind of immovable property. Appraisals are based on valuation principles, on the respective Legislation and on previous court decisions. Its main activities include compulsory acquisitions and requisitions, special and advisory valuations, the General valuation of all immovable property in Cyprus based on 1.1.80 prices which serves as the basis for taxation, valuations for the European Court of Human Rights and other major European projects, as well as fiscal data capturing for mass electronic valuation purposes;
- The Survey Branch is substantially the survey organisation of the Republic of Cyprus. Its main activities concentrate on cadastral surveys, which effectively support the registration system. Other responsibilities include the areas of geodesy, the establishment and maintenance of the geodetic and levelling networks, air survey, sea surveying and special engineering works;
- The Cartography Branch, as afore-mentioned is the mapping organisation of the Republic of Cyprus. Its main activities concentrate on photogrammetry, hydrography, GIS applications, the production and maintenance of cadastral plans, topographical maps, nautical and aeronautical charts and other thematic mapping both in conventional as well as digital form.

DLS Organisational Structure

ORGANIZATIONAL STRUCTURE – DEPARTMENT OF LANDS AND SURVEYS



Moreover, after the recent organisational restructuring in the Department, three new Branches have been established:

- Geodesy and Special Surveys and Mapping
- Transfers, Mortgages, Forced Sales and Encumbrances
- Support and C.I.L.I.S. Administration

5.3 DLS Offices

The Lands and Surveys Department operates twelve Offices in Cyprus. The Headquarters accommodate the Director and other managerial personnel, the Survey and Cartography Branches along with the Land Information Centre are located in Lefkosia (Nicosia). The six District Land Offices (D.L.O's) operate for the corresponding six districts of the island. The D.L.O's of Keryneia and Ammochostos are located in Lefkosia and Larnaca respectively, after the enactment of a relevant Law, because the initial premises,

including land registers and files are located in the areas which are not under the effective control of the Government of the Republic of Cyprus since 1974.

Furthermore, for the best service of the public, the D.L.O's operate sub-offices, in the Paralimni Municipality and periodically in the premises of the Municipality of Polis Chrysochous and the premises of the Communities of Evrichou and Agros.

6 CYPRUS INTEGRATED LAND INFORMATION SYSTEM (C.I.L.I.S)

6.1 Introduction

The endeavours to automate the business functions and procedures of the Department of Lands and Surveys (DLS) were initiated in 1987, when a study sponsored by the Commonwealth fund for technical cooperation, reported on the computerisation of the national land records. The Department commissioned consultants from the South Australian Lands Department to prepare a strategic plan for the development of a Computerised Integrated Land Information System. As a result, the Government of the Republic of Cyprus had classified the project as a strategic one and in 1989 it was included in the Master Plan for the Computerisation of the Government.

The procurement process for the Development, Installation and Commissioning of a Computerised Integrated Land Information System (CILIS) was completed in April 1995, by awarding the Contract to the consortium of CSC Danmark A/S (former Dansoftware International A/S). The Contract, as a Total Solution contract, has covered the following major areas/activities:

- a) Supply, Installation and Commissioning of all required Hardware, Networking Equipment and System Software;
- b) Development of the Application Software;
- c) Users Training;
- d) One year Operational Support; and
- e) Rollout to all District Land Offices (D.L.O's).

6.2 CILIS Components

The CILIS Project, which commenced on 4 September 1995 and completed on 11 April 2001 (as far as application software is concerned), comprises of the following three major Application Software

components (these three components form the three major sectors at the Land Information Centre, the Legal, the Fiscal and the GIS), as well as the ATS application:

- a) **The Legal component**, which covers all business functions related to the registration of immovable property, Transfers, Inheritance, Mortgages, Tenure, Personal and Property Encumbrances, Easements, Contract of Sales, Forced Sales, etc.

In general, the Department of Lands and Surveys accepts various applications at its local District Offices. All applications are received at the counters daily and each application is entered in CILIS and can be monitored electronically, up to its full completion. Legal applications accepted include the following:

- Registration of immovable property by adverse possession;
- Registration of immovable property by inheritance, will or inheritance and partition;
- Easements and rights;
- Abandonment and variation of easements and rights;
- Variation and fixing of position of right-of-way etc;
- Jointly-owned buildings;
- Management of jointly-owned buildings;
- Division of agricultural land;
- Division of land into building sites;
- Readjustment of boundaries;
- Amalgamation of properties;
- Compulsory partition of properties held in undivided shares;
- Compulsory partition - vertical division of building sites and buildings;
- Readjustment of interests in case of dual ownership;
- Compulsory acquisition of trees, buildings etc. owned by a person other than the owner of land;
- Compulsory acquisition of land by owners of trees, buildings etc.;
- Registration upon partition of properties held in undivided shares;
- Local enquiry by order of Court;
- Registration, cancellation and alteration of registration by order of Court;
- Demarcation of property;
- Settlement of boundary disputes;
- Restrictive covenants;
- Registration of trusts;

- Copies of certificates of registration, mortgage or charge, copies of various other documents, copies of cadastral survey plans;
- Search Certificates

In addition and as afore-mentioned, the Legal component deals with all declarations of transfer received daily in the Department's counters, registration of mortgages and other encumbrances, forced sales, registration of leasehold interests, as well as, the daily updates concerning these applications.

b) The Fiscal component, which as its name implies, supports and complements all the above legal transactions from the fiscal point of view, as well as, all the transactions that are dealt within the Valuation Sector of the Department. As a sector, it deals with the electronic maintenance and support of all valuation applications. These include all kinds of special and advisory valuations, compulsory land acquisitions and requisitions by the Cyprus Government. In general, it maintains the assessed value and the market value of the property for taxation, compensations and many other purposes. Further more, the Fiscal component supports several valuation models used by the following valuation systems:

- ⇒ Computer Assisted Special Valuation System;
- ⇒ Computer Assisted Mass Appraisal System;
- ⇒ Computer Assisted Valuation Audit System;

The Fiscal sector also deals with all the continuous research regarding land analysis with the use of sophisticated statistical software; the target is the establishment of land valuation criteria and parameters in order to proceed with a mass valuation for general taxation for the whole island. The sector also deals with R & D into new products and applications and the use of GIS in the day to day operations of the sector.

c) The GIS component, which maintains mainly two seamless layers of data, namely DCDB and SDB, with information related to the shape, position, identification and relation of land parcels, topographical features, etc. Among others, the GIS applications support the input, computation, storage, manipulation and output of DCDB/SDB data. Applications/Transactions such as Land Divisions, Amalgamations, Boundary Readjustments, Computation of Land Parcel Extends, etc, are fully automated and integrated with Legal/Fiscal applications. Some of the products generated through the GIS component are:

- ⇒ Cadastral Plans;
- ⇒ Thematic Maps;
- ⇒ Topographical Maps;

- ⇒ Land Use Maps;
- ⇒ Survey Maps;
- ⇒ Special Plans or/and ad hoc maps at a variety of scales, dimensions and colours.

Detailed analysis of the GIS application is described as a separate entity.

- d) **Application Tracking System (ATS)**, which allocates the incoming application from the public to the appropriate DLS sections and staff, until the transaction cycle is completed. ATS is not a separate entity but an Oracle application for tracking purposes. ATS is also used to keep track of the progress of an application. As a result, the public can be informed, at any time, about the status of its application/transaction. Furthermore, ATS can be used as a management decision tool, in order to check the productivity of the Department and take the appropriate measures towards reengineering its business processes and/or any other actions.

CILIS Procedures

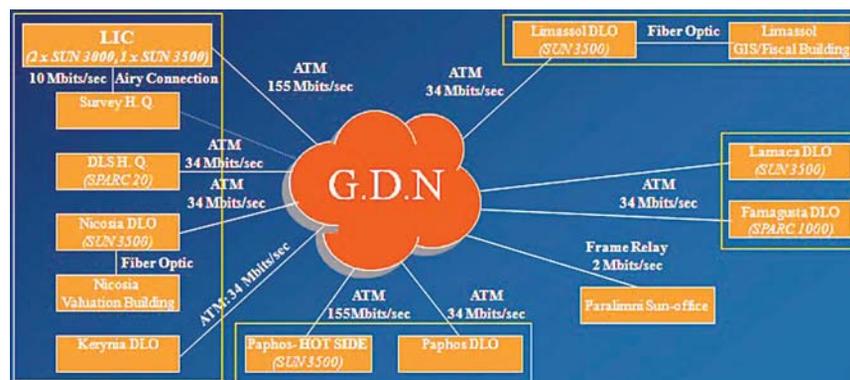


6.3 Technical Information

The Legal Component, the Fiscal Component as well as the Application Tracking System are developed with Oracle Forms 6i. The GIS Component is developed with ESRI ArcInfo Workstation 8.3 AML. All the above systems are running on Sun Microsystems workstations with Solaris 8 on Client-Server architecture. Some of the latest technology, i.e. new GIS tools (ArcGIS server, ArcGIS desktop) operate on separate Windows desktop units.

The main databases are located at the Land Information Centre (LIC) in Nicosia. The LIC serves as the main research and development centre of the Department comprised by employees (business analysts) of the Department of Lands and Surveys, and co-assisted by employees coming from the Department of Information Technology of the Cyprus Government (DITS).

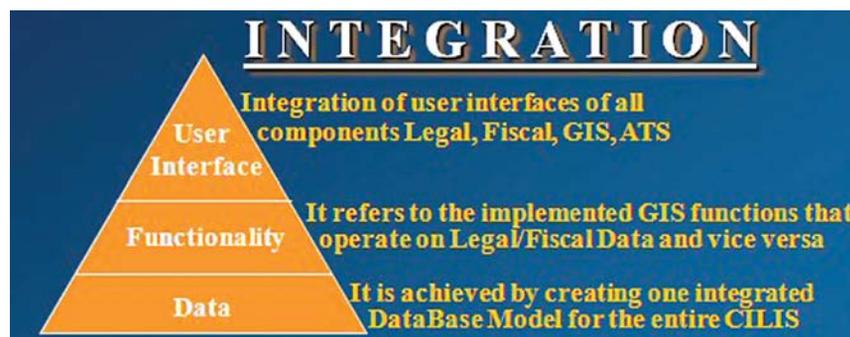
Government Data Network Connections



The Legal Component, the Fiscal Component, the Application Tracking System and a small area of the GIS Component is connected to Oracle 8i database. The main GIS Component is connected to ESRI ArcStorm 8.3 database. Both databases are running on Sun Microsystems V880 servers with Solaris 8.

The Legal Component, the Fiscal Component, the Application Tracking System and the GIS Component are running in an integrated environment based on the parcel identification (sub-property ID). Both the Oracle and the ArcStorm databases are connected in order to efficiently support the above integration.

CILIS Integration



Continuous development as afore-mentioned occurs at the LIC. This includes continuous upgrading of the applications involved, new web oriented technologies, new Oracle tools, new GIS tools such as ArcGIS products and business intelligence tools. A recent project includes the online connection (web service) through the Government Data Network (GDN) with the Department of Town Housing and Planning, in order to share data, as well complete the digitisation of Planning Zones, incorporating them into a new GIS layer. Continuous research is done on a daily basis for the implementation of a detailed e-Government plan inside DLS.

6.4 Detailed Aspects

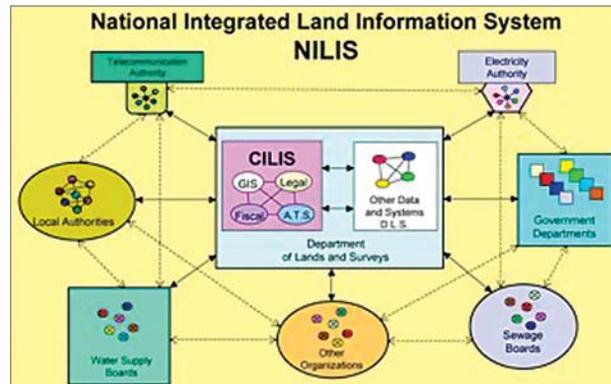
DLS operates, partially on a manual as well as on a computerised basis, as far as legal and fiscal applications are concerned, a graphical multipurpose cadastre. The Department records a considerable amount of land related data. Cadastral plans are widely used as a fundamental graphic record by a wide range of agencies. Information about development, utilities, land use, water resources, geology, and even statistical data for population, industry, agriculture and planning, are recorded on, or closely related to the cadastral plans.

The Government of Cyprus through the Department of Lands and Surveys (DLS) implemented CILIS, in order to improve the efficiency and effectiveness of all Departmental activities, taking advantage of available information technology and modern cost effective survey instrumentation and techniques.

The general strategic objective of Cyprus in general, is the establishment of a fixed boundary coordinated

cadastral system after a systematic resurvey, the computerisation of the land records / registers, cadastral plans, and topographical maps, the development of a number of computerised systems to support the survey, registration, valuation and management functions of the Department, the staged development and implementation of a National Land Information System (NILIS), where all agencies with land related activities can share available data for the benefit of the economy of the country and the performance of a mass valuation for taxation purposes for the whole island.

NILIS



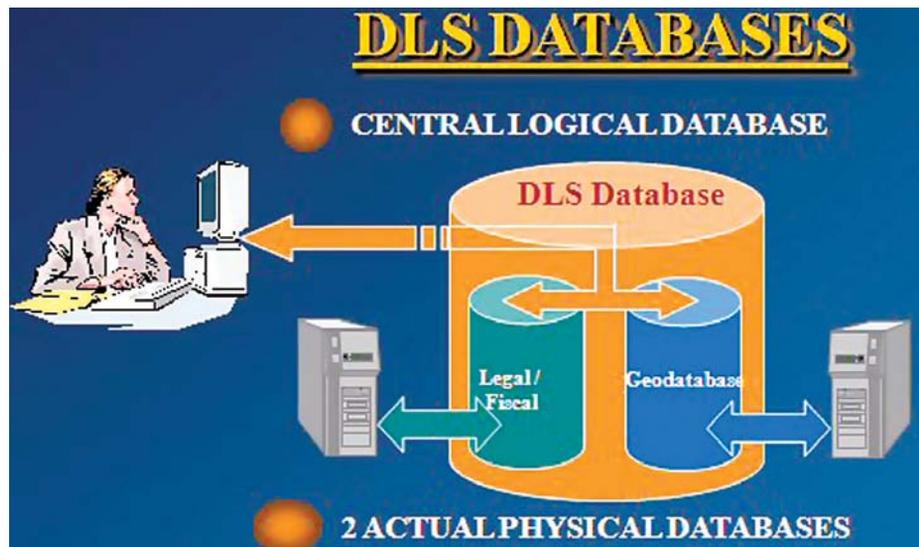
The Cyprus LIS project is a program covering the following groups of activities:

- a) The strengthening and re-computation of the National Grid System and the systematic resurvey, for cadastral purposes, of the entire island. All modern equipment and techniques such as GPS, photogrammetry and EDM tacheometry are being used, in an attempt to reach the most efficient and cost effective method.
- b) The computerisation of land transactions, as described earlier, the improvement and acceleration of valuation assessments, the reduction of duplication of land administration work among Government Agencies, and the increase of the ability of the Government to effectively manage state-lands, and expedite acquisition and requisition orders.
- c) The development of GIS (DCDB & SDB), suitable to support an Integrated Land Information System.
- d) The development of a computerised system, capable of supporting all the registration, valuation and land management functions of the Department, and the development of a Legal/Fiscal Database as a substantial component of the Land Information System.

- e) The introduction of computer-assisted techniques into the Valuation processes, to achieve optimum performance, and to enable an automated general revaluation program at frequent time intervals.
- f) Overall, the LIS in the Department of Lands and Surveys has been designed and developed consisting two major application components; the Survey Related Applications (Geographical Component); the Legal/Fiscal Applications (Legal/Fiscal Component).

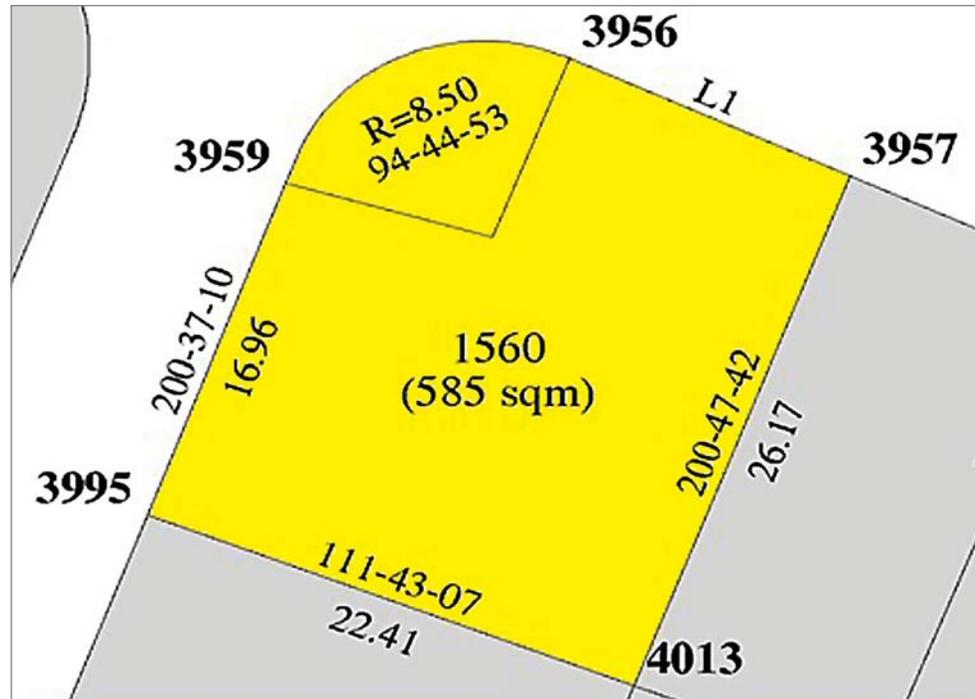
The Survey, the Digital Cadastral and the Topographical aspects of GIS constitute one database which is the spatial component of the LIS (Geodatabase), and the Legal/Fiscal database mainly constitutes the non-spatial component. The objective of the Department to operate and maintain an integrated system, where the two databases would operate as one single corporate database, has been achieved. A number of application systems have also been developed around the system. These systems basically include applications for data entry, maintenance, storage, enquiry and output (displaying, reporting, plotting and printing).

DLS Physical Databases



6.5 Survey Layer

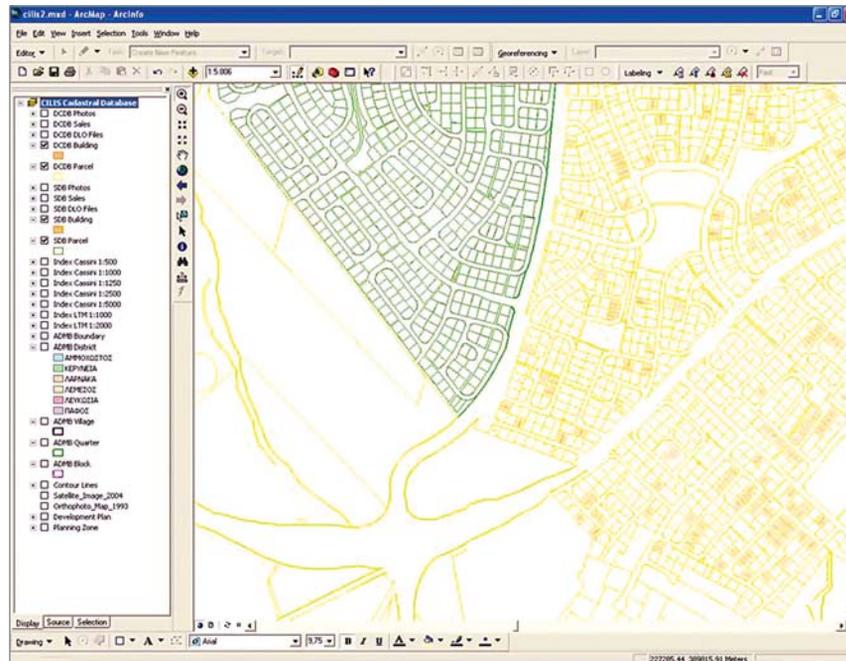
Survey Diagram



SDB stores information related to the geodetic network, current survey data, and historical records of all surveys. The SDB is the repository for detail from the original source records of the surveys that underpin the cadastral framework. It is also the reference system for applications that require dimensions or survey accurate coordinates. The objective of the SDB is to assure that the country is supported by a system able to efficiently provide timely, accurate and comprehensive survey information. It also contains the underpinning data for the DCDB.

6.6 Digital Cadastral Layer

DCDB



DCDB has been designed to provide an up-to-date continuous cadastral map base to support cadastral mapping and the LIS functions. The DCDB stores the current cadastral framework, thematic overlays and topographical data in a seamless form. DCDB has been mostly completed (occupied areas of Cyprus are not yet completed) and all plans have been digitised and loaded into the ArcStorm Database. In the meantime, the same data are loaded and updated daily on an ArcSDE server at the LIC.

The main objectives of the DCDB are:

- a) Replace the manual techniques associated with the creation and maintenance of the cadastral plans at various scales.
- b) Provide the spatial underlay for an integrated LIS.
- c) Ensure that the spatial underlay is correct and up-to-date for all users, both in DLS and in other organisations.

stages. Consideration was given to the scope of the initial system and from this, the system functionality was determined. The volume of the work involved, the proposed use of the data, the complexity of some functions, and the benefits gained were among the criteria for deciding which functions should be automated.

The system provides on-line support to all the sectors of a District Lands Office, including applications, declarations, mortgages, forced sales, attachments, local enquiry, registration, checkers, tenure, land consolidation, leases, licenses and valuations. Different Oracle forms have been developed and are being daily maintained for each specific DLS application, turning the system into one of its kind worldwide and one of the largest in terms of complexity.

6.8 Current LIS Projects

The Department of Lands and Surveys, within its scope of servicing the public, other Departments, Services, and Organisations, is currently running three major projects: (a) The data collection, processing and classification of cadastral-register and topographical data within the Land Information System (LIS), (b) The Resurvey Project and (c) The data collection for Fiscal purposes. The data collection project has as a primary target, the input of all required cadastral, fiscal and geographical data into the LIS databases, so that it can operate efficiently for all areas of Cyprus. The Resurvey project aims to resurvey the areas under the effective control of the Government of Cyprus and to prepare new digital cadastral plans having high accuracy and reliability. These new cadastral plans will be the fundamental infrastructure for the databases of the LIS. The Fiscal data capture (field survey, collection of data, analysis, development of valuation parameters, mass valuation) will lead to a new general valuation for the island.

In parallel with the above projects, the Cartography Branch has undertaken the re-design and the upgrading of all cartographical series of the Department. For this purpose, the Department has invested on new cartographic software, Geographical Information Systems (GIS) and hardware. Many of the topographical maps have already been processed and upgraded using digital methods, and they are currently available in both vector and raster form. The cartographic data sets that are produced are already being used by other Government Departments, Semi-Government Organisations and Services, as a fundamental cartographical base, and they support a variety of GIS applications and other needs. In parallel with these activities, the Cartography Branch, is processing geographical datasets concerning the whole island of Cyprus, and is contributing to pan-European databases.

6.8.1 Planning Zones

Planning Zones Diagram



By the year 2008, all planning zones of Cyprus have been scanned, digitised and corrected by the Cartography Branch of DLS. Due to the fact that the planning zone is one of the main factors contributing to the value of a property, each planning zone has been mass updated into the Oracle Database using latest GIS techniques by the Fiscal LIS sector. Each property inside CILIS contains the planning zone attribute at the parcel level, making information readily available to all users. The plan is to expand the access of this kind of information on the Web.

6.8.2 Leases

A new project was launched in 2008 where a new application has been designed inside CILIS in order to track and monitor all Governmental leases of State Land. The whole project is planned to be completed by the end of year 2009 and includes three major components. The first includes the actual data capturing of all the related leases data inside the Oracle database, along with a detailed payment monitoring system. The second includes scanning of the actual lease contracts as approved by the Council of Ministers and access it via Oracle from the DLS Image Server. The third includes the implementation of a new lease layer inside GIS where all leases will be monitored using modern methods

and technologies. The whole application will serve as a major governmental decision making and monitoring tool and probably will be one of its kind as far as State Land is concerned, throughout Europe.

6.9 GIS Subsystem

The GIS subsystem has been developed with ESRI's ArcInfo AML tool and is based on the ESRI's Application Development Framework (ADF).

All department business scenarios are supported by the combination of the following toolsets:

- Process Manager
- Theme-set Manager
- Transaction Manager
- Coding Manager
- Plot Manager
- Transformation Manager
- Synchronization Manager
- Integration Manager
- Export Manager

For every process, a single tool performs all tasks necessary for a smooth transition between steps. The form creation for the processes is automatic, based on parameters defined by the Analyst/Programmer. The Theme-set Manager is a flexible tool which assists the user to create local feature datasets (theme-sets) based on predefined database layers, by conversion methods (dxf, dgn, shape file etc). The Transaction Manager is the tool which enables the user to maintain the ArcStorm database (Check Out None, Check Out, Check In, Release, Copy Out, Identify Locked). The Coding Manager is the tool for coding (updating) all feature attributes based on predefined lookup tables.

The Plot Manager is the tool for the production of hard copy plans, plots and map. (Quality Control, Field Plot, Analysis Plot, Thematic Plot, Application Plot, Cadastral Plot, Survey Plot, Special Plot). The Transformation Manager is a tool which enables the user to perform transformations (affine, projective, similarity) on features. The Synchronization Manager is the tool for performing checks on parcels as to produce exception/inconsistency reports for the Legal – GIS databases synchronisation. It is also the tool for the GIS database synchronisation to the Legal database (update sbpi_id_no, parcel unique ID). The Integration Manager is a tool for performing integrated tasks. The Export Manager is the tool for exporting GIS data in various formats based on predefined definition packages.

6.9.1 GIS Subsystem Detailed Database Design

Design includes Permanent Survey Marks (PSM), such as Ground Control Points:

- First Order Control Points (point);
- Second Order Control Points (point);
- Third Order Control Points (point);
- Vertical Control Points (Point).

Administrative boundaries are District, Town/Village, Quarter, Block boundaries, as well as other important boundaries such as Sovereign Base Areas:

- Cyprus Coastline (line);
- District Boundary;
- Town/Village Boundary;
- Quarter Boundary;
- Municipal Boundary;
- Block;
- Sovereign Base Area Boundary.

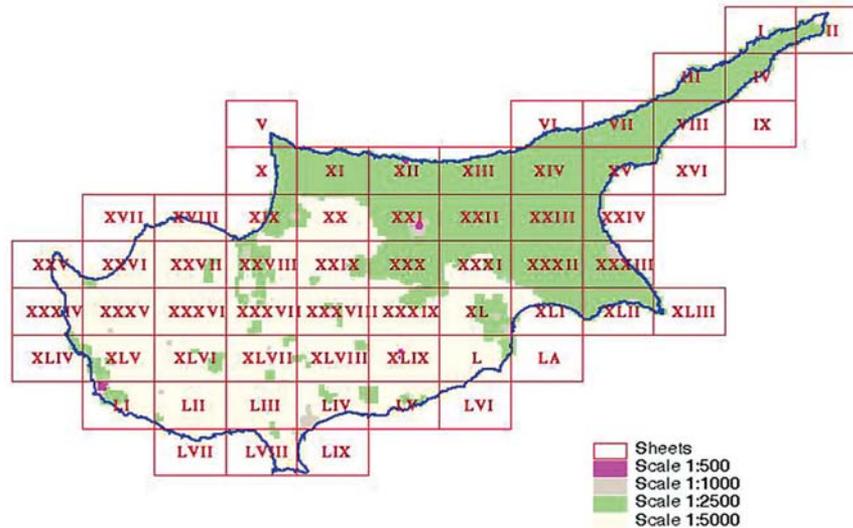
Cassini Plan Index is the old Index based on Cassini Projection. It has been re-projected from Cassini to LTM Projection and loaded into the GIS Database:

- Cassini Plan Index 1:500;
- Cassini Plan Index 1:1000;
- Cassini Plan Index 1:1250;
- Cassini Plan Index 1:2500;
- Cassini Plan Index 1:500.

LTM Plan Index is the new Index based on LTM projection. This index is generated gradually for the areas which are being Resurveyed or Land Consolidated and loaded into the GIS Database:

- LTM Plan Index 1:1000;
- LTM Plan Index 1:2000;
- LTM Plan Index 1:5000.

Cadastral Survey 1904 - 1929



The Cadastral Digitization includes parcel boundaries, buildings and various point and linear topographic features such as wells, trees, utility poles, fences, walls and cliffs:

- Parcels (line, polygon, annotation);
- Buildings (line, polygon, annotation);
- Cartographic Points (point);
- Topographic Lines (line, annotation);
- Topographic Areas (line, polygon, annotation);
- Locality (point, annotation).

The Cadastral Survey includes parcel boundaries, buildings and various point and linear topographic features such as wells, trees, utility poles, fences walls and cliffs:

- Parcels (line, polygon, annotation);
- Buildings (line, polygon, annotation);

- Cartographic Points (point);
- Topographic Lines (line, annotation);
- Topographic Areas (line, polygon, annotation);
- Locality (point, annotation).

Raw survey data are collected by the surveyors/ topographers from the field using Total Stations and GPS instruments, for everyday activities, such as:

- Survey Points;
- Survey Lines.

Raw survey data are collected by the surveyors/ topographers from the field using Total Stations and GPS instruments, for resurvey activities and include:

- Resurvey Points;
- Resurvey Lines

Elevation data are prepared by the remote sensing section for the development of the digital terrain model and include:

- Elevation Points;
- Elevation Lines;
- Contour Lines
- The planning themes are features which are being used for land development, land valuation, etc:
- Development Plans (polygon);
- Planning Zones (polygon);
- Land Use (polygon)

Raster data are images that occupy a continuous geographic space of interest such as aerial photography and satellite scenes:

- Ortho-photo aerial map set (1993);
- Satellite imagery set (2004)

6.9.2 GIS Importance

GIS Importance



GIS represents a way of taking data from the real world and encoding that data with spatial references. Via some kind of spatial analysis, the raw data is transformed into information for the decision makers in the organisation. The usability of this information is dependent on the manager being able to decode, or interpret, the information.

The plan in the Department has been to move away from the traditional approach, focusing on cost reduction when making an investment in GIS and also focus on how to get the better value, or value added from the investment. Moving towards new performance measures needs to take account of the long term. Measuring time saved was just the start, more important is to measure how that time is then used – what does this time contribute to DLS business. Although, the DLS' GIS project started nearly 12 years ago, only now, DLS fully comprehends and realises, the term “value added-product”. By implementing GIS integrated with Legal and Fiscal data, DLS has observed that the value to the business is strongly related to the extent which GIS supports the business strategy.

This strategic match has given DLS a competitive advantage over competitors, with market focus and product differentiation, placing DLS in the first place in the Cyprus market, as spatial data providers. By measuring the cost of not investing in GIS in the very early years, DLS has managed to be ahead of competition. Although, it has suffered very high initial costs in data capturing, software and hardware, it now enjoys the benefits of this decision. Additional “value added” is created nowadays, due to the fact that there is a strong fit and alignment with the general information management strategy of the Department.

6.9.3 GIS Legal and Fiscal Uses (Integration)

From the Legal and Fiscal Sector point of view, the most important capabilities of GIS when first implemented it in the Department, was the presentation of data in a map form, the ability to query data, and thirdly the capability to perform spatial analysis.

The most impressive capability of GIS is their ability to overlay attributes. Overlay capabilities may take a number of different forms. In valuation for instance, various attributes spatial, quantitative and qualitative are needed; with the use of GIS technology, a valuer can decrease wasted time in the field, and focus on scientific analysis for achieving a better and more reliable appraisal.

Whatever GIS capability or group of capabilities is used in your business applications, there is almost sure a map output that will be proudly presented to decision makers. As with any presentation tool, there are ways of using maps to persuade. The first step was to use the existing infrastructure of the corporate database which contains the survey data set (based on resurvey with the use of GPS technology on the field), the digital cadastral plans (based on recent digitisation of cadastral plans and other forms of data capturing), topographical overlays, and the Oracle based data-sets which include all registered land transactions, sales history data, etc.

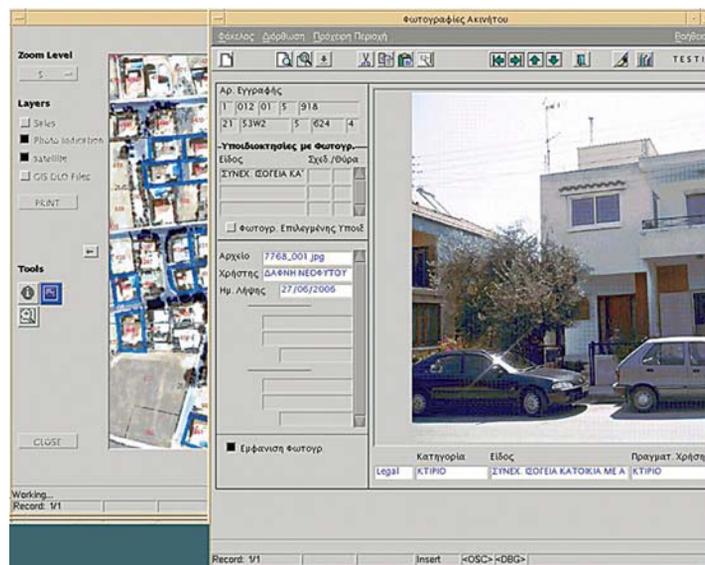
Map projects were created with the use of GIS, presenting sales historical data on maps, with the main target being to eliminate the manual input by valuers at the District offices. Each historical sale was connected with the land parcel, using a unique parcel id (one of the keys in our system), and all relevant information was presented instantly on a digital map, with the use of labelling on the parcels. A valuer now is able to have online sales on a map throughout Cyprus in no-time.

By mid May 2004, satellite images are a new layer into the GIS system, and this has proved to be of prime importance to DLS from both the Legal as well as the Fiscal point of view. It has eliminated fraud in conveyance, as nobody can proceed with the transfer of a particular land parcel without stating all of

its characteristics, i.e. a newly built building on the parcel. It was very rarely the case that people tried to avoid transfer valuation costs in the past by claiming that their parcels were vacant and without buildings erected on them. With the use of satellite technology, DLS can locate all buildings erected, without any major problem.

The use of digital photography has also been incorporated the last five years into the Image Server of DLS and accordingly into the GIS system. All valuers along with the Data Capture Valuation Team members, carry digital cameras and take digital pictures of all the buildings on the island. These are again loaded in Oracle and are presented via the unique parcel id on GIS maps, turning the system into a multipurpose valuation mechanism. DLS plans to also introduce tablet GIS/GPS technology into the Fiscal Data Capture mechanisms, mainly for navigation and online data capturing in the field. Plans for a mass photo data capture are being examined, using latest capturing technologies.

Fiscal Photos

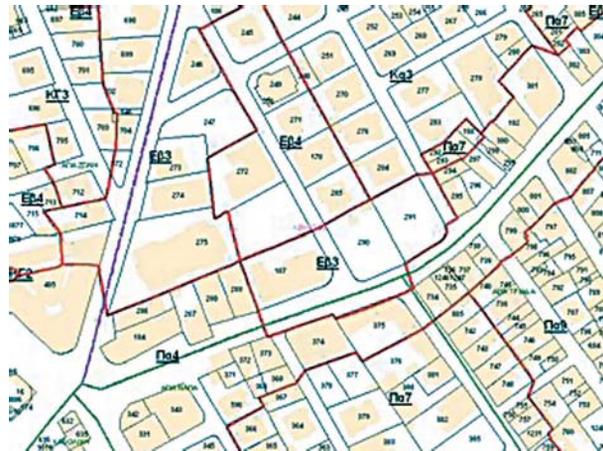


Managerial decisions are now enhanced as the Valuation Team can make judgments of value instantly, with so much relevant information available online. Better planning decisions are made with the use of maps, in terms of helping the Government decide on its acquisition plans, especially for the building of new road infrastructure. Proximity analysis is easily performed along with various buffering techniques,

especially for the identification of competing land uses. A major part of this plan is to incorporate the DLS Mass Appraisal System vision into GIS. By data capturing all the relevant data for valuation and with the use of a statistical package for regression analysis, through the use of online mapping, DLS can succeed in using mass appraisal systems to proceed with a new General Valuation on the island for tax purposes, in very little time. This means that the role of the typical valuer will eventually change, and maybe in a few years, with all this technology involved, he will perform valuations directly from his office and not on the field.

These processes described above have cost DLS a great amount of money, in data capturing, software and hardware infrastructure, training, etc. It is an ongoing and continuous process, due to the fact that technology is moving faster than us. What is important is that DLS shares this information through the Web via the use of Web GIS Technologies, with other related agencies, both public and private. People will be able to build their own layers through the Web, using the DLS database as their platform and eventually a lot of money will be recovered by the Department, with the sale of such service and information, to the general public. The strategic target had always been to map the business processes before mapping the ground, and proceed with an e-Land Administration Infrastructure that will involve a fundamental shift in the way land registration and cadastral systems are built, and develop an information strategy, having as the core mission, the movement from existing processes, to e-Processes in the near future.

Planning Zones - DCDB



7 CARTOGRAPHY – MAPPING

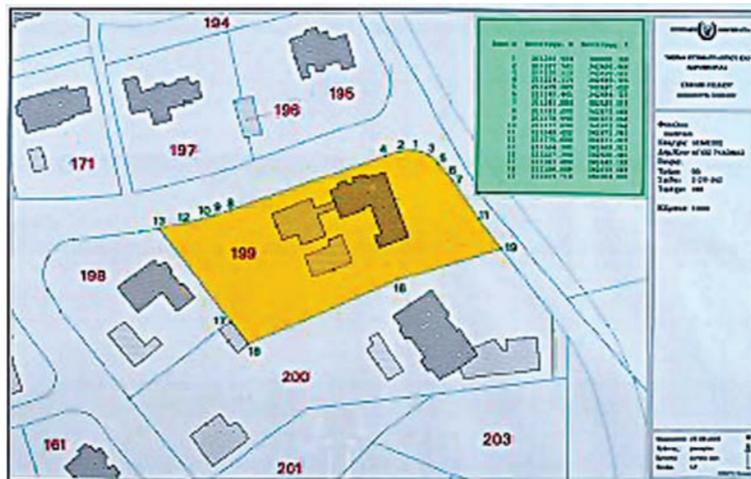
7.1 Resurvey

In Cyprus as previously mentioned, the Land Registration system and Cadastre operating today were introduced almost a century ago.

Although the system has all the advantages of the Registration of Title system, it has been found deficient to the highly demanding requirements of the rapid development of the country. The two basic issues to consider were the time consuming manual procedures for property conveyancing and the poor accuracy of some of the graphical cadastral plans which cause problems as regards the rule of "unambiguous definition of boundaries".

Hence, the need was felt for the creation of a system, which would allow each parcel to be marked on the ground rapidly, efficiently and without ambiguity. The system proposed by SAGRIC International (Australian Consultants) can be described as a Fixed Boundary Coordinated Cadastre, as the coordinates are given a strong emphasis in the cadastral definition, and they will subsequently be used for future boundary demarcation.

Survey Sketch



This constitutes the main objective of the Resurvey Project currently planned and executed by the Department. This project includes a number of sub-projects namely:

- Establishment of a new Geodetic Network;
- Flying of large scale aerial photography & upgrading of the Photogrammetric Unit of the Department;
- Organising a systematic resurvey of property boundaries.

New Re-Survey Cadastral Plan



7.2 Geodesy

All survey and mapping operations are based on a comprehensive geodetic infrastructure established in the years 1913-1915.

Study comments on behalf of SAGRIC recommended that a new geodetic datum and a new projection system be adopted to form a new infrastructure to suit all future requirements for a fixed boundary cadastre and other mapping requirements. The WGS84 Spheroid (geocentric) and a New Local Transverse Mercator (LTM) Projection were selected to best suit the present and future mapping needs of Cyprus.

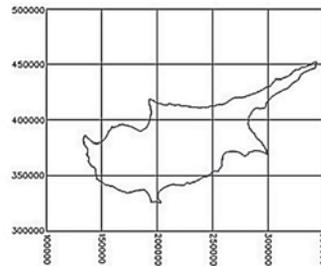
During these studies and subsequent related operations, observations were carried out using GPS technology. All adjustments of GPS observations have been done using the WGS84 spheroid, and the geographical coordinates recorded, relate to the same spheroid.

Using GPS technology, 40 control points of 1st order have been established by the static method. Their distance from each other varies from 6 to 15 km. 302 control points of 2nd order, with their in-between distances varying from 3 to 7 km, have been observed and established, using the same method. Moreover, approximately 13000 3rd order control points have been observed and established using the rapid and stop and go methods. Their respective distance is between 200 and 500 meters. It has been estimated that a total number of 60.000 to 70.000 control points have to be observed in the next years to support the resurvey project and other needs of the Department. Other alternative solutions are also considered.

7.3 National Grid Layer

The national grid is based on the WGS84 Spheroid and Local Transverse Mercator projection. Central Meridian is 33 degrees. It has false coordinates of 435000 East and 3825000 meters North.

National Grid of Cyprus



7.4 Photogrammetry

Photogrammetry is playing an important role in the process of the resurvey project. The Department operates a small photogrammetric unit with three analogue instruments (two of which have already been upgraded to analytical stereo-plotters), a new analytical stereo plotter, and a point transfer device. Two digital photogrammetric workstations and a digital photogrammetric scanner were installed in the Department. A third digital photogrammetric workstation will be installed soon.

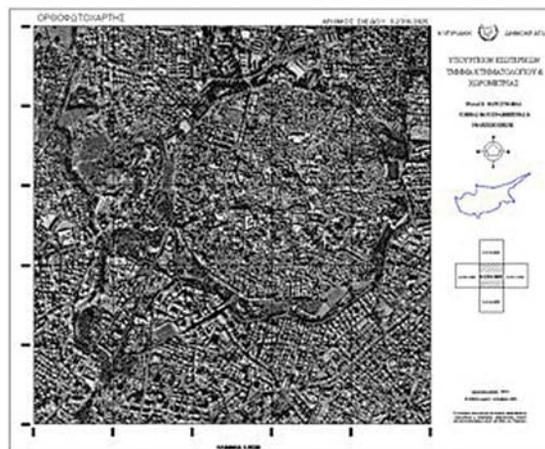
A large-scale photography for priority areas of the free part of the country at scale 1:8.000 was flown during the last quarter of 1993, suitable for cadastral survey work by the use of photogrammetry. At the same time, coverage of all the free area at scale 1:15.000 and of selected areas of geological interest (infrared photography) at the same scale was obtained. Since the beginning of 2008, new aerial photography of the country has been initiated.

The Photogrammetric Unit has been provided with QuickBird satellite imagery, of which ortho-rectification will be completed shortly.

7.5 Digital Terrain Model

The aim is to cover the country with a digital elevation model and a series of ortho-photo maps. The Digital Terrain Model has been completed and presently nearly all of the country is covered with ortho-photo maps.

Ortho-photo Map of Lefkosia at scale of 1/5000



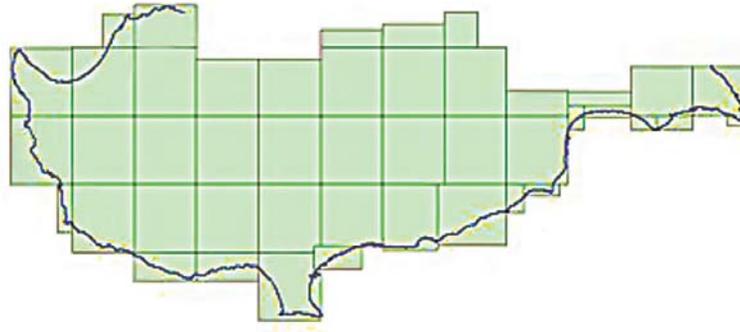
7.6 Satellite Imagery

The Department has acquired a complete set of Quickbird Satellite imagery at a panchromatic resolution of 60 cm. These images have been ortho-rectified using the DTM prepared from the 1993/4 aerial

photography and form a separate layer. Since mid-2008, a new satellite imagery loading has been initiated.

Satellite imagery is mainly used for small and medium scale topographical mapping.

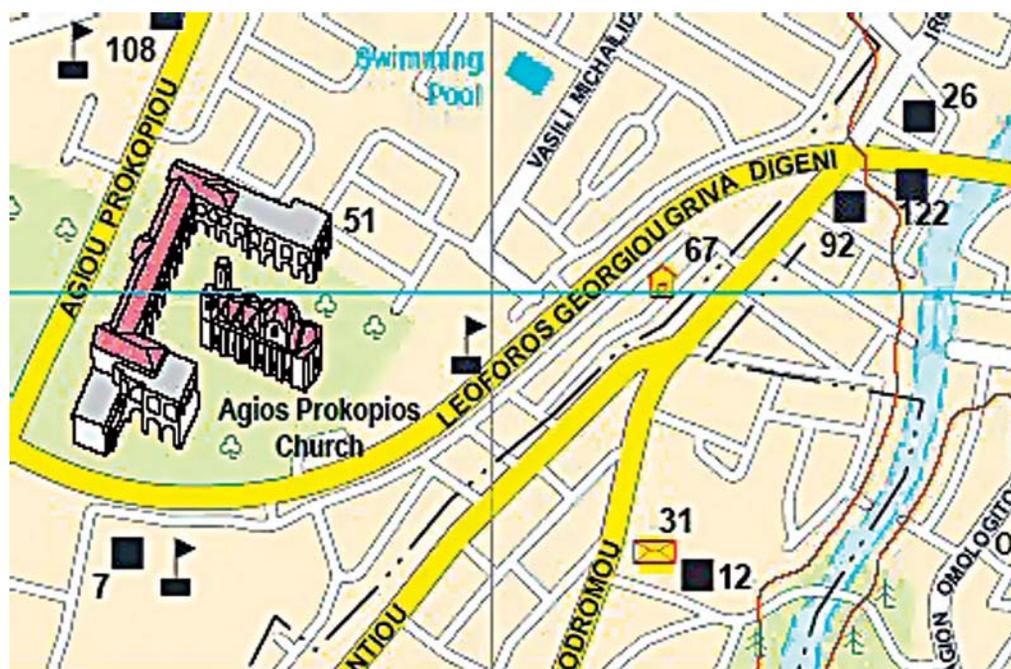
Coverage of QuickBird satellite images



7.7 Mapping and Map Production

The Cartographic Branch of the Department is currently working on several manual and digital cartographic products. A number of digital maps in both vector and raster formats have been completed based on scales from 1:7500 – 1:500.000. High priority is given to the maintenance of a modern topographic database that is included in the Land Information System, which has already been developed, and it is currently used in a production environment. A variety of hardware and software are being used including ArcGIS, Arc/Info, Map/Info, Arc/View, AutoDesk Map etc. Data collection and processing includes scanning and digitisation of existing maps, processing of aerial photographs and satellite images, data transfer and generalisation from the DCDB, editing and updating, map composition, and final production including colour separation. At present, cartographic work is confined to the creation of new maps, revision of existing thematic maps, general use topographic maps, street maps, and thematic maps for a variety of applications and uses.

Town Map Produced by the Cartography Branch



The Cartography Branch is also involved in the creation of the data sets of Cyprus which will be included in the EuroRegional Map. For this reason, all available sources of information are being used, so that the final data will be up to date and according to ERM data model and format. The Cartography Branch has already completed the processing and delivery of Cyprus data for use within the EuroGlobal Map project. This data set is already included in the EuroGlobal Map data set. The Branch has also prepared and delivered data for SABE (Seamless Administrative Boundaries of Europe). DLS is also committed to support the INSPIRE initiative. DLS Cartography officers have already participated in various meetings in Europe for this purpose and the initial start-up of the main project is programmed for May 2009. The Branch has also completed all the technical aspects associated with the provision of National data to the EuroGeoNames server.

Digital 3d Shaded Relief Map

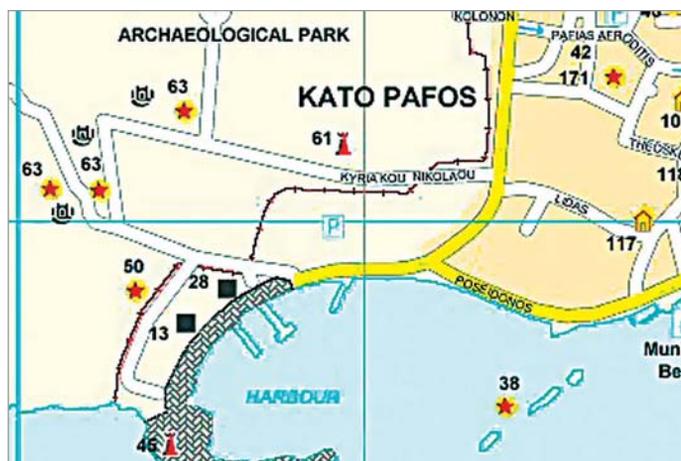


The standard series topographic maps that are prepared by the Cartography Branch exist at the scales of 1:500.000, 1:250.000, 1:100.000, 1:50.000 and 1:5.000.

The Cartography Branch is actively involved in providing cartographic support and products to European projects where Cyprus is involved, such as:

1. IACS – Integrated Administration and Control System for the administration of subsidy schemes to farmers
2. Natura 2000 – Definition of Nature Protection Areas
3. LIFE Program – Bicycle tracks network
4. CORINE Land Cover for Cyprus (in cooperation with the Ministry of Agriculture and Natural Resources)
5. Hazard Mapping (in cooperation with other Government Departments)

Town Map Produced by the Cartography Branch



8 CADASTRAL FIELD SURVEYS CARRIED OUT BY PRIVATE SURVEYORS

Two years ago, the involvement of the Private Sector in the area of Cadastral Field Surveying was initiated. Applicants to any District Land Office of the Lands and Surveys Department, requiring cadastral field surveys, have the option to choose between a governmental or a private licensed surveyor. Such works include the field surveys for land demarcations, vertical or horizontal (strata) property divisions, boundary readjustments, boundary amalgamations, street widening and building or other property registrations. In both cases, the applicant has to pay the required fee to the Lands and Surveys Department. If the applicant chooses to proceed with a private licensed surveyor, the applicant has to personally agree with the surveyor an additional fee and sign a contract (issued by the Cyprus Scientific and Technical Chamber).

9 ELECTRONIC GOVERNMENT IN CYPRUS

9.1 Introduction

Living in the Information Society means radical change for all. New media and information and communication technologies (ICT's) are influencing our lives more and more. At institutional level, public administrations are subject to complete reorganisation following the new requirements of e-Government. Citizens are getting

increasingly used to e-Technologies, global information, eCommerce and other kinds of new media. These latest responses from the internet e-Citizens demand from the public administrations, higher efficiency, more transparency and better services.

DLS end goal is to develop a new approach in the Department, cope with the challenges of e-Citizenship, and proceed shortly with various transactional online services to the public.

A new reengineered system of Internet technologies needs to be introduced, to incorporate new laws, i.e. the new European Directive passed regarding electronic signatures. From the DLS point of view, the DLS land registration system is considered to be a “Closed Register” as compared to other countries in Europe. Therefore, a lot of major legal changes need to be introduced in order to accept and operate such a “Title” system via the Web, as compared to a “Deeds” system. At the same time, specific information to the general public is not freely available unless it is requested (by DLS application) by the register owners, its heirs, etc.

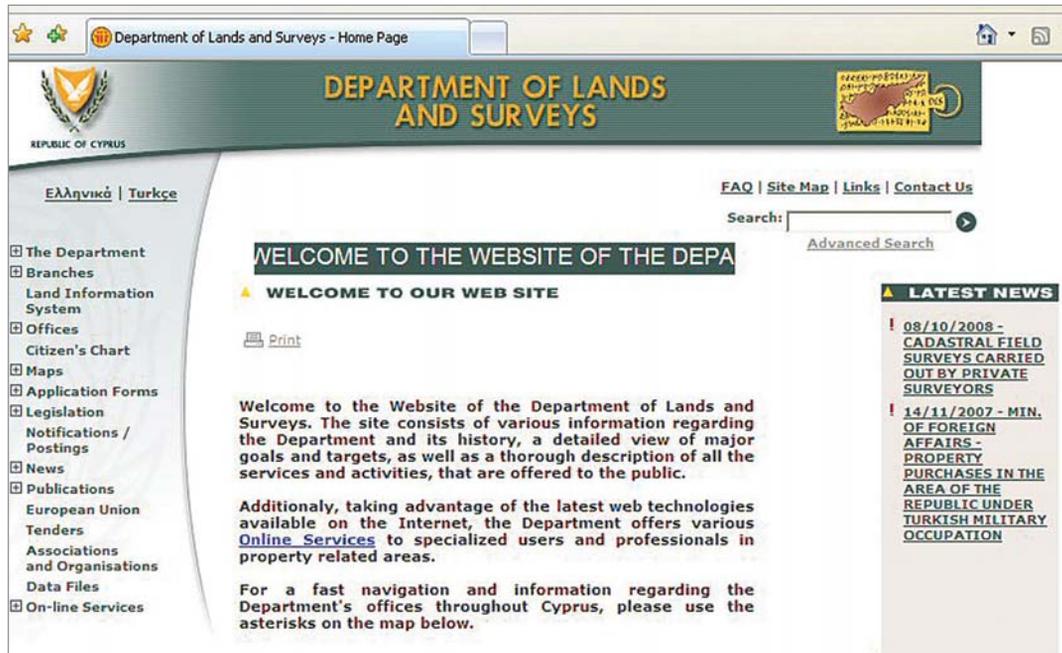
As already described, DLS possesses its own teams of developers and business experts that handle all issues related to the establishment of technology inside the Department of Lands and Surveys, located at the Land Information Centre in Nicosia.

On the other hand, the Department of Information Technology of Cyprus (DITS) is, as a whole, the responsible governmental department, for the monitoring of the development and application of information technology in the Cyprus Government. However, as described above, each governmental department, such as DLS, possesses its own IT oriented people with high business expertise which facilitates the employment of technology and address business needs and solutions. DLS employees work closely and fully cooperate with the DITS employees and handle all of the above issues, as well as support the smooth rollout of IT inside the Department of Lands and Surveys.

The Information Systems Strategy as published and monitored by the Cyprus Government and implemented accordingly by the various departments (according to their business needs), was introduced with the vision to create an efficient and effective public service, able to provide high quality services to the public with the least possible cost and where possible without the need to visit any governmental department to obtain such services. The e-Government project includes security measures, legislation for the protection of personal data, legislation for public key infrastructure and authentication as well as harmonisation of the legislation with the countries of the European Union. Meantime, it includes a government node for the connection of many Governmental websites, the creation of Internet centres, etc.

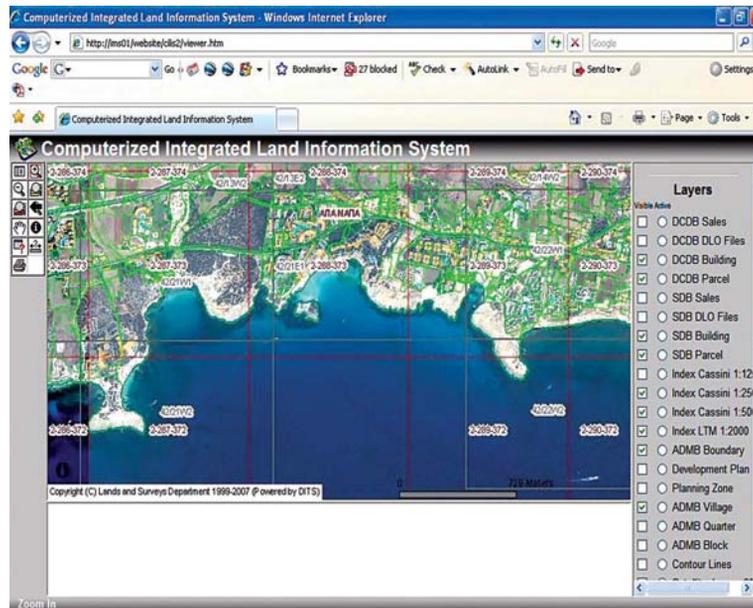
9.2 DLS Website

DLS Website



DLS operates its own informational Website since 2006 at www.moi.gov.cy/dls. The site is very rich of property related information, regarding DLS operations, its offices and branches, various public data for downloading, as well as a small secure section for downloading where specific users, such as valuers and municipalities may log in and download pre-defined ready files. In the meantime, an intranet website has been launched based on an ArcSDE server, using ArcGIS Server / ArcIMS with various layers of spatial and non-spatial data, and is easily accessible by all DLS employees. *This intranet website has formed the foundation for the establishment of an internet connection with the Department of Town Housing and Planning, in order to share data, especially in the area of planning zones at the parcel level.*

CILIS Intranet



9.3 The e-Government Tool in the Department of Lands and Surveys of Cyprus

None of the DLS transactional applications so far have been re-engineered to work via the use of the web. However, DLS serves as the major national provider of property related data to other Governmental and non-governmental agencies, or other interested individuals; such data is produced electronically and usually provided to the end users on compact discs or DVD's.

The Department though, as a pioneer in technology, completed a fully integrated study since four years ago, advising the Cyprus Government on how to proceed accordingly regarding e-services to be established inside DLS. After a major decision taken, the Department will be used as the prototype in all e-projects that will be developed, including the New Government Gateway, as well as the Government Data Warehouse, with the major goal being, an integrated gateway for the public, where a one-stop-shop government will exist, decreasing bureaucracies and establishing a new way of transforming the Cyprus government.

DLS acknowledges the fact that this will bring a major revolution to the Department and its processes. Overall, major recommendations consist of the following main principles:

- Establishment of the Directive regarding Electronic Signature Technology;
- Improve, protect, maintain and enhance all the relative land information data;
- Offer open government processes;
- Offer access to electronic data;
- Reengineer departmental process;
- Breakdown several bureaucratic procedures;
- Engage other departments of the government, as well as other organisations;
- Cut down expenses and provide fewer costs to tax payers.

9.4 The Need for Legislation Amendments in the Department

Amendments are needed to be made to the Immovable and Property Law, and other basic land laws, in case the e-Government projects evolve, along with the use of electronic signatures:

- The transformation from the Manual Register of Land Records to a Digital Register;
- The transformation from the District Land Office to a Digital Online Office;
- Approval of online submittal of forms and applications;
- Approval of the use of Electronic Signatures;
- Amendments in the law, concerning the obligatory presence of the parties at the District Land Office, during applications;
- Re-consider personal data issues;
- Re-consider Closed Register VS Open Register issues.

9.5 Challenges

It is quite obvious, that in order to offer transactional services through the web, a lot of changes will need to take place inside the Department of Lands and Surveys. The level of success will depend on various factors that are analysed below.

The greatest challenge for the Department is the maintenance of a highly efficient service as to the level of security, and quality of information offered to the public through the web. A second challenge is the necessary law and processes changes that need to be established in the Department.

The Branch deals with other specific projects and advisory valuations such as valuations for golf courses and marinas. At the European level, the Branch deals with valuations for cases registered at the European Court of Human rights. It also serves as the official consultant of the Republic as far as estimating the market values of buildings bought or rented abroad by the government, i.e. Cyprus Embassies.

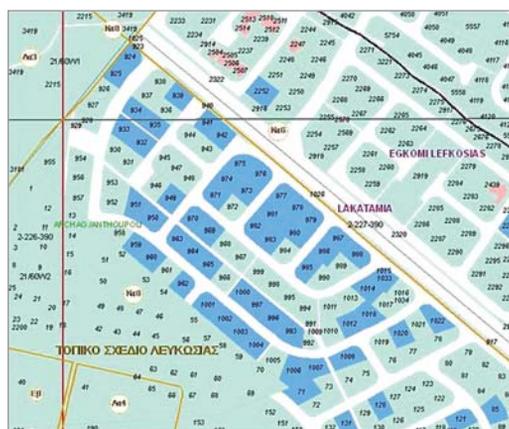
10.1 Data Capture, General Valuation and Taxation

Taxation of property in Cyprus is generally based on 1.1.1980 valuations and these valuations are done and registered in the Department of Lands and Surveys. Due to the fact that these valuations are quite old, the Valuation Sector has recently completed a study in order to proceed with a new General Re-Valuation of the island based on current prices.

For this purpose, the Branch has already started data capturing property data on the field, using its own employees for the time being, in order to complete this valuation electronically, using mass valuation procedures and models. The study incorporates a detailed 5-year program that includes the re-organisation of the General Valuation Sector (as is the case for many European countries), the hiring of new permanent and part-time employees, as well as a feasibility study related to the cost-benefit analysis of this major governmental project.

Overall, the General Valuation can be considered as a unique, simplified and equal base of valuation which is an efficient and equal base of taxes.

General Valuation



All the relative taxes and fees directly related to property are described below.

10.2 Capital Gains Tax

Capital Gains Tax is imposed at the rate of 20% on gains from the disposal of immovable property situated in Cyprus, including gains from the disposal of shares in companies which own such immovable property, excluding shares listed in any recognised stock exchange.

The following disposals of immovable property are not subject to Capital Gains Tax:

- Transfers arising on death;
- Gifts made from parent to child or between husband and wife or between up to third degree relatives;
- Gifts to a company where the company's shareholders are members of the donor's family and the shareholders continue to be members of the family for five years after the day of the transfer;
- Gifts by a family company to its shareholders, provided such property was originally acquired by the company by way of donation. The property must be kept by the donee for at least three years. For gifts that were made from the company to its shareholders and took place before 28 May 1999, the exemption applies irrespective of how the immovable property was originally acquired by the company;
- Gifts to charities and the Government;
- Transfers as a result of reorganisations;
- Exchange or disposal of immovable property under the Agricultural Land Consolidation Law;
- Expropriations;
- Exchange of properties, provided that the whole of the gain made on the exchange has been used to acquire the other property. The gain that is not taxable is deducted from the cost of the new property, i.e. the payment of tax is deferred until the disposal of the new property.

Determination of capital gain is done, according to the following rule:

Liability is confined to gains accruing since 1 January 1980. The costs that are deducted from gross proceeds on the disposal of immovable property are its market value at 1 January 1980, or the costs of acquisition and improvements of the property, if made after 1 January 1980, as adjusted for inflation up to the date of disposal on the basis of the consumer price index in Cyprus.

Expenses that are related to the acquisition and disposal of immovable property are also deducted; this is subject to certain conditions, i.e. transfer fees, legal expenses, etc.

10.3 Estate Duty

Estate duty has been abolished since 1 January 2000. The executor/administrator of the estate of the deceased is required by the Deceased Persons Estate Law, to submit to the tax authorities a statement of assets and liabilities of the deceased within six months from the date of death.

10.4 VAT Grant for Acquisition of First Residence

The grant is given to entitled persons for the construction, or purchase or transfer of a new house which is used as the main and primary place of residence.

The application for the grant is submitted to the Ministry of Finance, in relation to houses for which an application has been submitted for the issue of a planning permission after the 1 May 2004. Persons entitled to this grant are individuals who are citizens of the Republic of Cyprus or of any other EU member state, who reside permanently in the Republic of Cyprus and who have reached the age of 18 at the time of application.

The grant is given (a maximum of €20.000 is returned) for houses whose total covered area does not exceed 250 m². The level of the grant is limited to 130 m² (extended for families with four and more children) and depends on the type of the property and on whether the house was constructed or purchased. The relevant legislation provides that the level of the grant will be adjusted annually for the increase in the Retail Price Index.

10.5 Immovable Property Tax

Immovable Property Tax is imposed on the market value as at 1 January 1980 and applies to the immovable property owned by the taxpayer on 1 January of each year. This tax is payable on 30 September each year. All necessary tax data are electronically provided to municipalities and local authorities by the Department of Lands and Surveys.

Physical and legal persons are both liable to Immovable Property Tax.

TAX RATES:		
PROPERTY VALUE (€)	RATE ‰	ACCUMULATED TAX (€)
Up to 170.860	-	-
170.861 – 427.150	2,5	641
427.151 – 854.300	3,5	2136
Over 854.300	4,0	

The following properties are not subject to Immovable Property Tax:

- Public cemeteries;
- Churches and other religious buildings;
- Public hospitals;
- Schools;
- Immovable property owned by the Republic;
- Foreign embassies and consulates;
- Common use and public places;
- Properties not under the effective control of the Government of the Republic of Cyprus since 1974;
- Buildings under a Preservation Order;
- Buildings of charitable organisations;
- Agricultural land used in farming or stock breeding, by farmer or stockbreeder residing in the area.

10.6 Transfer Fees by the Department of Land and Surveys

The fees charged by the Department of Land and Surveys for transfers of immovable property, are as follows and are collected at the time of the transfer after valuation done at the DLS counters:

VALUE (€)	RATE (%)	FEE (€)	ACCUMULATED FEES (€)
Up to 85.430	3	2.563	2.563
85.431 – 170.860	5	4.272	6.835
Over 170.860	8		

In the case of property transferred to a family company, transfer fees are refundable after five years if the property remains with the company and the shareholders remain the same.

In the case of property transferred from a company whose shareholders are spouses and/or their children, to one of the two spouses, or their children or to a relative up to third degree of relation the transfer fees are calculated on the value of the property as follows:

- if the transfer is to a spouse 8%
- if the transfer is to a child 4%
- if the transfer is to a relative 8%

Also the following rates are applicable in the case of free transfers:

- from parents to children 4%
- between spouses 8%
- between third degree relatives 8%
- to trustees €8,54

Value in these cases is the one written on the title certificate which refers to values of the year 1920.

Mortgage registration fees are 1% of the current market value.

In the case of companies' reorganizations, transfers of immovable property are not subject to transfer fees or mortgage registration fees.

11 DLS VISION

DLS vision is to continuously improve, expand and reengineer the afore-mentioned multipurpose role, in order to best serve the citizen, in accordance with all the laws and regulations prevailing nowadays in the European Union.

The success will depend on DLS ability to adapt to all the ongoing socio-economic changes, occurring both in Cyprus and in the European Union, which will incorporate major changes into the Legal System, and quality improvements in all of the services offered to the public, making them much more effective and highly efficient. Additionally, the means of communication with the public will expand, as DLS looks forward to more open access into its data and information concerning land matters, through e-Government procedures, closing down all gaps with the citizens.

The achievement of DLS vision, at the same time, incorporates the continuous and ongoing training of all employees along with the relocation to newly high-tech buildings, able to accommodate DLS expanding computerisation needs. The upgrading of all cartographical map series using modern digital techniques and equipment is also one of the major targets. The Department will continue to play an active role in pan-European projects, and cooperate with European organisations. Finally, the establishment of a National Land Information System has set up the platform for all organisations to share data and ideas, leading to the most efficient administration of land in Cyprus.

11.1 Recommendations

E-government for DLS can be considered as a new way of thinking, a new way forward and the only way for the Government to come closer to the citizen. The following recommendations can be outlined from the recent DLS research on the matter. These proposals have already been proposed and are currently being examined by DLS teams of IT and business experts:

- Embed the e-government organisation paradigm inside DLS;
- Examine the transformation of DLS and other related public sector's internal and external relationships through Internet enabled operations and ICT to optimise government services delivery, constituency participation and internal government processes;
- Fundamentally re-think of how technology can improve the very process of government and DLS;
- Transform the design and delivery of government services and relationship with citizens (clients);
- Embrace new approaches, which will allow greater flexibility to respond to government priorities and demands for new services;
- Establish a series of new actions to facilitate a smoother roll-out from research on e-government to actual piloting and deployment of such procedures inside DLS;
- Promote voluntary and multilateral commitments to priorities for the deployment of on-line services;
- Establish DLS as the central property data provider in Cyprus;
- Consider the issues of the FIG Commission regarding the Cadastre of 2014, and how it maybe integrated with the Land Information System of DLS;
- Improve the Department's administrative transparency;
- Consider the effects of an One-Stop-Government, with the major central role in the process given to the Department of Lands and Surveys;
- Streamline processes and re-consider an improved organisational structure inside DLS;
- Move from basic supply of information to online transactions and then to more complex multi-agency transactions and data integration (open registers);
- Re-organise all the back office operations and gradually dismiss manual bureaucratic procedures;
- Examine the digital signature issues and issues concerning amendments in Legislation;
- Establish DLS as a leading player towards the implementation of the INSPIRE Directive;
- Continue DLS fruitful cooperation with major European as well as global Organisations, such as the PCC, the ELRA, the EULIS, the WPLA, the EUROGEOGRAPHICS, the FIG, the EUROGI, the EUROSDR, the EUROSTAT, the ICA, the ISPRS, the IHO and the ISCGM;

- Achieve greater efficiency and a higher benefit/cost ratio. Deliver services that are responsive to people's needs;
- Enhance closer citizen engagement in policy formulation and processes.

All of the above can place DLS in a leading position throughout Europe and enable it to undertake a new important role as a service and data provider that will promote efficiency, effectiveness and cost-saving benefits.

THE CADASTRAL SYSTEM IN FINLAND



MAANMITTAUSLAITOS
NATIONAL LAND SURVEY OF FINLAND

<http://www.maanmittauslaitos.fi/en/>

March 2009

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1 INTRODUCTION

1.1 History and purposes of the cadastre

The registering of real property is considered to have begun in the 16th century. In the Swedish Vadstena in October 1524, the herredag or Diet of Lords decided at the proposal of King Gustav Wasa to establish a Land Book. The Land Book was for taxation purposes only. In the beginning of the 19th century, a Land Book was introduced that also included the area of homesteads, as well as information about how homesteads had been divided in cadastral surveys. The actual registering of real estates began with the Cadastre established by decree in 1895. In the 1930s, Administrative Courts began to keep Urban Cadastre within town plan areas. This consisted of a Register of Plots as well as a Register of Public Areas. The Cadastre and Urban Cadastre were both discontinued when property data was entered in the modern Cadastre according to municipality in 1978-1995.

The purposes of the Cadastre have varied over time, but in general the needs have evolved along quite the same lines as in Europe elsewhere. Basically the Cadastre of today has a multi-purpose nature.

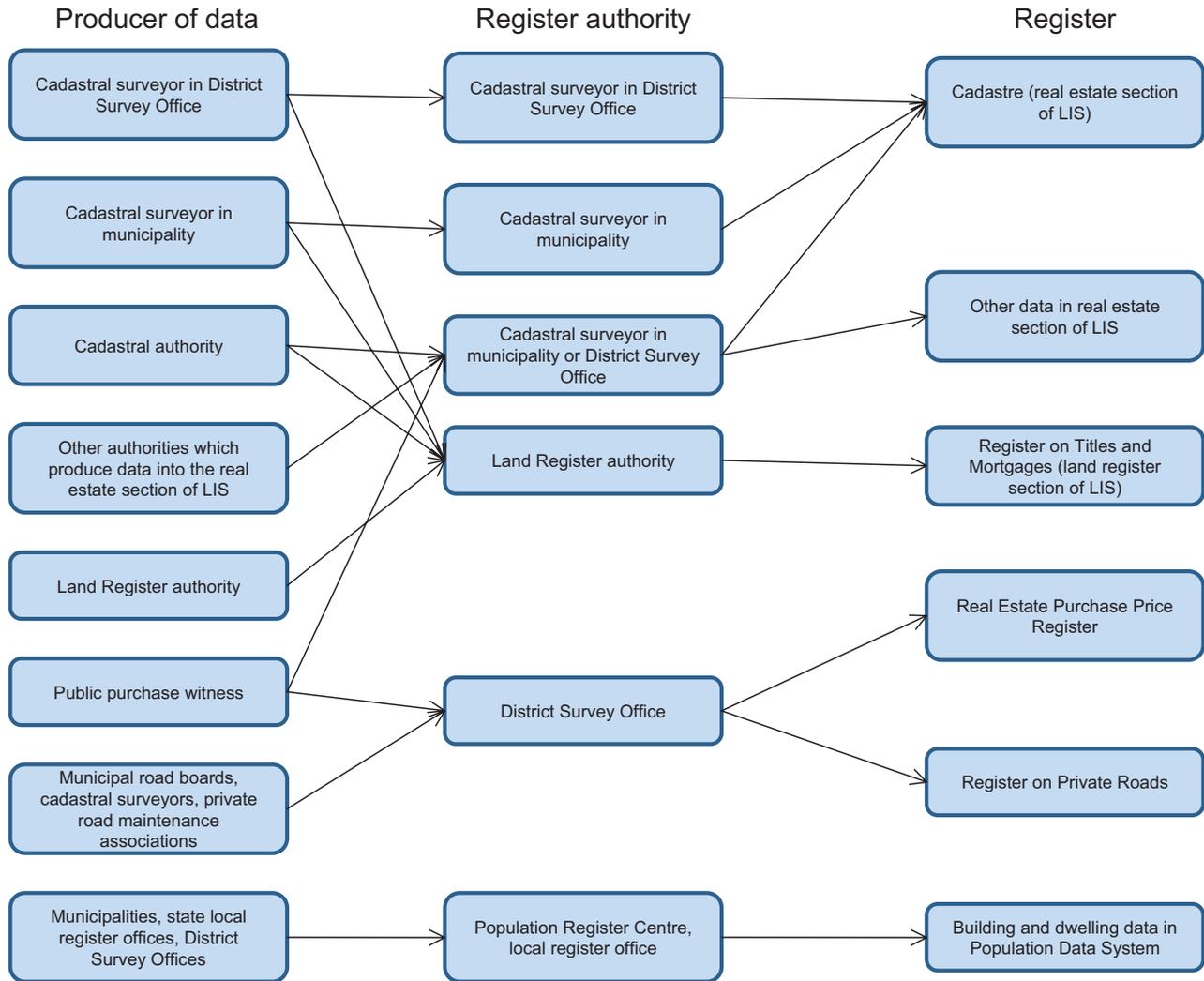
1.2 Development of the institutional and organisational structure

As the earlier version of the Land Information System was gradually introduced in the municipalities already during the years 1984-1998 its technical design had become partly outdated. In June 1, 2005, the updated new Land Information System was taken into use. The Land Information System is divided into a Cadastre section and a Land Register section. The reform of the Cadastre section was begun in 2002 based on an act that entered into force on January 1, 2003. System development did not include the Land Register section, however, and therefore the old system cannot be discontinued until approximately five years) from now, by which time the Land Register section will have be modernized.

The structure of the Land Information System consists of:

- Cadastre section
 - Cadastre and the cadastral index map
 - Other data
- Land Register section
 - Title and Mortgage register
 - Conveyance information

Official registers with connection to real property information



The Cadastre section of the old Land Information System was a copy of the attribute or location data and the Cadastres maintained by District Survey Offices and 80 municipalities within their respective areas of responsibility. The new Land Information System is technically maintained in the JAKO system of the National Land Survey of Finland. Cadastral surveys and decisions are considered registered once they have been entered in the Land Information System. Since June 1, 2005 it has thus become the primary register of real estates. Earlier, registration was considered to have taken place once the District Survey Office or the municipality had entered the cadastral survey or the decision in their own cadastre.

1.3 Financial and organisational issues

The National Land Survey (NLS) is an independent net-budgeted government agency under the Ministry of Agriculture and Forestry and is responsible for production of topographic data and maps and maintenance and updating of the Cadastre. The agency covers roughly 50 % of its total costs of 115 million Euros (2008) by revenues from its customers and the rest i.e. the order from the ministry from state budget.

The NLS and municipalities updating the Cadastre carry almost the entire responsibility for the maintenance costs of the Land Information System. According to the Act on the new Land Information System, the National Land Survey of Finland and municipalities keeping a Cadastre should have at least some of their costs including development costs covered by revenue from customers. Indeed, most costs are being covered by revenues already.

Other cadastral duties involve general basic improvement of the register and corrections that need to be made, the registering of unseparated areas and the decisions taken by certain cadastral and other authorities. The costs for the NLS amounted to EUR 10 million during the year 2005. Basic improvements accounted for nearly 80% of this, indicating that “normal” work cost EUR 2 million. This last figure includes a cost of EUR 0.35 million that was incurred as a result of registering data generated by other authorities. In principle, this cost should have been paid by the other authorities in question. So far, however, the registration is free of charge for other authorities.

A specific basic improvement project is underway at the National Land Survey of Finland, the purpose of which is to improve the quality of geographical information on the cadastral index map. The costs for the year 2005 amounted to EUR 3 million. In cadastral procedures carried out by municipal officials, the cost of registration has been included in the fees for some time. In municipalities, it is also easier to calculate the share of registration in the costs. Judging from conditions in the City of Helsinki, it is possible to estimate that the total costs of property registration in municipalities amounted to EUR 1.8 million in 2005.

1.4 Decentralisation, involvement of the private sector

NLS comprises central administration, six support and service units and 13 District Survey Offices. The survey offices are responsible for all NLS production and service within their geographical area except aerial photography. There is an NLS service point on 35 locations.

NLS is responsible for updating of the cadastre i.e. the centralized cadastral part of the National Land Information System within the mainly rural areas whereas the 80 biggest municipalities (cities) update it in their city planned areas which make up roughly 2 % of the total area of Finland and 15 % of all real estates.

All cadastral work is done by NLS or municipal surveyors i.e. civil servants. Private companies are only active as consultants.

2 CONTENT OF THE CADASTRE

The Cadastre contains the land and water areas and connected rights covering the whole country. Buildings are not part of the data content. There is a separate register on buildings and dwellings maintained by the Population Register Centre.

Juridical literature has for a long time tried to define the term real property. A simple and useful definition is included in the Expropriation Act: real property is a right of ownership or with it comparable right to a real estate or other land or water area including a building or other construction on it.

Term real estate is more restricted than real property. The real Estate Formation Act says simply that with a real estate is meant such an independent unit of land ownership that according to the Cadastral Act shall be entered as a real estate in the Cadastre. It is also said that "a real estate consists of the area that belongs to it, shares in common areas and of common special interests and furthermore those easements and private special interests that are included in the real estate.

2.1 Cadastral maps

Until 2005, the National Land Survey of Finland and all municipalities that keep the Cadastre maintained their own cadastral index maps detailing their respective areas of responsibility. An important and arduous part of the development of the new Land Information System consisted of combining the digital

cadastral index maps of the time and storing them in a single database. As a result, there is today a unified cadastral index map that covers seamlessly the entire country.

The data contents of the cadastral index map (the geographical information of the Cadastre) can be divided into five groups:

- actual property unit division,
- easements and usufructs established in cadastral procedures,
- land use plan data,
- data produced by other municipalities, and
- technical data.

Property unit division

- Property boundaries.
- Property identifiers or, on printouts, usually a part thereof. For farms, a “register number”, e.g. 4:24, and for plots, usually only the number of the plot according to the detailed plan and plot division plan.
- Boundary markers: boundary stones and their numbers, and sometimes boundary signposts (small-scale cadastral index maps on a scale of 1:10,000 usually don't show the numbers of the boundary stones).
- Municipal boundaries.
- Village boundaries or other localization area boundaries.
- Unseparated areas: boundaries, or (within the area of responsibility of the National Land Survey of Finland) only an approximate centre point along with the identifier of the unseparated area.

Easements and usufructs

Easements and rights of way, power line, natural gas pipeline, etc., that have been established in a cadastral survey are entered in the Cadastre as attribute data, and are additionally entered on the cadastral index map. At the NLS, new rights have been registered as usufruct units since 1998. Since the introduction of the new Land Information System, also municipalities have begun to register easements and usufructs as usufruct units.

The data for this group is not comprehensive, as a large share of older data is missing from the cadastral index map.

Plan data

Local master plans (with legal consequences), detailed plans, decisions on building prohibitions and separate plot division plans, are entered on the cadastral index map. Despite the fact that these data are produced by other authorities, they are registered in the Cadastre and on the cadastral index map, according to section 7 of the Cadastral Act.

Data produced by other municipalities

Nature conservation areas and protected groundwater areas are examples of data which are to be stored in the Land Information System (but not according to the Cadastral Act) and which are produced by another authority than the actual cadastral authority. For practical reasons, this information is, for now, shown as though it were part of the content of the Cadastre.

Technical data

Within densely populated areas, each boundary marker on the cadastral index map has a number that is also engraved or embossed on the boundary marker itself. Most of the other boundary markers also have a number on the map.

The boundary markers and boundary points have coordinates. Some municipalities have their own coordinate system, but the new land information system uses the national coordinate system. The accuracy of the coordinates is stated, within the area of responsibility of the National Land Survey of Finland, with an RSK number that gives the average margin of error of the coordinate value in metres: for example, if the RSK is 0.3, this means that the coordinates for the boundary marker are 0.3 metres or less from the exact coordinates, with a likelihood of 68%.

The features of the boundary marker can also be stored: the boundary marker can be a tubular metal marker, a single stone, an iron bolt in the rock or in a stone, etc. Information on whether the boundary marker exists or not can also be added, as well as its position in relation to the ground level.

Additional information not part of the cadastral index map

The cadastral index map is often shown on screen or printed out so that the property division is superimposed on terrain data. The basic map can be e.g. the official map of the municipality or the terrain map of the National Land Survey when the scale is smaller. In the first case, the map often also contains the names of roads and streets, etc.

2.2 Cadastral register

2.2.1 Property unit identifier

The current system of property identifiers was created when the Cadastre and Urban Cadastre were first digitalized (and the Land Information System originally established). The property identifier consists of four series of digits and an additional control digit in data processing. A sample identifier looks like this: 247-406-3-45 (or, in its complete form, 24740600030045).

The property identifier relays quite a lot of information, even if it conflicts with current principles of what the function of the identifier should be.

The first number (247 in the above example) denotes the municipality. If the municipality number changes due to a merger of municipalities or changes in municipal borders, the property designation also changes.

The second number denotes what is known as the localization area. In the case of plots, it indicates the district in the municipality in question. For public areas, the codes are:

9901	street area K
9902	square G
9903	recreational areas (P, R and U)
9904	traffic area L
9905	dangerous area V
9906	water area W

Within areas that are neither plots or public areas, the localization area number can indicate the type of register unit when the unit is not part of any register village:

871	redemption unit
872	separate landing
876	common water area (not part of any specific register village)
878	common land area (not part of any specific register village)
881	protected area on government-owned land
893	government-owned forest area
894	public water area
895	road (from 1 January 2006); previously public road
896	accessory area around road

When the new Highways Act entered into force on January 1, 2006, former public roads were converted into redemption units. The act does not apply in the region of Åland, which still has public roads according to its own legislation.

The third number is a group number indicating the number of the homestead in old cadastral areas or, for plots, the number of the city block according to detailed development plans and plot division plans. Public areas that have been registered per municipality have group numbers between 9901 and 9909. The codes are:

- 9907 street area K
- 9908 squares and open areas G
- 9909 park P
- 9910 sports area U
- 9911 recreation and holiday area R
- 9912 traffic area L
- 9913 hazardous area V
- 9914 special area E
- 9915 water area W

It is possible to use the letter instead of the number, but the number must be used in data transfers. Regarding highways ('public roads' until the end of 2005), the group number may indicate the number of the road at the time of registration (usually in the 1980s or 1990s). However, the identifier has not always been changed when road authorities have changed the number of the road. Also, some cadastral authorities have chosen an alternative system of identification for public roads (highways), where either the group or unit number contains no information.

The fourth number is called unit number. In most cases, the unit number does not contain any information, but for plots it equals the plot number according to the detailed plan and the plot division plan.

The concept of register number was used previously, and is still used to some extent for farms. The register number (abbreviated RNr, RN:o or Rno) consists of group and unit numbers and usually has the format 3:45. The cadastral index map often displays the register number only.

2.2.2 Information contained in the property unit identifier

Above is described the information that different parts of the property identifier may contain. However, it

is good to keep in mind that not all information is reliable. It is not possible, based on the property identifier alone, to fully ascertain for instance that a property unit is a redemption unit, even if the localization area number or group number of the property unit is 871. The type of each register unit is given in the Cadastre, and it does not always correspond to that which the property identifier indicates. A common area is also not necessarily a “water area” even if the number 876 in the designation seems to indicate this. In time, the difference between common land and water areas will become even more confusing with regard to property unit identifiers.

In Finland, the property unit identifier does not indicate the number of parcels/plots covered by the register unit. The separate parcels of the unit are also not numbered.

2.2.3 Register unit and unit of use

The connection between register units and economic units in Finland is very loose. It is common for an agricultural holding or forest holding to consist of several property units. Only in areas with binding plot division plan and detailed plan a plot in the Cadastre must correspond to the plot in the plan or else, building permission will not be granted.

2.2.4 When the property identifier is changed

A new property unit is normally also given a new identifier, but the rules for this are quite complicated. Until the end of April 2001, the identifier of a farm was changed when an area was subdivided from it. Subsequently, the identifier of the base farm has been left unchanged in subdivision.

In certain procedures (e.g. redemption of an area, or parcelling of a plot, public area, government-owned forest area or common area, or change of ownership), the identifier of the transferring register unit has never been changed.

In divisions, each new property unit gets a new identifier.

When a register unit ceases to exist, the identifier and certain information about the unit nevertheless remain in the cadastre. Older data on the cadastral index map has been stored in the data systems. Within the area of responsibility of the National Land Survey of Finland, the property division situation at any given time can be recreated, thanks to the JAKO system taken into use in March 1998.

2.2.5 Identification of unseparated areas and shares in common areas

The identifier of an unseparated area consists of the property identifier of the register unit from which the area has been transferred, at the time of registration, combined with the letter M and a number (normally counted from either 501 or 601). If the transferred area covers several register units, each part receives its own identifier. If the property identifier changes the identifier for the unseparated land remains the same.

A share in common areas which has been transferred without land or water holdings receives an identifier based on the identifier of the transferring property unit.

Example:

- an unseparated area (or specific share in common area) transferred from farm 10:341:
- 49-409-10-341-M602
- an unseparated area transferred from plot 2:
- 49-25-I-2-M501
- an unseparated area transferred from common land area 878:I
- 348-405-878-I-M604

2.2.6 Other identifiers

Usufruct units have an identifier constructed in the following way:

In the Population Register, buildings have an identifier consisting of the property unit identifier of the property or register unit on which the building is located, together with a building number and a control identifier, such as:

4274030000200017D002 (basic form)

427-403-2-17 D 002 (in printouts)

If the property unit identifier changes the building identifier is changed accordingly.

The facility identifier of a special right in the Land Register section of the LIS consists of the property unit identifier and the type letter L and a running number. The identifier remains unchanged even if the property identifier changes.

The information in the Land Information System is public and available to anyone: for example, anyone might order an extract from the Cadastre as well as from the Land Register. However, in legislation there

are restrictions on the form and the amount of information that can be disclosed to a single customer, as well as regulations on how personal data is to be presented.

The essential contents of the Cadastre and the Land Information System are described below.

2.2.7 Data contents of property units and other register units

1. Basic information on the register unit:
 - 1.1 The type or kind of register unit: can be e.g. farm, plot, government-owned forest or public area
 - 1.2 Identification: property unit identifier, municipality, village (or other localization area), city block (for plots) and the name of the register unit, if any
 - 1.3 Date of registration
 - 1.4 Status of the register unit (active or annulled)
 - 1.5 Area (total area and, in many cases, the area of land and water listed separately)
 - 1.6 Archive identifier
 - 1.7 and 1.8 Specific data
2. Unit formation data
3. Unseparated areas within the register unit as well as shares in common areas that have been transferred from the property unit
4. Planning data
5. Easements, usufructs and encumbrances
6. Shares in common areas and special benefits
7. Measures taken
8. Other data (comments)

2.2.8 Data content of common areas

The data listed in sections 1-5 and 7-8 also apply, as appropriate, to common areas. However, a common area cannot have rights to an easement.

Data on common areas also include the list of the property units that have a share in the common area. In addition to the designations of the co-owned property units, the list also shows the size of the shares in question. Almost half of Finland's 46000 common areas have a shareholder list entered into the Cadastre.

2.2.9 Data contents of unseparated areas

The data on unseparated areas is temporary. It exists in the register for an average time period of a year, and in some urgent cases for only a few days.

Information on unseparated areas entered in the Cadastre includes the following:

- identifier of the register unit within which the unseparated area is located,
- register unit or unseparated area from which the unseparated area has been transferred,
- transferring and acquiring party, and the date of the acquisition,
- identifiers of the register units formed from the unseparated area, and for unseparated areas transferred at a later date.

2.2.10 Data contents of cancelled register units

For register units that have been cancelled, a fairly large share of the information on the unit at the time it ceased to exist in the Cadastre is saved, including its area, easements, usufructs and encumbrances and unseparated areas within the unit.

2.2.11 Data not entered into the Cadastre or the Land Information System

Under Finnish legislation, data not entered into the Cadastre or the Land Information System include:

- address of the property unit,
- taxation or other value of the property unit (in the tax authority's system),
- construction data (in the population register system),
- agreements on the use of the property unit based on civil law (e.g. phone and power lines are almost always based on agreements between the utility owner and the landowner),
- regional plans,
- written specifications on detailed plans and general plans,
- riparian zones (an area on sea and lake shores approximately 100-200 m wide),
- shipping lanes and maritime security installations,
- border zone (area along the Russian border, 1-2 km wide),
- protected areas at sea, with reference to territorial supervision.

2.3 Plans of the urban units (flats, houses, appartements) – if available -

Buildings are part of real estates but not shown in the Cadastre separately. However, there is a special register for buildings and dwellings maintained by the Population Register Centre.

3 TECHNOLOGICAL INFRASTRUCTURE

In the new Land Information System, the Cadastre and map are maintained in the JAKO data system of the National Land Survey of Finland. Every municipality that maintains its own cadastral information has its own data system. In order to be able to enter their data into the Land Information System, municipalities use what is known as a registration tool. Registration is performed over the Internet with the help of Citrix technology.

4 UPDATING PROCEDURES

4.1 Existing types

New property units and other register units are formed in cadastral surveys, mainly subdivisions and divisions or as the result of merging several property units.

The registration processes in municipalities and with the District Survey Offices are not identical. When the cadastral engineer of a municipality carries out a cadastral procedure the registration as well as updating of the register constitutes separate elements of the process. For the survey offices, on the other hand, registration (including work on the cadastral index map) is integral part of the cadastral process and usually taken care of by the cadastral surveyor him/herself with the help of the JAKO tool.

Earlier, when the Cadastre did not comprise land and water surfaces in their entirety, new units were registered based on archive investigations as a public improvement task. State forest land and common areas had been formed as far back as centuries ago, but many of them were not entered into the register until the 1980s.

Information about any given single register unit may have changed for a number of different reasons. In addition to cadastral procedures and mergers, the keeper of the Cadastre may, as the result of a decision, correct errors or change the type of property unit (for example from farm to plot), or the name of the property unit or the village. Without a decision or cadastral survey, the register keeper may correct the

area of a property unit, provided that the change is of no great significance to the owner. Cadastral surveying personnel may define the coordinates of a boundary marker or change the course of a natural boundary or the number of a boundary stone.

A change in the division of municipalities normally also brings changes to the property division. When a part of a municipality is transferred to a neighbouring municipality, the transferred register units receive a new property unit identifier. The number of the municipality changes in any case, but it is also possible for all four parts of the identifier to be replaced. If part of a property unit (e.g. a parcel) is transferred from one municipality to another, it becomes necessary to execute a cameral parcelling. The transferred area is subdivided and registered as a property unit in the receiving municipality.

The registering of transferred unseparated areas involves a special process. When a public purchase witness has attested the transfer, he/she is to send a filled-out form to the District Survey Office for the sake of maintaining the purchase price register. The report is also to be sent to the municipal authorities to keep the register keeper up to date on transfers of unseparated areas and shares in common areas and the District Survey Office or municipality may register unseparated areas in the Cadastre. Once an unseparated area has been formed into a property unit following subdivision or other type of cadastral procedure, the unseparated area is cancelled in the cadastre. Registration of ownership and possible title registrations for the unseparated area are transferred to the newly formed property unit or to the receiving property unit.

Easements and different rights established at the cadastral procedure will be registered in connection with the same process as the actual cadastral survey. Information about rights that do not have a proper place in the register must, at the registration of the cadastral survey, be transferred to the correct property units.

4.1.1 Information produced by another authority

So far, District Survey Offices have also registered information that has been produced by other authorities. Even though external authorities (Regional Environmental Centres, Forestry Centres, etc.) are nowadays responsible for making sure that the data they produce are registered in the Land Information System, register keepers are currently managing this obligation. In due course, it is possible that the authorities themselves will begin to enter their own data in the Land Information System.

4.1.2 Control functions at registration

A data system provides many possibilities for executing controls in order to guarantee that the information is indisputably correct. At the registration of new property units and other information in the Cadastre, the data system executes control functions including:

- The property unit identifiers must be in force
- If there is area data attached to a register unit, it must be visible on the cadastral index map
- A register unit cannot have 'negative area'
- A cancelled register unit or cancelled unseparated area cannot exist on the cadastral index map in the shape of an area
- The residual property unit must be established at the subdivision
- If a property unit is subdivided or partitioned into several new property units, certain data on the base property unit must apply to at least one property unit following the cadastral procedure.

Additionally, special control operations may deal with larger number of data, enabling the finding of superfluous or conflicting information.

4.1.3 Correcting errors

If any data in the Cadastre deviate from the cadastral survey documents or map, the keeper of the Cadastre must correct the register or add additional information. If the correction is of great significance to the owner, the correction must be made by way of a decision that makes it possible to appeal the correction to the District Courts functioning as Land Courts. If the error is in the cadastral survey documents, the survey itself must be corrected, either through a decision or a property definition procedure. In serious cases, the Supreme Court will interrupt the cadastral survey at the request of the customer or according to an account presented by the Central Administration of the National Land Survey of Finland.

The register keeper will decide whether the correction is of great significance to the owner. Changing of area data (especially if it increases) on the basis of a trustworthy investigation or a note of a usufruct which is missing in the register but of which the owner must be aware (e.g. a power line) normally does not require consulting the owner. In built-up areas, however, the principles are stricter.

The correcting of geographical information in the Cadastre (the Cadastral index map) is generally a procedure less formal than the changing of attribute data, i.e. the actual Cadastre in the traditional sense. Errors on the cadastral index map are seldom of the kind that requires informing the property unit owner.

4.1.4 De-registration

There are many cases where a register unit or unseparated area ceases to exist in the Cadastre. For example, a farm that has been subdivided or a common area that is divided ceases to exist when the procedure is registered. Easements, rights of way and usufructs that have encumbered the divided farm or the common area must be assigned to the correct new units at registration. Until April 2001, units from which one or more unseparated areas had been subdivided also ceased to exist. A unit or common area may cease to exist during a compulsory purchase proceeding or subdivision of plot or public area, since the property on it is transferred, in its entirety, to the new property unit. There are other possible cases too.

When an unseparated area is formed into a real property unit in a subdivision, the unseparated area “automatically” ceases to exist in the Cadastre. The data system transfers the registration of ownership granted on the unseparated area, along with any mortgages, to the new property unit.

It is sometimes the case that a conveyance of an unseparated area already entered in the Cadastre is cancelled. The Cadastre keeper will, based on a proof of claim, cancel the unseparated area in the Cadastre. However, the registration of ownership and any mortgages must also be annulled by the District Court prior to the annulment.

4.2 Organisations and persons involved (also involvement of the private sector)

All cadastral work is done by NLS or municipal surveyors i.e. civil servants. Private companies are only active as consultants.

4.3 Process automation

5 PROVIDED SERVICES

The property unit identifier is normally the key to investigating a register unit in the Cadastre or the Land Register. The customer often does not know the correct identifier. In such cases, it is possible to search for the property unit by unit name in the municipality, or even by the owner’s name or personal identity number. The owners’ addresses can be found in the JAKO data system. If the owner is residing on the property unit, the address can of course be used as a search term.

Another useful method of locating information about certain property units is to select property units based on their location on the cadastral index map. The area may be marked out with a line, circle or shading.

Users with an agreement permitting the online use of the Cadastre section of the Land Information System cannot search for property data on the basis of the owner's name.

The only personal data contained in the Cadastre relates to unseparated areas. However, personal identity numbers are not included in excerpts ordered by the customer. The JAKO data system also contains addresses of the owners, but this information, acquired from the Population Register Centre, is intended for official use only. Addresses of the property units have not been registered.

The Title and Mortgage Register includes personal data, since the register must indicate the owner. The personal identity number is also included on the title certificate.

The data in both sections of the Land Information System (the Cadastre and Land Register) are public. According to the relevant Act, the National Land Survey of Finland must provide an opportunity for everyone to read the information of the Land Information System free of charge at the cadastral authority and to take notes. Section 6(5) of the Act specifically states that a personal identity number may be disclosed to a third party if that third party has or could have access to it based on the Personal Information Act or other legislation.

The Purchase Price Register for property units contains large amounts of data, such as the names of the parties, their addresses and personal identity numbers. Personal identity numbers may only be disclosed to an authority, or, by permission of the National Land Survey of Finland, for scientific research.

The National Land Survey of Finland may disclose name and address data from the register for direct marketing purposes, provided that the individual to whom the data apply has given his/her consent.

6 LINKS BETWEEN CADASTRE AND LAND REGISTRY

Based on the Government program the Land Registry activities will be taken over from the District Courts by the National Land Survey on January 1, 2010. A transfer project is working on the preparations for the transfer. The text below describes the situation as it is now. The basics will remain the same even after the transfer.

The registering of title and special rights as well as the establishment, change and annulment of mortgages need to be applied for in writing to the District Court. Applications are normally processed by office personnel, but demanding cases are handled by a legally trained clerical employee.

The land register application is pending once the application has been filed with the District Court, even in cases where documents are incomplete or the transfer tax has not been paid. A note of the application concerning the property unit in question is immediately made in the Title and Mortgage Register. If there are no current preconditions for granting ownership registration but there will be later, the application will remain dormant. If the transfer document conflicts with the law and there are no preconditions for granting the registration of ownership, the application will be denied. The legal effects of the application and granting of ownership registration as well as of declaring an application dormant are provided for by law.

The application for registration of ownership must include the original transfer document or a copy thereof that has been attested by a public purchase witness or the District Court. Once the registration of ownership has been granted, a note is made in the Title and Mortgage Register for the property unit, unseparated area or specially transferred share in a common area. District Courts may log on to TietoEnator Oy's (a private company) system, which is the physical location of the Title and Mortgage Register. The original transfer document, the title certificate and the invoice are sent to the applicant. If the issue in question is an unseparated area or a share in a common area, the district court will inform the District Survey Office or the municipal cadastral surveyor of the title.

Once the subdivision of an unseparated area or formation of a property unit from a share in a common area has been entered in the Cadastre, the data system of the District Court changes the title so that it applies to the new property unit. Title and mortgage information concerning specified shares of real estates are changed ex officio to apply to the units formed in the division procedure.

In most cases, the entering of special rights is voluntary; in other words, the holder of the right or the owner of the property can apply for it. The application takes legal effect when it has been handed in to the District Courts. The application may be left dormant, if the legal effects are provided for by law. The District Courts change the registration to apply to the correct property units once the property subdivision has been changed, provided that the cadastral surveyor or the keeper of the Cadastre has notified the District Court thereof.

7 LINKS BETWEEN CADASTRE AND REAL ESTATE EVALUATION SYSTEM / REAL ESTATE TAXES

Property unit owners pay property tax to the municipality. The government taxation authority manages the collecting of taxes. Noteworthy in this context is the fact that property tax is not paid on agricultural holdings or forestry holdings.

The tax authorities enter the property data in two separate registers: the agricultural register and the land database. The first one contains agricultural units, which may consist of several property units and/or unseparated areas. The land database only contains properties that comprise land areas or buildings on which the owner pays property tax. The property identifiers are the same as in the Land Information System.

The property data of the tax authorities are not accessible, not even by other authorities.

THE CADASTRAL SYSTEM IN GREECE



www.ktimatologio.gr

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1 INTRODUCTION

1.1 Background

Greece is a country with an area of 132.000 square kilometers and about 11 million inhabitants. The Country is mostly mountainous with over 15.000 km of sea shore and over 3.000 islands and islets. The land is highly fragmented and due to the strong urbanisation of the last 50 years, most of the population is concentrated in few big cities and great extents of rural and mountainous areas have been abandoned.

Since Cadastre has not been completed yet for the whole Country, the number of real property rights existing at present can only be estimated by the use of statistical methods. Towards that purpose, KTIMATOLOGIO S.A. has developed a regression model, that estimates the number of rights that exist, based on the number of rights in the areas that Cadastre already operates and various statistical indexes that exist for the whole Country. Based on this model, the number of rights in the Country is currently estimated to be about 34-40 million.

1.2 History of the cadastre in Greece

Since 1853, the French-originated system of registrations and mortgages has been operating in Greece. This system, a person-centered system, is mainly based on the maintenance of directories of the persons who have performed real property transactions. Each personal record registers all the real property transactions performed by a single person in a given area. These records are maintained in the registry offices which in Greece are known as Mortgage Offices. The institution of the registrations and mortgages system ensures the publicity of the registrations, but it does not provide legal security of the registered ownership rights. This leads to the need for searching throughout the history of a real property to establish with relative certainty the valid rights on it.

There are several serious shortcomings in the existing Registrations and Mortgages system because of its structure:

- the location of a real property, its shape and its geometrical dimensions are not systematically registered,
- the implemented indexing scheme based on the name of the person does not offer the capability of identifying the owner of a particular real property.

Furthermore, some additional reasons specific to Greece, made the need to develop Cadastre even more imperative:

- Back in the 1830s, the Greek State became the owner of the largest part of the Country as the successor of the Ottoman Empire. This information, however, never got registered in a systematic and uniform record.
- The existing registration system of the mortgage offices as mentioned above, does not guarantee real property transactions.
- In Greece, a person can acquire ownership of a real property by using and exploiting it in good faith for a period of 20 years, even if he has no legal title to document this right, thus without being registered in the mortgage office as the owner of the particular property.

1.3 The Cadastral Project

The project of the Hellenic Cadastre was initiated back in 1994 by the Ministry of Environment, Physical Planning and Public Works.

The basis for the institution of the Hellenic Cadastre has been formulated with the two following laws:

- 2308/1995 “Cadastral survey for the development of the National Cadastre. Procedure until the first registrations in the cadastral books and other provisions”, which describes the procedure that must be followed for the establishment of Cadastre in a particular area, and
- 2664/1998 “National Cadastre and other provisions” which describes the procedures for operating and maintaining the Cadastre in a particular area.

These laws have been successively amended by laws 2508/1997, 3208/2003, 3127/2003, 3212/2003, 3481/2006 and 3728/2008.

The goal of the project is the development of a uniform, systematic and always up-to-date collection of registrations, which consist of the geometric description and the ownership status of all the real properties of the Country, overseen and guaranteed by the State. Additionally, the Hellenic Cadastre may register a wealth of other information that can contribute to the growth and development of the Country.

From the definition mentioned above, it becomes evident that the term Cadastre in Greece is used to

describe a combination of Cadastre and Land Register. Throughout this document, any reference to Cadastre includes the Land Registry, unless it is otherwise explicitly stated.

Principles of the Cadastre.

The fundamental principles for the operation of the Cadastre are:

1. the principle of property – oriented organization of cadastral information, which provides for the creation, maintaining and continuous updating of the cadastral maps (together with the legal information on property rights),
2. the principle of checking the legality of titles, for the acceptance of an application for registration in the cadastral records,
3. the principle of ensuring the order of the cadastral registrations, depending on the time of submission of the relevant application (the principle of temporal priority),
4. the principle of publicity of the cadastral books,
5. the principle of ensuring public trust, in order to protect every bona fide person who relies on the cadastral registrations to make a real property transaction, and
6. the principle of suitability of the Cadastre as a receptive system to accommodate other additional categories of information at any time in the future (principle of the “open” Cadastre).

1.3.1 The development of the Cadastre

The procedure for developing Cadastre in an area (cadastral survey) as described in law 2308/1995 as it currently stands, is the following:

1. First, the Minister of Environment, Physical Planning and Public Works issues a decision declaring an area to be under cadastral survey.
2. The preliminary cadastral basemaps for the area under cadastral survey are produced. In this stage, all information about addresses, landmarks, existing cadastral data from administrative acts (urban development acts, land consolidations, town-plans etc), as well as any other information that can be used during the cadastral survey, is collected and represented on recent orthophotos. Furthermore, the preliminary cadastral basemap is enriched with the delineation of all land parcel boundaries that can be identified by the observable boundaries on the orthophotos (Figure 1). The parcel boundary delineation is further improved by field surveys and measurements where necessary.

Figure 1. Extract from an orthophotomap used for the preliminary delineation of parcel boundaries



3. The cadastral survey office is established.
4. The commencement of the procedure regarding the submission of declarations on registrable rights (ownership, usufruct, mortgage etc.) by all persons (natural or legal) that have real property rights in this area is officially announced.
5. All persons who have registrable real property rights in the area under cadastral survey are obliged to fill the relevant declaration and submit it along with a copy of the documents that support their declaration (i.e. notary deeds, court decisions) to the competent cadastral survey office. During this phase, the beneficiary must also identify his real property on the preliminary cadastral basemaps and verify or correct the boundaries that have been delineated by the contractor.

6. The time period for the submission of declarations is three (3) months for the beneficiaries who live permanently in Greece and six (6) months for expatriates and people living permanently abroad. These deadlines may be extended for another three (3) months.
7. The declarations and the legal documents submitted with them are processed and cross-referenced along with all the existing administrative acts in order to verify the legal validity of the claims as well as the correct positioning and delineation of the real properties.
8. After the processing of declarations and the other data, interim cadastral tables and maps are drafted.
9. The public presentation of the cadastral tables and maps (which is called the public “suspension” of the cadastral data) in the cadastral survey offices for the inspection by all interested parties is officially announced. At the same time, each beneficiary who has declared his real property to the cadastre receives by mail a printed copy of the cadastral registration that has been noted based on his declaration, along with an extract of the cadastral map depicting his declared real property.
10. The public “suspension” of the cadastral survey data lasts for two months. During this period, beneficiaries have the right to submit applications for the correction of obvious errors or file objections, depending on the occasion. Applications for the correction of obvious errors or errors in the positioning and delineation of the real properties are processed directly by the contractor, while for the judging of objections, an independent Objections Committee is formed, which is chaired by a judge.
11. After the correction applications and appeals are examined and the relevant decisions are issued, the cadastral tables and diagrams are reformed.
12. An official decision declaring the cadastral survey as completed and defining the commencement of the operation of the Cadastre at the surveyed area is issued.
13. The local Mortgage Office commences its transitional operation as an interim Cadastral Office.

1.3.2 Operation of the Cadastre

As described above, with the commencement of the operation of the cadastre in an area, an interim cadastral office is established. An interim cadastral office is defined as the mortgage office (MO), which starts operating as a cadastral office for the part of its area of competence for which cadastre has been established. Interim cadastral offices receive and process any application which pertains either the registration of a deed or the issuance of certificates, copies and extracts from the cadastral records for the real properties that fall in the area of their competency. The existing data already kept by the respective mortgage offices becomes part of the interim cadastral office's

archive, which remains quite useful for legal searches in order to support any claims for changes of the first registrations.

After a period of time, and certainly after the completion of the cadastral survey of the entire area of competence of each mortgage office, the permanent cadastral offices will be established. The Greek Parliament, wanted to achieve a gradual absorption of the existing Mortgage Offices in the new institution of the Cadastre realizing the important role that they play in the well-functioning of local communities. This is the reason why the cadastral laws provide for the interim cadastral offices and there is no time specified for the establishment of the permanent cadastral offices. The establishment of the PCOs requires a joint Ministerial Decision to make sure that all the necessary preconditions are in place. The law states the possibility but not the obligation of reducing the number of the PCOs. The number, their location and the area of competency will be determined through a special study that will be conducted by KTIMATOLOGIO SA when there will be adequate data available for the actual operational demands of the cadastral system.

Note on the legal status of the cadastral registrations:

The first registrations create no presumption (neither rebuttable nor non- rebuttable), before a period of eight (ten) years expires, during which everyone who has legal interest can appeal before a civil court asking for the correction of the registrations. After the expiration of this 8(10)-year period either the first registration, which did not become subject to a trial, becomes non- rebuttable, or, in case of a judicial correction of the first registration, the corrected registration becomes non-rebuttable. All subsequent registrations are considered to be correct, unless the beneficiary is of bad faith or has become an owner by a donation. This rebuttable presumption (principal of protection of public trust) does not prevent a judicial correction.

1.3.3 Status of the Cadastral project

The first cadastral survey programmes started back in 1996-1998 and covered about 340 regions of the country. With the completion of these programmes 8.400 square kilometers and 6.5 million property rights have been registered in the Cadastre. For the operation of the Cadastre in these areas 97 interim Cadastral Offices have been established.

The new cadastral survey programme started in 2008. Upon its completion, this programme which is currently under development, all the major urban centers of the Country will be included in the Cadastre

and 2/3 of the inhabitants of the Country will reside in areas covered by Cadastre. The number of rights that are expected to be registered when this programme is completed are estimated to about 8,5 million.

1.4 Development of the institutional and organisational structure

The National Cadastre is developed under the authority of the Ministry of Environment, Physical Planning and Public Works. The development and operation of the Hellenic Cadastre was first assigned by law to the Hellenic Mapping and Cadastral Organization (HE.M.C.O.), a public organisation which is supervised by the Ministry of Environment, Physical Planning and Public Works.

However, to better deal with the magnitude of developing a cadastre, KTIMATOLOGIO S.A. was formed. Ktimatologio S.A. is a state-owned private company whose purpose is to design, develop and operate the Hellenic Cadastre.

The Company operates according to the rules that govern private sector companies and does not belong into the category of organizations and enterprises of the broader public sector.

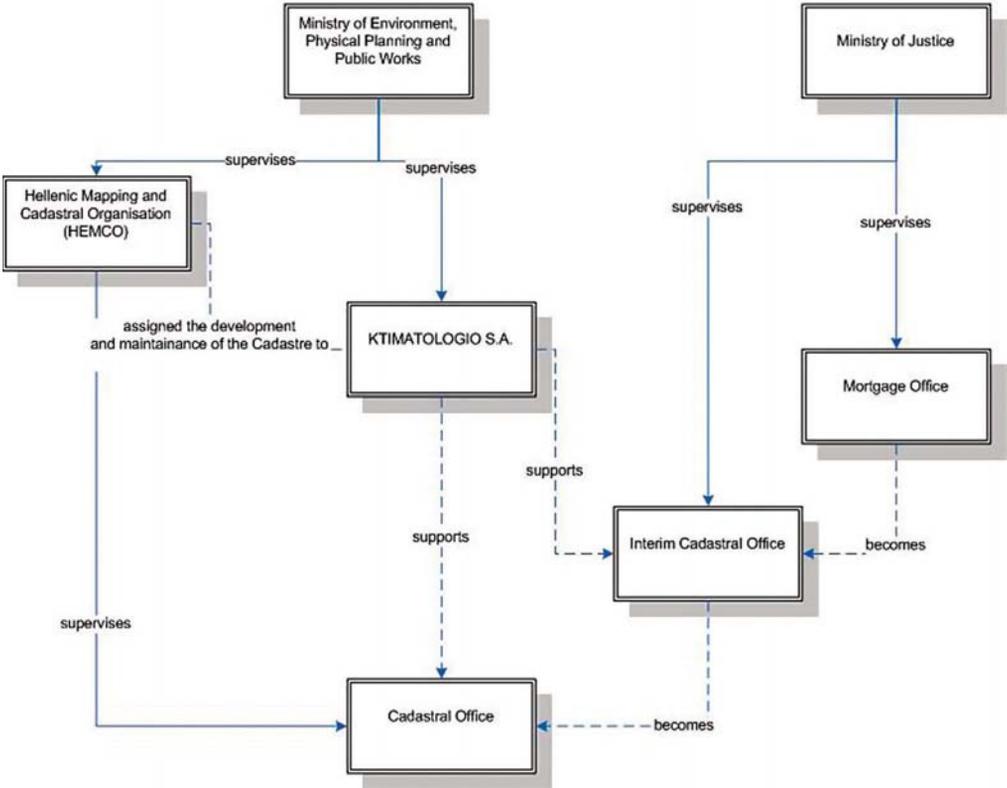
The sole shareholder of the company is the Ministry of Environment, Physical Planning and Public Works.

HEMCO has maintained the role of the State Agency that issues all the official documents that the law provides for the development and operation of the Cadastre (such as the Technical Specifications for the development of the Cadastre, or the decisions for the establishment of cadastral survey offices and of cadastral offices).

The Ministry of Justice is responsible for the operation of the Mortgage Offices, which operate in the areas where Cadastre has not been established yet. Upon the completion of the cadastral survey of an area, the respective Mortgage Office is transformed to an interim Cadastral Office, which still operates under the authority of the Ministry of Justice. When the decision is taken to convert an interim cadastral office to a permanent one, then the latter comes under the jurisdiction of HEMCO and the Ministry of Environment, Physical Planning and Public Works.

The organisational scheme described above is represented in Figure 2.

Figure 2. The organisational scheme of the Greek Cadastre



1.5 Financial and organisational issues

So far, the Cadastral project has been financed by the State, except for the first phase of the current cadastral surveys which is co-financed by the European Commission as a project of preparing the existing active data of the Mortgage Offices for inclusion to the Cadastre for the large urban centers of the Country (35.000.000 euros).

However, after the voting of law 3481/2006, cadastral fees were established to directly support both the development and the operation of the Cadastre in Greece:

1.5.1 Development of the Cadastre

Even since 1995, in the provisions of law 2308/1995, the development of the Cadastre was designed to be partly financed by a reciprocal fee which must be paid by all the right holders with property rights in an area that is announced under cadastral survey. In law 3481/2006, this reciprocal cadastral fee was first set to consist of two parts a fixed one and a proportionate one.

Fixed reciprocal cadastral fee:

During the cadastral survey, for the processing of each declaration, each right holder must pay once a fee of 35€ for each real property right he/she holds and declares. This fee is reduced to 20€ for rights on real properties that are used as storage areas or parking spaces. Furthermore, right holders that have more than two rights in a rural or forested area pay for only two of them (70€).

Proportionate reciprocal cadastral fee.

By the completion of the cadastral survey project in an area, the owners and usufructuaries of each real property will be called to pay a total of 1‰ proportionate cadastral fee on the value of the real property.

Furthermore, during the cadastral survey, for the issuance of certificates, copies and extracts of the cadastral sheets, as well as the processing of objections and applications for corrections of the information collected and registered, a standard fee of 5 euros is charged.

1.5.2 Operation of the Cadastre

During the operation of the Cadastre for each deed registered in the Cadastral Office, an additional 1‰ is charged on top of the existing fees that are currently established for the Mortgage Offices, which is used to maintain and upgrade the IT system which is used to support the digital operation of the Cadastral Offices.

Also, a fee is charged for the issuance of each of the documents available from the cadastral office (see paragraph 5.2).

1.6 Decentralisation, involvement of the private sector

KTIMATOLOGIO S.A. manages the overall project of developing cadastre in Greece, as well as, the maintenance of the cadastral database and all spatial updates in the operating cadastre. The headquarters of the company are located in Athens, but a branch office of the company is established in Thessalonica in order to monitor closely the cadastral survey projects and the operation of the cadastral offices in northern Greece.

Development of the Cadastre.

The cadastral survey studies are contracted out after open international tenders, to private firms which must be joint ventures of surveyors and lawyers. Thus, these two professional groups are very closely involved in the development of the Cadastre in Greece.

Cadastral survey offices are established for the needs of the cadastral survey procedure (submittal of real property declarations, public presentation of the cadastral maps and tables, issuance of the necessary documents for the drafting of real property transaction deeds etc). The general rule is that in each municipality set under cadastral survey, one cadastral survey office is established.

In the cadastral survey program initiated in 2008, 78 cadastral survey offices have been established to serve 105 municipalities.

Operation of the Cadastre

All real property transactions in Greece must be accompanied by a deed drafted and certified by a notary public. In this procedure, if the value of the real property in question is greater than 30.000 euros, a lawyer must be present.

Each deed must be registered to the competent cadastral office. 97 interim cadastral offices have been already established to serve the areas for which the cadastral survey has been completed. This is because, at present, the establishment of the interim cadastral offices follows the spatial distribution of the existing mortgage offices.

All deeds that involve real properties that lie in an area for which building control zoning has been established, must be accompanied by a topographic plan drafted and signed by a professional that is entitled to issue topographic plans such as a surveying or a civil engineer.

In Greece, the concept of licensed surveyors does not exist. In areas where Cadastre operates, all deeds that affect the spatial cadastral database, must be accompanied by a topographic plan drafted by a professional surveyor, using as a basis a cadastral survey map extract that can be acquired by the competent cadastral office.

Lawyers are allowed to access the cadastral data, as well as search the lineage of any registered right in the archive that is maintained in the cadastral offices.

2 CONTENT OF THE CADASTRE

2.1 Elements registered in the Greek Cadastre

The Greek Cadastre is a legal Cadastre, so all the elements that are recorded in it are seen from this point of view.

The types of real properties that are registered in the Greek Cadastre are mainly the following:

- Land Parcels,
- Horizontal partitions,
- Vertical partitions,
- Composite Vertical partitions,
- Special Property Objects,
- Mines.

Land Parcel

A land parcel is defined as a continuous piece of the land's surface on which indivisible ownership rights exist. The land parcel comprises the surface unit which is used as a reference for all cadastral data. As specified by the Law, ownership to a land parcel extends to the overlying air column and the underlying soil. This extended ownership may be limited in some cases (i.e. mines).

Horizontal partition

A Horizontal partition (apartment) is the independent ownership of a building's floor or apartment with simultaneous co-ownership in the public areas of the building and the land parcel.

Vertical partition

A Vertical Ownership is the separate ownership to independent building(s), which are built or are planned to be built on a land parcel and the simultaneous co-ownership of the land parcel.

Composite Vertical partition

A composite vertical Ownership is the ownership of an independent partitioned property (i.e. horizontal property), in a land parcel where vertical properties have already been established and the simultaneous co-ownership to the land parcel.

Special Real Property Objects

The term Special Property Object is used in relation to such rights as the rights to plant, exploit the surface and the separate ownership of several things such as plantations, individual trees, wells, drillings for water, buildings etc. This means that a different person may own a building or a plantation from the person who owns the land parcel on which they lie on. Ownership to a building under this legal status does not mean co-ownership to the land parcel.

Mines

Another real property object that extends under the earth's surface and is independent of the overlying land parcels is the mine. Ownership to a mine provides the right to search, mine and exploit mining minerals. It should be made clear that ownership to a mine, does not imply ownership to the corresponding land parcels on the surface of the land. However, the use of these land parcels must be such that does not obstruct the exploitation of the mine.

With respect to buildings, we consider the following:

If on a parcel, no legal deed has been drafted that defines divided properties on it (i.e. apartments), the buildings existing on it follow the rights of the parcel itself. Such buildings are declared in the cadastre when cadastre is first developed in an area, however, they are used mostly for verification of the correct identification of a real property and not as an element maintained in the cadastre.

Buildings on which divided properties have been legally formed must be registered in the Cadastre, since they are integral parts in the definition of the divided properties.

2.2 Cadastral maps

In the areas where Cadastre already operates, cadastral maps are produced and maintained. For urban areas, the scale of cadastral maps is equivalent to 1:1.000, while for rural, forest and mountain areas the scale is 1:5.000. These maps are in vector format and are maintained in digital form in Ktimatologio S.A.'s Central Offices. Printed copies of them exist in the established interim

cadastral offices concerning their area of competence. Extracts of the cadastral maps concerning specific real properties can be requested from the competent cadastral offices. These extracts are generated from the central cadastral map database and can be printed from the cadastral offices.

The cadastral maps represent all the existing land parcels that exist in an area.

The Code Number of the Greek Cadastre (KAEK), is the unique key to identify each land parcel. This code number is based on the administrative subdivision of the Country and consists of 12 digits:

- 2 digits to identify the prefecture,
- 3 digits to identify the municipality,
- 2 digits to identify the cadastral sector which is defined as a set of cadastral sections enclosed by main streets, or other natural or artificial major features,
- 2 digits to identify the cadastral section which is defined as a set of continuous land parcels which is surrounded by some natural or artificial feature/ boundary (i.e. roads, rivers etc); in urban areas, a cadastral section corresponds to a city block,
- 3 digits for the serial number of the land parcel within the cadastral section.

Parcels are stored in the same file with all other real properties (apartments, vertical properties etc) and there is a specific field that discriminates the type of each real property stored in it. The basic information that is maintained for each parcel is the following:

- Parcel unique identifier
- Area measured by Cadastre
- Area mentioned in the deed
- Land use
- Address identifier
- Parcel within a town plan
- Parcel centroid
- Parcel history

Of course, since the Greek Cadastre is a legal Cadastre, the land parcel (or any other type of real property for that matter) through its unique identifier is linked with every right or legal restriction that exists on it and the person(s) associated with them.

2.3 Cadastral register

The basic cadastral elements that are maintained by the cadastral offices are the cadastral book (Figure 3), the cadastral maps, the documents collected during the cadastral survey and the archive of the documents that have been filed to the cadastral office in order to register a new deed.

Figure 3. Extract from the cadastral book (a cadastral sheet)

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ Ο.Κ.Χ.Ε. ΚΤΗΜΑΤΟΛΟΓΙΚΟ ΓΡΑΦΕΙΟ ΚΑΛΑΜΑΡΙΑΣ		ΚΑΕΚ 19 003 05 01 005 / 0 / 0	
ΓΕΩΤΕΜΑΧΙΟ			
ΕΜΒΑΔΟΝ ΤΙΤΛΟΥ:		ΕΜΒΑΔΟΝ: 3.360 τ.μ.	
ΔΙΕΥΘΥΝΣΗ	ΘΕΣΗ ΑΓ. ΤΡΙΑΔΑ, ΑΓ. ΤΡΙΑΔΑ <<ΑΓΡ>> 652	ΤΚ 57019	ΔΗΜΟΣ/ΚΟΙΝΟΤΗΤΑ ΑΓΙΑΣ ΤΡΙΑΔΟΣ
ΑΡΧΙΚΕΣ ΕΓΓΡΑΦΕΣ			
<p>Οι αρχικές εγγραφές των οποίων δεν αναφέρεται η αναβίβαση μέσα σε αποκλειστική προθεσμία πέντε (5) ετών, εκτός αν πρόκειται για τα Ελληνικά δημόσια και για μέγιστους κτίσιμους εξωτερικού ή ενοικουμένους μόνιμο στα εξωτερικά για τους οποίους η προθεσμία άσκησης της απαίτησής από όποιον έχει έννομο συμφέρον είναι κατά (7) ετών, καθίστανται οριστικές και παράγονται αδιάθετο τεκμήριο υπέρ των φερομένων ως δικαιούχων για τα δικαιώματα στα οποία αυτές αφορούν. Οι διατάξεις των άρθρων 255 έως και 270 ΑΚ εφαρμόζονται αναλόγως και για την ανωτέρω προθεσμία (άρθ. 6 & 7 του Ν.2664/98).</p>			
<p>Ημερομηνία έναρξης υπολογισμού της προθεσμίας του άρθ. 6 του Ν.2664/98:</p>			
ΚΥΡΙΟΤΗΤΑ			
ΠΛΗΡΗΣ			
Ονοματεπώνυμο Φυσικού Προσώπου: ██████████		ΚΥΡΙΟΣ (ΠΟΣΟΣΤΟ: 50,00 %)	
Ονοματεπώνυμο Πατρός: ██████████			
Ονοματεπώνυμο Μητρός: ██████████			
Ημερομηνία & Τόπος Γέννησης: 19/07/1970		Α.Φ.Μ.: ██████████	
Διεύθυνση: ΕΛΕΥΘΕΡΟΠΟΥΛΟΥ 17, ΤΚ: 57019 Ν. ΕΠΙΒΑΤΕΣ, Νομός: ΘΕΣΣΑΛΟΝΙΚΗΣ			
Α.Α.Τ.: ██████████ 17/11/1999		Α.Τ. Α.Τ. ΤΟΥΜΠΑΣ	
ΣΤΟΙΧΕΙΑ ΤΙΤΛΟΥ/-ΩΝ			
ΣΥΜΒΟΛΟΓΡΑΦΙΚΟ ΕΓΓΡΑΦΟ			
Αριθμός & Ημερομηνία: 8888, 05/06/2002, ΣΥΜΒΟΛΟΓΡΑΦΟΣ ΝΑΚΟΥ-ΔΑΡΔΑΛΗ ΣΙΤΗΡΙΑ, ΘΕΣΣΑΛΟΝΙΚΗ			
Υποθηκοκρατία: ΚΑΛΑΜΑΡΙΑΣ Τεύχος: 269 Αριθμός: 372 Ημερ. Μεταγραφής: 12/09/2002			
Αιτιώ-τε Κτήσης: ΠΩΛΗΣΗ			
Ονοματεπώνυμο Φυσικού Προσώπου: ██████████		ΚΥΡΙΟΣ (ΠΟΣΟΣΤΟ: 50,00 %)	
Ονοματεπώνυμο Πατρός: ██████████			
Ονοματεπώνυμο Μητρός: ██████████			
Ημερομηνία & Τόπος Γέννησης: 12/07/1963		Α.Φ.Μ.: ██████████	
Διεύθυνση: ΔΙΓΕΝΗ 6, ΤΚ: 62200 ΝΙΓΡΙΤΑ, Νομός: ΣΕΡΡΩΝ			
Α.Α.Τ.: ██████████ 23/06/1999		Α.Τ. Α.Τ. ΝΙΓΡΙΤΑΣ	
ΣΤΟΙΧΕΙΑ ΤΙΤΛΟΥ/-ΩΝ			
ΣΥΜΒΟΛΟΓΡΑΦΙΚΟ ΕΓΓΡΑΦΟ			
Αριθμός & Ημερομηνία: 8888, 05/06/2002, ΣΥΜΒΟΛΟΓΡΑΦΟΣ ΝΑΚΟΥ-ΔΑΡΔΑΛΗ ΣΙΤΗΡΙΑ, ΘΕΣΣΑΛΟΝΙΚΗ			
Υποθηκοκρατία: ΚΑΛΑΜΑΡΙΑΣ Τεύχος: 269 Αριθμός: 372 Ημερ. Μεταγραφής: 12/09/2002			
Αιτιώ-τε Κτήσης: ΠΩΛΗΣΗ			
Σελίδα 1 / 1		ΗΜΕΡΟΜΗΝΙΑ ΕΚΤΥΠΩΣΗΣ: 03/06/2004	

Furthermore, the cadastral office maintains:

- An alphabetic index of the right holders.
- A journal of the applications to register deeds to the cadastral books along with the fees paid for that purpose.
- A journal of the applications that request the issuance of certificates or copies along with the fees paid for that purpose.
- An archive with all the decisions of the Head of the Cadastral Office.
- A book for keeping records of incoming and outgoing correspondence.

Law 2308/1995 provides also for the development of a building register, but so far, despite the fact that this information is collected during the cadastral survey, the necessary legal framework for keeping this register up-to-date is not yet in place.

The cadastral register is a public register. Information from the cadastral database is available to anyone who can prove to have a legitimate interest.

Access, however, to the digital version of the cadastral database is limited by the laws protecting personal data.

2.4 Plans of the urban units (flats, houses, appartements) – if available

The plans of urban units are not stored and maintained in the cadastre. This information is stored in analogue form at a municipality level at the competent Urban Planning Agency.

3 TECHNOLOGICAL INFRASTRUCTURE

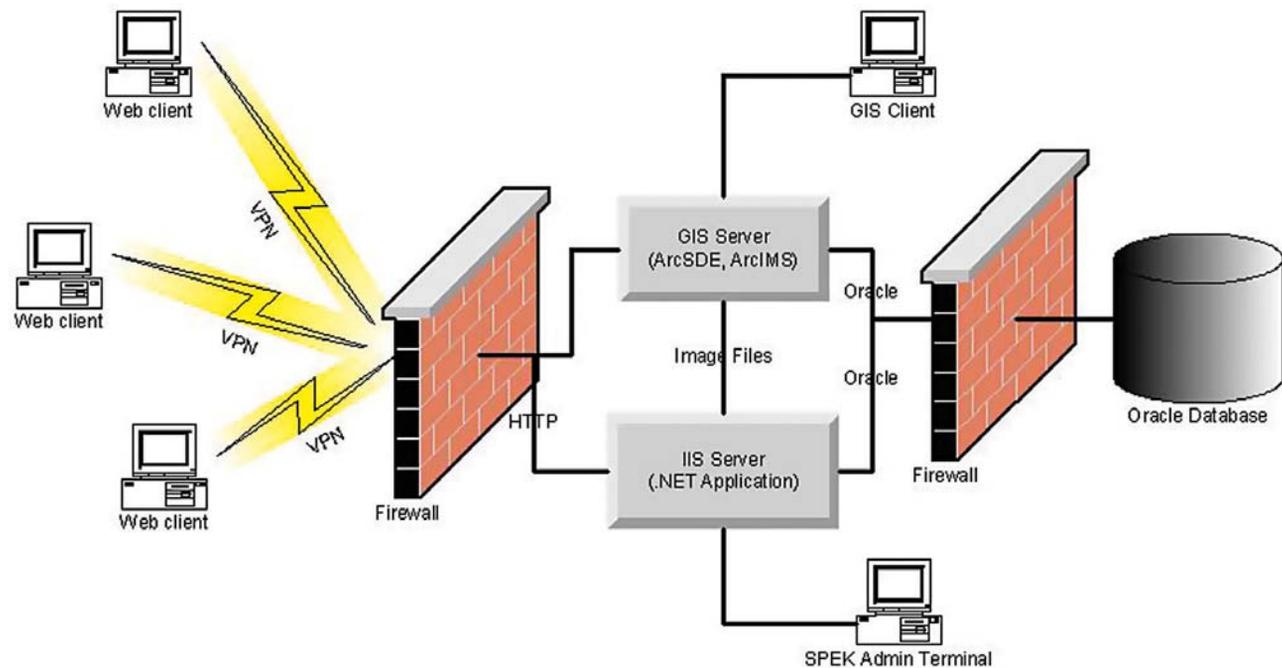
KTIMATOLOGIO S.A. has taken major steps into setting up a technological infrastructure that:

- supports effectively the development and operation of the Cadastre, by providing advanced technological solutions that ensure security, high availability and performance, standardization and quality control of all the procedures,
- provides modern services to the citizens especially during the cadastral development stage,
- builds up a high performance data infrastructure that can effectively support the operation of state administration in multiple levels, as well as become a major player in the context of INSPIRE.

KTIMATOLOGIO S.A. has set up state-of-the-art data centers (primary and disaster recovery) with high availability (99,99%), modern networking, security and backup mechanisms and high storage capacity (120 TB in each), where all its data and applications reside (central storage). Descriptive data are stored in an Oracle environment and spatial data in ESRI Geodatabases. All applications to support the development and the operation of the Cadastre are n-tier applications built in-house by KT's IT department using .NET technology for descriptive data and ESRI ArcGIS Server for spatial data..

Users, such as cadastral offices and cadastral survey offices are connected through secure Virtual Private Networks (VPN) to our data and application servers, while private citizens connect through the internet following a user authentication procedure.

Figure 4. The IT architecture of the Greek Cadastre



4 UPDATING PROCEDURES

4.1 Existing types

Each person who acquires real property rights through a deed, must register the deed to the Cadastre.

The cadastral office will register the new deed after checking the legal validity of the transaction and update directly the cadastral database.

If a person owns a land parcel and wants to correct or alter its spatial description (i.e. land parcel subdivision), he/she must request an extract from the cadastral map from the competent cadastral office and assign to a professional surveyor to make a plan of the requested correction/modification based on it. This plan must be submitted to the cadastral office along with the documentation that supports the proposed change. The folder with all the documents of the requested modification is sent to KTIMATOLOGIO S.A.'s central offices where the requested modification is checked with respect to its conformity with the data existing in the cadastral map database. A positive or negative recommendation is sent back to the Head of the Cadastral Office who takes the final decision for the registration of the modification. If the Head of the Cadastral Office accepts the change, KTIMATOLOGIO S.A.'s central agency commits the changes to the cadastral map database.

Public agencies which have the authority to issue administrative acts that modify cadastral data in a greater area (i.e. urban development act, land consolidation, land expropriation), request an extract of the cadastral database for the area in question in digital form and then provide the cadastral situation as modified by the administrative act in digital form back to the cadastre (Ktimatologio S.A.'s central offices) in order to update the cadastral database.

4.2 Organisations and persons involved (also involvement of the private sector)

See paragraph "Decentralisation, involvement of the private sector" in Chapter 1.

4.3 Processes' automation

See Chapter 5 "Provided Services".

5 PROVIDED SERVICES

For both phases of the development and the operation of the Cadastre, KTIMATOLOGIO S.A. has developed in-house the applications needed to support a wide range of services.

5.1 Development of the Cadastre

During the phase of the cadastral survey, KTIMATOLOGIO S.A. offers a series of services to all the parties involved in the procedure:

- For all the persons (natural or legal) who want to declare their real property to the Cadastre, we have developed an online internet application towards this goal. Through this application a user can online:
 - declare all the information necessary to register his/her property to the Cadastre (Figure 5),
 - identify the location of the declared real property on orthophotomaps (Figure 6),
 - pay the fixed cadastral fee using his/her credit card,
 - send scanned copies of the deeds that support his/her declaration,
 - print a receipt document which mentions the basic information of his/her declaration along with the reference number, the real property preliminary code which he/she can use from that point on to all his interactions with the Cadastre until the finalization of the cadastral survey project.
- For the legal persons that have a great number of rights to declare, KTIMATOLOGIO S.A. developed a special application to allow them to develop a database with all the information about their real property rights, and submit it electronically to the Cadastre. This application has been used in the cadastral survey projects that were initiated in 2008 by most of the banks operating in Greece.
- For the contractors carrying out the cadastral survey projects, KTIMATOLOGIO S.A. has developed a special application installed and operated concurrently by over 1.000 people working in all the cadastral survey offices (78 in number) as well as the contractors backoffices. This application was used to receive, register and geo-locate on orthophotomaps all the declarations that were presented in the cadastral survey offices. All the declarations' information registered by this application was in real-time stored in KTIMATOLOGIO S.A.'s data center. The application allows, among other things, uniform codification of all the information registered, online checks that prohibited a great number of mistakes during data entry, computation of the corresponding cadastral fee for each declaration, real time monitoring of the progress of the work and real time access to all the declaration data from KT's headquarters.

Figure 5. A screenshot from the application for cadastral declaration via the internet

Κτηματολόγιο ΑΕ - Microsoft Internet Explorer

Address: https://www.ktimanet.gr/CitizenWebApp/Property_DetailsE2.aspx?eis_id=05041000000063246e=18prop_id=05041000100009773&v=2

ΕΘΝΙΚΟ ΚΤΗΜΑΤΟΛΟΓΙΟ
Γίνεται Πραγματικότητα

Συνδεδεμένος Χρήστης: **drokos**

Στοιχεία Δικαιούχου Διεύθυνση Εργασία Βοήθεια Συνέχεια Επιστροφή

ΒΗΜΑ 1 → **ΒΗΜΑ 2** → ΒΗΜΑ 3 → ΒΗΜΑ 4 → ΒΗΜΑ 5

Εκπρεμής Δήλωση:

Δήλωση <0504100000006324>
Πληρεξούσιος

Ακίνητο <05041000100009773>
Δικαιώμα

[Προσθήκη Ακινήτου](#)

[Διαγραφή Ακινήτου](#)

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[Προεπισκόπηση Δήλωσης](#)

ΠΕΡΙΓΡΑΦΗ ΑΚΙΝΗΤΟΥ

Τα παρακάτω στοιχεία πρέπει να είναι τυπωμένα με Ελληνικούς ή Λατινικούς χαρακτήρες!
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Προσοχή! Τα πεδία με το σύμβολο * είναι υποχρεωτικά!

Επιλέξτε τον τύπο του ακινήτου σας: *

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Οδός	Αριθμός Από	Αριθμός Έως	Τ.Κ.	Περιοχή/Τοπωνύμιο
ΔΗΜΕΛΑ ΕΜΜ.	57		16674	

Patήστε το κουμπί 'Εντοπισμός' για να εντοπίσετε το ακίνητό σας.

Το ακίνητο βρίσκεται εντός σχεδίου ή εντός ορίου οικισμού: ΝΑΙ: ΟΧΙ:

Κατηγορία Χρέωσης Ακινήτου: Κύριος Χώρος: Βοηθητικός Χώρος:

Γεωτεμάχιο:

Εμβαδόν σε τ.μ.: * Χρήση:

Οριζόντια Ιδιοκτησία

Αρ. Κτηρίου στον Τίτλο:	Αρ. Οριζ. Ιδιοκ. στον Τίτλο:	Όροφος:	Εμβαδόν (τ.μ.):	Ποσοστό Συγκ/τας της Οριζ. Ιδιοκ. επί Γεωτεμαχίου:
1	3	3	110,05	28 / 100

Έτος Κατασκευής: Χρήση:

Figure 6. A screenshot from the internet application for persons to locate their real property

The screenshot shows a web browser window with a search interface. At the top, there are three tabs: 'ΑΝΑΖΗΤΗΣΗ ΜΕ ΒΑΣΗ ΟΔΟ ΚΑΙ ΑΡΙΘΜΟ', 'ΑΝΑΖΗΤΗΣΗ ΜΕ ΒΑΣΗ ΣΗΜΕΙΑ ΕΝΔΙΑΦΕΡΟΝΤΟΣ', and 'ΑΝΑΖΗΤΗΣΗ ΜΕ ΣΥΝΤΕΤΑΓΜΕΝΕΣ'. Below these, search criteria are entered: 'ΟΔΟΣ: ΔΗΜΕΛΑ ΕΜΜ.', 'ΑΡΙΘΜΟΣ: 57', and 'ΤΟΠΩΝΥΜΙΟ:'. A button 'ΕΠΙΚΑΙΡΟΠΟΙΗΣΗ ΣΤΟΙΧΕΙΩΝ ΕΠΙΛΟΓΗΣ' is visible.

The main area features a satellite map of a residential neighborhood. A red star marks a specific location. Street names labeled on the map include 'ΔΗΜΕΛΑ ΕΜΜ.', 'ΠΟΣΕΔΩΝΟΣ', and 'ΠΑΤΡ. ΓΡΗΓΟΡΙΟΥ Ε'. A legend on the right side of the map provides details: 'ΠΑΡΡΟΦΟΡΙΕΣ ΕΠΙΛΟΓΗΣ' (Selected parcels), 'Επιλεγμένη οδός: ΔΗΜΕΛΑ ΕΜΜ., Αρ: 57 ΤΟΠΩΝΥΜΙΟ:', 'ΠΑΡΡΟΦΟΡΙΕΣ', and 'ΚΛΙΜΑΚΑ 1:1000'. A button 'ΕΠΙΣΤΡΟΦΗ ΣΤΗΝ ΔΗΛΩΣΗ' is located below the map.

On the right side of the application, there is a sidebar with the following content:

Εφαρμογή Προσεγγιστικής Γεωαναφοράς

Εννές Ερωτήσεις

- Τι είναι η Προσεγγιστική Γεωαναφορά ;
- Πως κάνω Αναζήτηση με βάση Οδό και Αριθμό ;
- Τι γίνεται στην περίπτωση που το ακίνητο μου υποδεικνύεται σε λάθος θέση ή έχει ήδη εγγραφεί στα Γραφεία Κτηματογράφησης σε λανθασμένο σημείο ;
- Αν δεν βρίσκω αποτέλεσμα ή δεν έχω πρόσβαση σε Οδό και Αριθμό, μπορώ να κάνω αναζήτηση με άλλο τρόπο ;
- Πως κάνω Αναζήτηση με βάση Σημεία Ενδιαφέροντος ;
- Πως κάνω Αναζήτηση με Συντεταγμένες ;
- Αν η αναζήτηση οδού είναι ανεπιτυχής, ποιες ενέργειες κάνω ;
- Τι είναι τα ΕΡΓΑΛΕΙΑ ΔΙΑΧΕΙΡΙΣΗΣ ΧΑΡΤΩΝ ;
- Υπάρχουν κανόνες ονοματολογίας ;

Τι είναι η Προσεγγιστική Γεωαναφορά ;

Προσεγγιστική γεωαναφορά είναι η σημειακή υπόδειξη της θέσης της ιδιοκτησίας για την οποία γίνεται δήλωση στο Κτηματολόγιο.

[Επιστροφή στην αρχή](#)

Πως κάνω Αναζήτηση με βάση Οδό και Αριθμό ;

Για να κάνετε Αναζήτηση με βάση Οδό και Αριθμό ακολουθείτε τις ενέργειες που

At the bottom of the browser window, the URL is <https://gis.ktimanet.gr/declarations/default.aspx> and the Internet icon is visible.

Currently, our company is developing more applications to support free access through internet to the public presentation of the cadastral maps and table, as well as, managing and keeping interested parties informed during the objections judging phase of the procedure.

Also, during the cadastral survey period, KTIMATOLOGIO S.A. provides special services to the public agencies managing State property:

With respect to the protection of forests which for the greatest part of the Country belong by default to the State, unless someone has all the necessary documentation to prove otherwise, KTIMATOLOGIO S.A. develops forest maps for the areas that undergo cadastral survey. Forest maps involve the delineation of forested areas based on 1945 aerial photos and on recent aerial photos. After these forest maps are developed, they are provided to the Ministry of Agriculture, in order to prepare the State's declaration for the cadastre with respect to forested land.

With respect to the protection of coastal zones, which belong to the State, during the cadastral survey of a specific area, KTIMATOLOGIO S.A. develops special topographic plans with a detailed relief representation, in order to assist the competent agency of the Ministry of Economy and Economics to delineate coastal zones.

All services described above are provided free of charge to all interested parties.

5.2 Operation of the Cadastre

After the first registrations and with the commencement of the operation of the respective cadastral offices, each office supported by the cadastral information system that has been developed by KTIMATOLOGIO S.A. (Figure 2), provides as its basic services the registration of new deeds which can create, modify, transfer or annul elements of the rights registered in the Cadastre, as well as the issuance of copies, certificates and extracts according to the provisions of l. 2664/1998.

KTIMATOLOGIO S.A. is also responsible for the maintenance of the spatial cadastral database, since interim cadastral offices lack the necessary expertise to manage it locally. For this purpose, another application has been developed in-house to perform all spatial changes in the cadastral database in a standardized manner (Figure 3).

Figure 8. Application for performing spatial changes to the cadastral database

ΕΘΝΙΚΟ ΚΤΗΜΑΤΟΛΟΓΙΟ
ΚΤΗΜΑΤΟΛΟΓΙΚΟ ΓΡΑΦΕΙΟ ΠΟΛΥΚΑΣΤΡΟΥ

ΥΠΑΛΛΗΛΟΣ ΠΑΡΩΝ ΑΡΜΟΔΙΟΤΗΤΩΝ ΔΕΛ11

Περίλ. Πράξεων Εκτυπώσεις Νέο πρόσωπο Βοήθεια Αλλαγή Συνθ/κού Έξοδος

Ακίνητο Πρόσωπο Πράξη

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ΔΗΜΟΣ/ΚΟΙΝ.	ΘΕΣΗ	ΟΔΟΣ	ΑΠΟ	ΕΩΣ	ΤΚ
▶ ΠΕΥΚΟΔΑΣΟΥΣ		ΣΥΝΟΙΚΙΣΜΟΣ ΠΕΥΚΟΔΑΣΟΥΣ ΑΡ.ΟΙΚ.30 Β			61200

ΕΜΒΑΔΟΝ ΤΙΤΛΟΥ Τ.Μ. ΣΤΡ. ΕΜΒΑΔΟΝ Τ.Μ. ΣΤΡ.
 444,14

ΠΑΡΑΤΗΡΗΣΕΙΣ

ΚΤΙΣΜΑΤΑ / ΛΟΙΠΟΙ ΧΩΡΟΙ

Α/Α	ΕΙΔΟΣ	ΑΡΙΘ. ΣΤΟΝ ΤΙΤΛΟ	ΣΥΝΟΛΙΚΟ ΕΜΒΑΔΟΝ ΤΙΤΛΟΥ(τμ)	ΣΥΝΟΛΙΚΟΣ ΑΡ. ΟΡΟΦΩΝ	ΕΠΙ >1 ΚΑΕΚ	ΠΑΡΑΤΗΡΗΣΕΙΣ
▶ 1	ΚΤΙΡΙΟ		173	1	ΟΧΙ	

ΑΝΑΖΗΤΗΣΗ
 ΔΙΚΑΙΩΜΑΤΑ
 ΚΦ
 ΠΙΣΤ. ΔΙΚΑΙΩΜ.
 ΚΔ
 ΠΑΡΑΠΟΜΠΕΣ
 ΙΣΤΟΡΙΑ

During the operation of the cadastre, the documents that are issued by the Cadastral Offices are the following:

Documents issued by the Cadastre	Fee
Copy of the cadastral sheet	
Certificate of the cadastral records of a real property	
Certificate of the cadastral records of a person	
Certificate of the registration of a deed	
Copy of the registered deed (fee per page)	
Copy of a document from the cadastral survey archive (fee per page)	
Extract of the cadastral map representing a particular real property (Figure 9)	15€
Copy of a cadastral survey map (with field measurements) representing a particular real property	30€

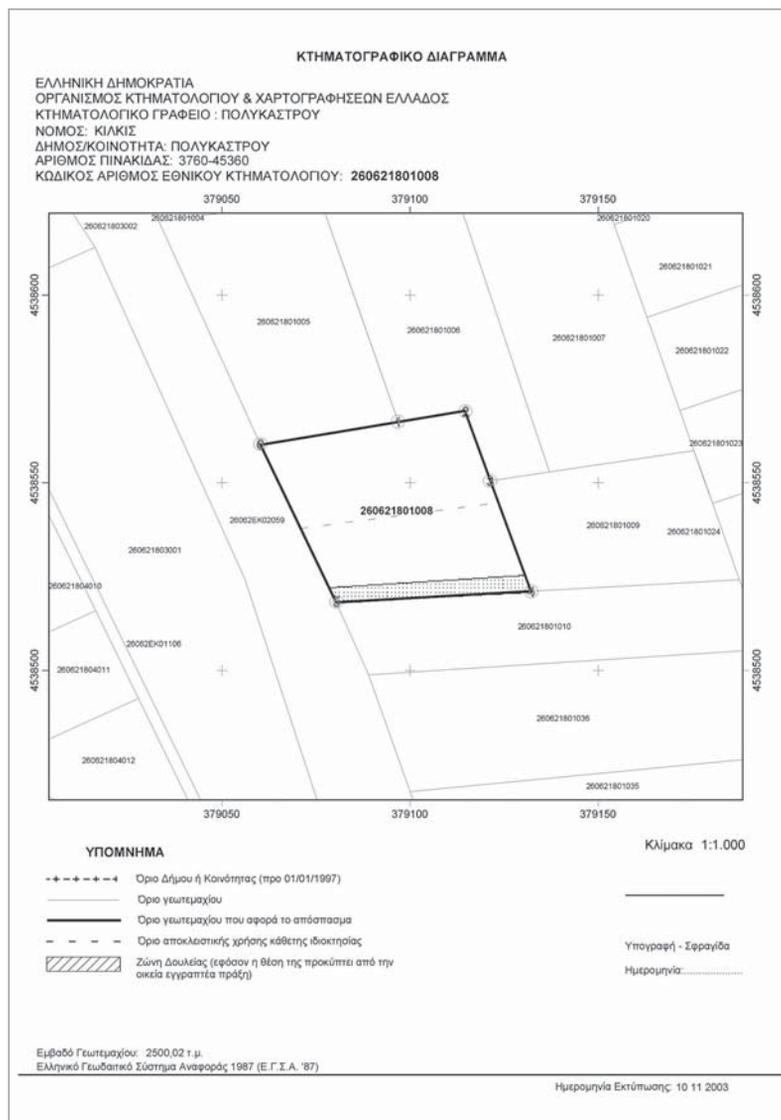
Figure 8. Application for performing spatial changes to the cadastral database

The screenshot displays a GIS application window titled "ΚΤΗΜΑΤΟΛΟΓΙΟ Α.Ε. -astavlas". The main workspace shows a cadastral map with two polygons highlighted in red. The top polygon is labeled "050491307011" with area $E=395,9$ T= and $A=12,19$. The bottom polygon is labeled "050491307010" with area $E=607,8$ T= and $A=14,35$. A table on the right lists the coordinates for the vertices of the polygons:

AA	X	Y
1	458779,20	4211192,20
2	458780,80	4211216,33
3	458781,85	4211232,21
4	458804,12	4211190,22
5	458805,74	4211214,60
6	458806,78	4211230,33

The interface includes a menu bar (File, Edit, View, Insert, Selection, Tools, Window, Help), a toolbar, a layers panel on the left, and a status bar at the bottom. The status bar shows the current coordinates: "458754,12 4211184,12 Meters".

Figure 9. An extract of the cadastral map representing a particular real property



Note that the issuance of these documents is provided by law in order to be used in the context of real property transactions.

The documents listed above will be issued by the competent cadastral office, following an application by a person having a legitimate interest. The documents are printouts from the cadastral information system which are then certified with the signature of the Head of the cadastral office. At present, the applicant must go to the cadastral office where the real property mentioned in the application, is registered in order to file the pertinent application.

Furthermore, for the inspection of the registrations of the Cadastre, in several interim cadastral offices, computers have been set up with a special application developed by KTIMATOLOGIO S.A., which allows people with a legitimate interest to browse through the cadastral database (viewing only).

With respect to the time that will be required for the processing of an application from the cadastral office:

- The issuance of any certificate or copy from the cadastral data can be completed at most within 2-3 working days.
- The Head of a cadastral office must decide for the acceptance or rejection of a particular application for registration of a new deed within 5 days from its submittal.
- The registration of a deed that affects the cadastral map can be completed within 1-2 months taking into consideration the notification periods provided to inform the owners of the affected land parcels.

Keeping in mind that the operation of the interim cadastral offices is managed by the existing Heads of the Mortgage Offices - a fact that, on one hand, ensures that the transition from the old system to the cadastre is smoother, but on the other hand, maintains many of the bureaucratic procedures which are in effect for the Mortgage Offices - the time periods presented above may not be met yet or the majority of cases.

6 LINKS BETWEEN CADASTRE AND LAND REGISTRY

In general, in the parts of the Country which have not been included in the Cadastral project yet, land registry operates independently as a register of deeds in analogue form as mentioned in Chapter 1, without any spatial information. In the areas where Cadastre is established, the land register gets integrated into the cadastral system and is maintained in a digital form. The cadastral and land registry

database is unified and real property information can be accessed by using the Code Number of the National Cadastre (KAEK), a unique key that identifies each real property, described in the section of the Cadastre Register.

7 LINKS BETWEEN CADASTRE AND REAL ESTATE EVALUATION SYSTEM / REAL ESTATE TAXES

Cadastre is not used for direct real estate valuation and taxation in Greece. The latter two are based on an “objective” value assigned to each property. The “objective” value is determined by a model taking into consideration the municipality, the specific “value” zone in which the property lies, as well as characteristics of the building such as date of construction, floor number (for apartments) etc.

The value of a property is not stored as a field in the Cadastral database, however, any deeds that concern the selling of a property are stored and linked to the respective property. On these deeds, the price of the sale is noted, and consequently can be retrieved.

THE CADASTRAL SYSTEM IN HUNGARY



www.foldhivatal.hu

February 2009

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1 INTRODUCTION

The official name of the Hungarian integrated cadastral system is: unified land registry system. Unified means that the cadastre and the legal registry (“Grundbuch”) have been operating in an integrated form both on legal basis and institutional level since 1971. There is one institutional network consisting of land offices responsible for registration of legal transactions, cadastral mapping changes and dealing with land and other real estate property related activities. Among Europe’s title registry systems, the Hungarian was the first unified one.

The Hungarian system is also multipurpose; this means that besides the cadastre and registry activities, the system is dealing with establishment and maintenance of control point network, topographic mapping, land protection, land lease registration, maintenance of administrative boundaries etc.

The general aim is to support the realization and enforcement of rights in land and property ownership, healthy environment, the freedom of enterprising and economic competition and the official registration of all parcels and other real estates, objects through providing a uniform and authentic land registration system and spatial data infrastructure.

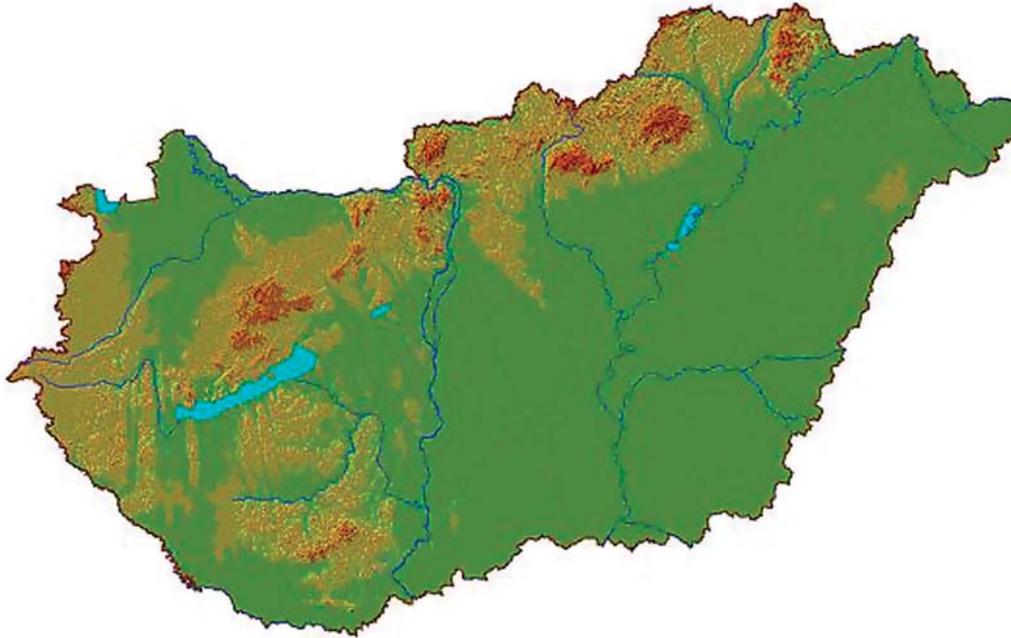
The Unified Land Registry System has two specific aims to be pursued. Legally, the land registers provide a kind of defence for the titles, deeds etc. to real estate and also they give certainty for the bona fide holders as well as they promote the advantageous utilisation of the real estates. The economic aim is to serve as a uniform basis for establishing financial obligations for planning and supplying statistical data for the government, organisation of land utilisation and services for the whole society.

1.1 Background Information

The Republic of Hungary is situated in Central Europe with a total area of 93 033 km² and 10.03 million of inhabitants, having common borders with Austria, Slovakia, Ukraine, Romania, Serbia, Croatia and Slovenia. The total length of Hungary’s boundary lines with the neighbouring countries is 2217 km. (Figure 1.)

Budapest is the capital of Hungary. In the country, there are 19 counties and 3154 settlements (municipalities and local governments). The total number of registered real estate properties is about 9.9 million (7.3 million land parcels and a further 2.6 million condominium units/apartments).

Figure 1. Relief and waters of Hungary



There have been a number of changes in legislation relating to land issues over the past few years in Hungary, which provided a legal framework for the production, updating and servicing of national surveying and mapping data, computerized land registration and the adoption of digital technology.

Important laws, decrees, regulations and professional guides are supporting and regulating the activity connected to the Unified Land Registry System. Some significant ones:

- Act on Land and Real Property Registration,
- Act on Land Surveying and Mapping Activities,
- Land Law,
- Condominium Law,
- Building Law.

1.2 History and Purposes of the Cadastre

In Hungary, in those times being part of the Austrian Empire, cadastral survey started in 1786, following the decree („Law on Parcel Survey for Hungary”) of Emperor Joseph the Second. German was the official language and Latin the language used in public administration, the decree was published also in Hungarian. The law provided for the following duties for taxation: introduction of the population census, the numbering of houses/residential buildings and the parcel numbers. This kind of survey was completed by 1790; the corresponding maps were produced just incidentally. After the death of the Emperor, almost the whole surveying documentation was destroyed.

After Austrian model and following the Emperor's Law of 1849, the cadastral survey in Hungary was restarted. In March 1850, a new decree was passed for the preparation to introduce land taxation, serving for a simplified data and tax collection before completing the cadastral surveys. Detailed instructions to perform surveying were published in August 1850. The triangulation work started in 1853, the detailed cadastral survey in 1856, at scale of 1:2880. The first Hungarian Cadastral Map Archives opened in Sopron, 1860, in Zágráb (Zagreb), 1861 and in Kassa (Košice), 1865.

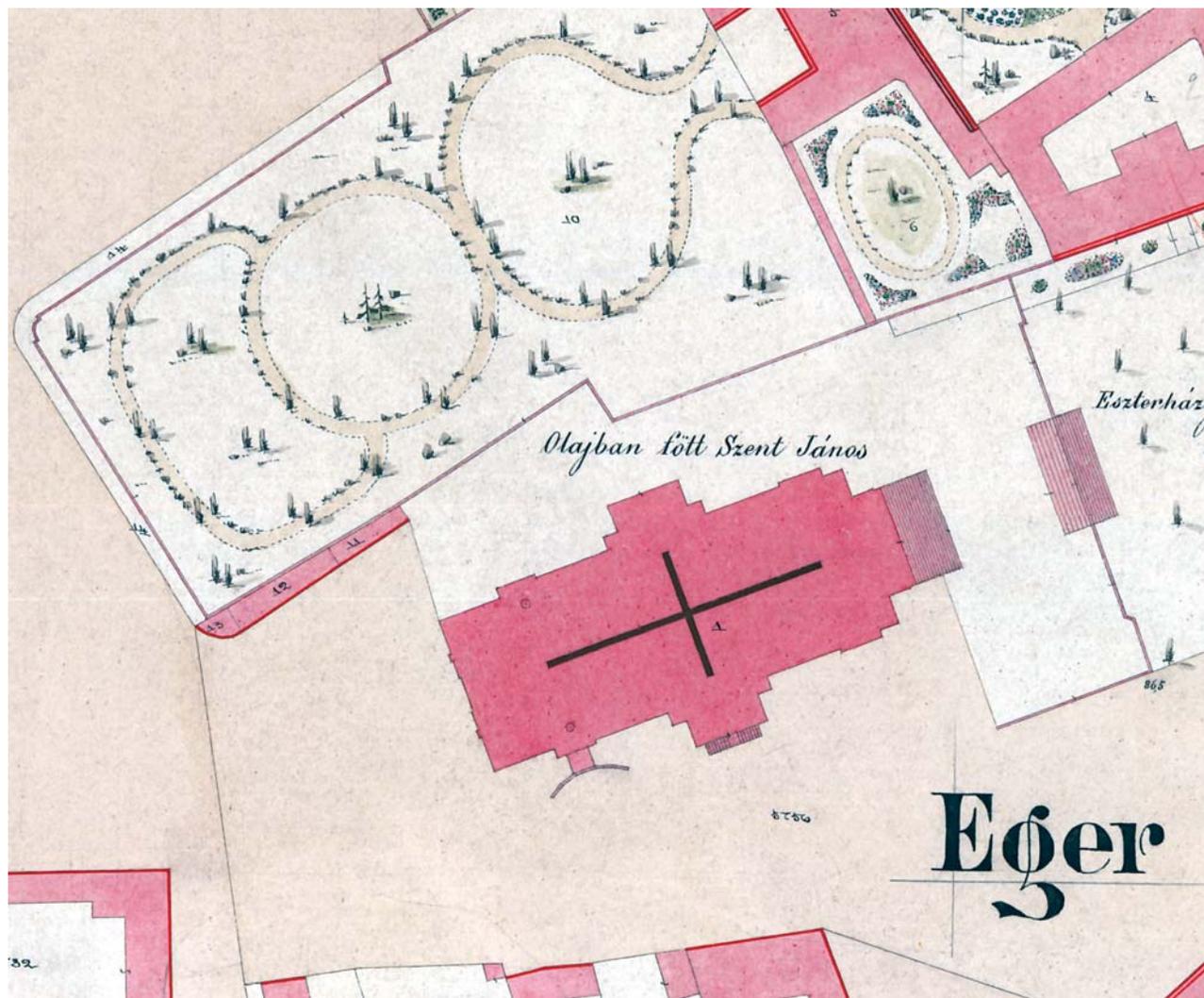
In 1867, the year of the Compromise between Hungary and Austria and forming of the Austro-Hungarian Monarchy, a Division was set up within the Ministry of Finance with the name „Permanent Cadastre”. In the same year, the Triangulation and Calculation Office was also established to control this activity further on.

Anyhow, systematic recording of ownership of real properties started about 150 years ago. Like in many countries in Western and Central Europe, real estates were double registered also in Hungary. (Figure 2.)

On the one hand, land and real estate cadastre originally was created for State and taxation policy purposes. On the other hand, there was the factual land registry involving the negotiable and mortgaged real estates. The land registers were aiming at the security of ownership, the unperturbedness of land transactions as well as the creditors' interests. The difference between the land registers and land tax cadastres can be recognized by the diverging structure and authorization. The land register was within juridical scope, while the land tax cadastre was a part of the public administration. The cadastral maps served as common basis for both.

The land registers and the land cadastre were used parallel and mutual data exchange took place between them. Later on, this fact resulted in doubled data registration and caused a lot of uncertainties

Figure 2. Extract from the town plan of Eger at scale 1:1440 in stereographic projection, produced in 1887



in the use. These circumstances (and to avoid parallel data updating and registration) led to the decision in 1971 saying that keeping records parallel is not authentic. Unified registration has to be established, including all the rights, mapping and legal data concerning the legal status of the real estates. The new unified land registration was completed by land office organizations settlement by settlement for the entire country in 1981, establishing a unified registration system on legal basis and institutional level, under the supervision of the Ministry of Food and Agriculture, the legal predecessor of the current MoARD.

Since 1971, all of the land and real estate properties have been registered and the entire country was covered with cadastral maps. All of the cadastral and legal information have been maintained continuously. The Hungarian unified land registry was fully operational during the communist period too. Thanks to the fact that the unified land registry system has been kept up-to-date, the complex privatization procedure started in 1990 was quick and successful.

As part of the Hungarian privatization procedure, a kind of compensation was usually carried out over large agricultural area units, involving potentially million of claimants. Finally, it resulted in the creation of more than 2.1 million new parcels and one million new owners during 1992-1995.

Additionally, the majority of State-owned apartments were also privatized and the registration of changes in ownership in an ever growing workload for the Land Offices. As through more than 150 years, Hungary had a fully operational paper-based system, the main task of the 1990's was therefore to computerize and modernize the land administration sector, enabling them to cope with the new challenges.

Following an agreement signed in December 1990 between EU and the Hungarian government, the EU Phare supported programme called "The computerisation of land offices" started to establish the infrastructure background for this complex process. Besides the technological development, the legal, operational, marketing and other related problems have also been investigated within the many-year long, complex modernisation programme.

Since 1997, a completely computerised countrywide system has been managing both legal data and cadastral maps for covering the demands of both public and private clients who need this sort of data and various data products. Also a digital cadastre map standard has been introduced in 1997.

Hungary started a digital cadastral mapping programme, National Cadastre Programme in 1996. A State-owned non-profit company was established for coordinating the project. It was financed by commercial bank loan guaranteed by the Hungarian Government. Private surveying companies

completed the cadastral mapping. The programme was successfully finished by the end 2007. All of the cadastral maps are available now digitally in vectorized format and the larger part in object-oriented relational database.

1.3 Organisational Structure, Financing and Duties

Since 1971, the Hungarian Unified Land Registry System has been operating under the Ministry of Agriculture, currently the Ministry of Agriculture and Rural Development. The supervisory authority is the Department of Land Administration and Geoinformation (DLAG MoARD). The daily legal and cadastral mapping activities are performed by the decentralized land offices in an institutional network countrywide.

The Institute of Geodesy, Cartography and Remote Sensing (FÖMI) is a background institution, which – beyond its scientific, research and spatial referencing activities – has been supporting the land offices.

Duties and Activities of the Land Administration Sector

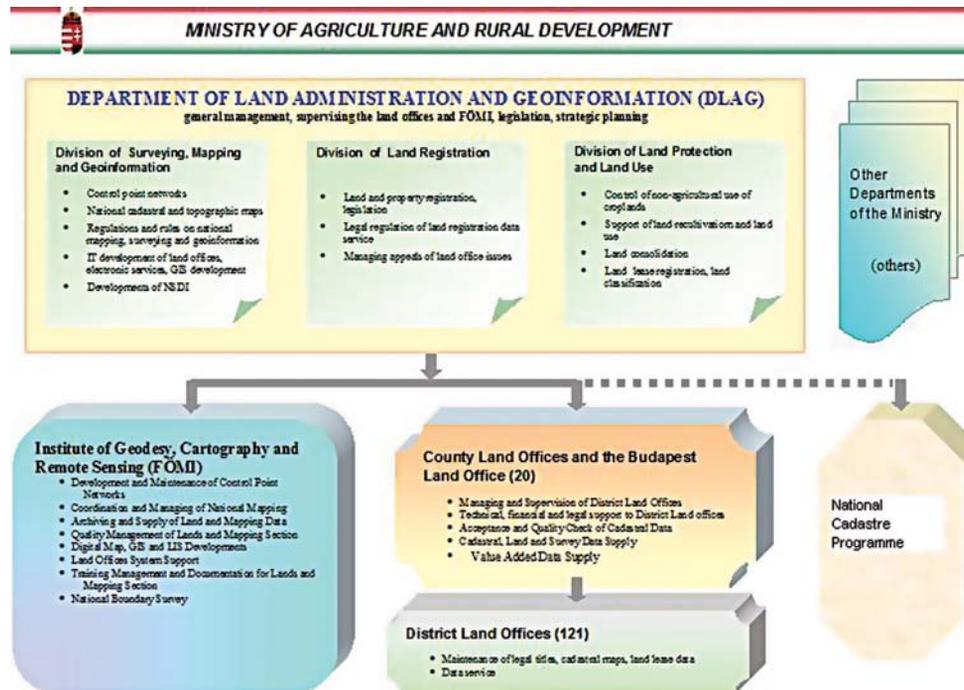
The tasks of the Land Offices and FÖMI as background institution are of multipurpose nature in Hungary, covering the reference framing and mapping and the land and real estate property related activities with high attention to the Unified Land Registry:

- registration of legal changes of rights in land and real estate properties, maintenance of digital land registry,
- maintenance of digital cadastral maps,
- quality control of cadastral mapping,
- data service of legal and mapping information on properties at the land offices and by their data supply network via internet,
- land lease registration,
- protection of agricultural land,
- digital elevation model services,
- maintenance of geographical database,
- topographic mapping and services for referencing the spatial data,
- establishment and maintenance of horizontal and vertical control point network and operating the national GNSS reference frame,
- maintenance of administrative boundaries including the permanent state boundary surveying,

- IT-support for land office institutions,
- IT- and mapping support of the EU agricultural subsidy system in Hungary,
- monitoring of agricultural activities by remote sensing.

The activities by institutions will be detailed further on, and the current organisational structure of the Land Administration Sector under the Ministry of Agriculture and Rural Development is shown in Figure 3.

Figure 3. Organisational Structure



The MoARD is the controlling authority that establishes the budget, policy and procedures. The procedures are enacted as regulations supported by Law. The Sector is divided into separate levels:

- **Department of Land Administration and Geoinformation (DLAG) as supervisory authority**

function. Its duty is the general management, legalisation, strategy planning, project management and auditing of the land offices and FÖMI. The Department has three divisions responsible for Land Surveying, Mapping and GIS; for Land Registration and for Land Protection and Land Use.

- **19 County Land Offices (CLO) plus the separate Budapest Land Office**

The CLO acts as a second instance authority. The CLO is a 'legal person' with total independence. The DLAG decides on the scale of the CLO budget. They manage the district land offices and local project management, audit DLOs, give technical and legal support to them, market and accept new maps and data products. The CLOs provide administrative support, are responsible for quality control and certain other technical procedures and act as a "court of appeal" for DLO decisions. They are also responsible for providing mass data service for external users.

- **121 District Land Offices (DLO), including Budapest Districts Land Offices**

The DLO acts as a first instance authority. The DLO does not constitute a 'legal person'. The DLO is responsible for the maintenance of the Land Registration and Cadastral Map information on a routine basis. They maintain the legal data and cadastral maps and the data files of land lease, land classification and land valuation too. They are also responsible for providing legal and mapping data services for clients. (Figure 4.)

Figure 4. County Land Offices and District Land Offices of Hungary



- **The Institute of Geodesy, Cartography and Remote Sensing (FÖMI)** has the same legal status as a CLO. It is a central organisation for research and technical development of the Land Administration and Geoinformation Sector, and responsible also for certain operational activities; the maintenance of State boundary points, maps, aerial photographs and orthophoto-archiving and servicing, professional inspectorate, training and documentation etc. It is the FÖMI, who manages maintenance of and data supply from databases of the topographic maps, and digital elevation model, the geographical names, the control point network and the national GNSS reference frame, all serving for making any spatial data in Hungary referenced to. FÖMI supports and performs the programs of national interest in geodesy, cartography and remote sensing as well, including the technical support of land offices, and maintaining the Hungarian part of the European CORINE land cover database.

Some significant projects of FÖMI supporting the activities related to cadastre and land registration are as follows:

- Administrative boundary database management and services.
- Permanent aerial survey of Hungary of 0.5 m resolution.
- Maintaining and development of the physical block based Hungarian Land Parcel Identification System to support the parcel-based subsidies to the farmers. (Figure 5.)
- Area-based Subsidy Control with Remote Sensing.
- The land lease registration system maintenance.
- Implementation and maintenance of the Hungarian GIS Register of Vineyards (VINGIS).

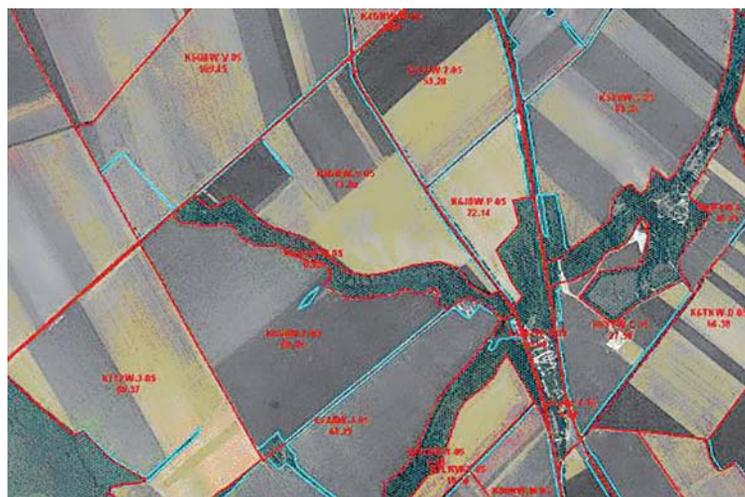
1.3.1 Financing of the Land Administration Sector

The total unified land registry staff of the land offices and the FÖMI stands at 4000 persons in 2008. Since January 2007, the sector is totally self-financing, based on its own revenues (without any allocation from the State budget). Total revenue for 2008 was originally planned at 23.1 billion HUF (cca 90 million Euros) based on income from administration service fees and sale of data. Some 10.4 % of that, 2.4 billion HUF is to be repaid into the central state budget. This leaves the administration with a net budget of 20.7 billion HUF.

1.4 Activities in the National Cadastral Programme

After the political and economical changes, there was a growing demand for digital cadastral maps instead of paper sheets. The introduction of digital cadastral mapping became necessary countrywide.

Figure 5. Physical block based parcel identification system



The National Cadastre Programme Non-Profit Company was established in 1996 under the Ministry of Agriculture and Rural Development in order to coordinate the implementation of digital cadastral mapping programme in Hungary. This programme was financed by commercial bank loan with the guarantee of the Hungarian Government, without any support from State budget. This loan will be paid back by land administration organisation from the generated revenue. The quality of digital cadastral mapping was checked by the county land offices countrywide.

The Programme was finished by the end of 2007, the whole area of Hungary is covered now by digital cadastral maps in uniform national projection system.

1.5 Involvement of the Private Sector

There are several representatives of the legal sector supporting the unified land registry activities. The involvement of lawyers, public notaries in legal transactions is compulsory.

It is also compulsory to involve licensed surveyors in all types of cadastral mapping industry, including the actualization of cadastral data as well.

The number of Licensed Surveyors is about 2000 persons. The Digital Cadastral Mapping Programme and the majority of mapping jobs connected to the privatization procedures have been completed by private surveying companies and licensed surveyors.

2 THE CONTENT OF THE CADASTRE (Unified Land Registry System)

2.1 Basic Register Units

In Hungary, the Law on Real Estate Registration defines the registration as an administrative procedure. The real property register is a system containing all landed property and other real estates in Hungary: parcels, buildings, apartments (in condominiums), public properties, railways, rivers, channels and others.

The system is parcel-based and entirely dependent upon the maintenance of the land registration records (property sheets) and the large scale cadastral maps, linked with the unique identifier (parcel number for land, identification number for flat and others).

In this unified system, the consistency between the common cadastral mapping and the descriptive data of the property sheet is compulsory by law.

Parcel is identified by parcel number within a settlement (town, village etc.), a certain piece of the ground surface, contiguous in nature, not intersected by any administration boundary line, to any part of which the same ownership or trustee rights relate.

Other registered properties

Buildings, cellars, underground garages and other structures, if the owner of the construction and the parcel is different;

Flats and other units in a condominium;

Flats and other units in a cooperative house;

Cellars and other underground constructions (garage, store etc) with direct access to a public area.

The buildings and the constructions erected on the parcel are to be registered together with the given parcel, if the owner is the same.

The total number of land and real estate properties in Hungary: cca 9.9 million

Number of parcels: 7.3 million

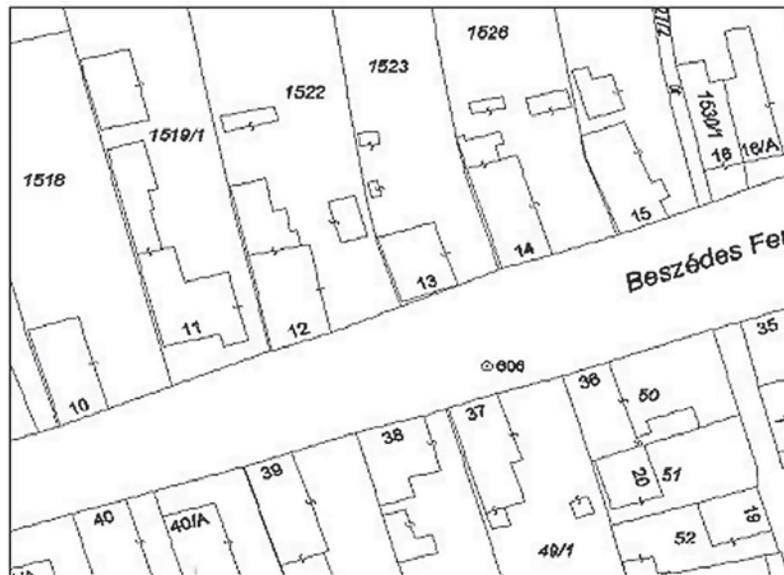
Number of condominium units: 2.6 million

2.2 Cadastral Maps

In Hungary, 60 000 paper-based cadastral maps of various scales (1:1000, 1:1440, 1:2000, 1:2880 for urban and 1:4000 for rural areas) and projection system have covered the entire area of the country, which have been produced and continuously updated since late 19th century. Later on, together with the computerisation of legal data, it became necessary to convert those old paper-based maps into digital ones. (Figure 6.)

As a result of the National Cadastre Programme, digital cadastral maps (in vector format) became available countrywide online on 1st January 2008. The data are organised into an object-oriented relational database.

Figure 6. Extract of a cadastral map



The content of the cadastral map: legal parcel boundary, administrative boundaries, parcel number, building and other constructions, street name and address, agricultural land use, cultivation and other attributes according to law.

Standard for digital cadastral maps

National Standard “MSZ 7772-1:1997 on Digital Base Map, Conceptual Model” (often referred to as DAT standard) was produced by FÖMI and issued by the GIS Standardisation Committee (MB818) of the Hungarian Body of Standards.

a) Content of the DAT standard

The standard conceptual model:

- Terminology;
- Data model of the digital base map;
- Position (spatial referencing): Hungarian Map projection system,
- Reference system (Hungarian Datum, HD-72), Height system (Baltic Sea level, orthometric);
- Classification of objects and thematical structure;
- Spatial schema: Geometrical primitives, Topological primitives, Spatial view, Explanatory texts;
- Attributes, (including the legal description of real estates, as well);
- Relations between nodes, between edges, faces and rings;
- Data quality: Source, Extent of application of data, Quality of geometric data, Quality of attribute data, Actuality, Completeness, Consistency of data, Technology for data collection, Data protection, Verification;
- In the case of DAT-Standard, the following annexes are given: tables of objects and tables of attributes of the digital base map and metadata describing the digital base map.

b) Structure and object classification of DAT cadastral map standard

The digital maps are represented in object-oriented relational database. The specific objects are described by their attributes, relations and data quality parameters.

At conceptual model level, the specific objects are represented by their generic objects. Those objects, for which the attributes are common, are grouped into one object group. The object groups having common attributes at higher level are grouped into one object class.

Three object types are distinguished by their geometry: point, line and surface objects. The objects are managed by their topology in a way to fulfil the full-topology requirement. The topology elements are: node, edge and face. The nodes are further divided into more specific types.

By geometry, the digital base map databases are 2-dimensional with planimetric coordinates. The heights are or can be given as attributes.

The attributes, relations and quality parameters are defined in the standard as generic. Their values are given in supplementary instructions.

c) Logical model of DAT cadastral map database

Based on the DAT-Standard, a series of instructions has been elaborated for logical model of Digital Base Map, which are detailed prescriptions of how to develop the map itself.

d) Experiences of using the DAT standard and instructions

The DAT Standard and DAT instructions have been used during the National Cadastre Programme (digital cadastral mapping) in Hungary with success. According to recent experience, it proved to be mostly conform with the Land Administration Domain Model.

2.3 Legal Register

The Unified Land Registry System contains the descriptive data files as a second data holder of the registration system. All of the land and real estate properties including condominiums are recorded. The legal document (property sheet) contains all the rights, data and facts on land and real estate properties according to law.

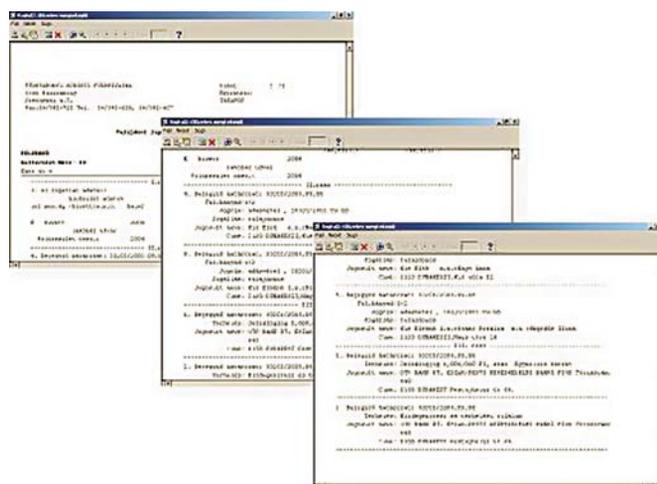
Law regulates the access to data of the Unified Land Registry system. It is open to public, except to query according to owner's name linked to his/her properties. This is restricted to the court, the authorities of criminal investigation and taxation and others prescribed by law.

The legal title to property goes through the land registration process and it is the entry on the property sheets maintained by the District Land Office (DLO) that guarantees title and establishes land rights.

Each property sheet (Figure 7) has three parts with information on each legal title:

- Property Sheet, Part 1: descriptive data (parcel number, address, size, land use, features of cultivation, soil quality, location etc.)
- Property Sheet, Part 2: data relating to the ownership: name, birth, owner's address, due of ownership etc.)
- Property Sheet, Part 3: other rights, (mortgage, easement restrictions, legal data & other facts according to law, e. g. foreclosure)

Figure 7. Property Sheet's Parts 1, 2 and 3 (sample)



The condominium registration is also a part of the unified land registry system. Registration of a condominium requires the following documents: condominium deed (description of apartments, premises in the condominium) and layout plans by storeys (the maps of condominium).

The condominium units (apartments, shops, other premises) have also unique ID numbers linked to the parcel number. The structure of the ID numbers is the following: Parcel number + a capital letter (marking the condominium) serial number of the premises in condominium building. A typical ID number: 4524/A/38.

The condominium units are registered just like any other real estate properties. The property sheet of the condominium also has three parts:

- Part 1: description data (apartment, size, 2.5 rooms, bathroom, kitchen, etc.)
- Part 2: ownership information (name of the owner/s, share of ownership, address of owner/s, birth data, due of ownership)
- Part 3: mortgage information, restrictions, easements etc., any other rights.

2.4 Agricultural Land Lease Registration

The agricultural land lease registration as a separate registration also forms part of the system with direct link to the legal registry. The common link is the parcel number. It contains the name of the leaseholder, size of the leased land and cultivation. It is compulsory by law to report any changes in data to the territorially competent district land office.

3 TECHNOLOGICAL INFRASTRUCTURE

Between 1994 and 2005, DLAG has made considerable investments in modernizing the infrastructure of land administration co-financed by the EU PHARE Programme.

As a result of these investments and the counterpart funding from the Government budget, all data of the property sheets of the country have been loaded into PC based computer systems in the land offices by the end of 1997. This speeded up the management and updating processes.

In the framework of the above task, the following actions have been performed:

- Installation of a computerised legal register (property sheet maintenance part) in decentralised form in the District Land Offices (1994) and in the Budapest Districts Land Office (1996), connecting more than 2500 PCs in Large Area Network.
- Loading of all real and land property sheets data (about 7.5 million properties) into the system (1994-1997).
- Installation of the TAKAROS (Térkép Alapú **K**Astszteri **R**endszer **O**rszágos **S**zámítógépesítése – Countrywide Computerisation of Map Based Cadastre) system completed by the end of June 2000 in all district land offices and BIIR is installed in the Budapest Districts Land Office.

- Completing an intranet type wide area telecommunication network TAKARNET (TAKAROS NETwork) for countrywide data access/supply, by connecting the land offices with each other, with FÖMI and the supervisory authority (1997) as well as with external users (banks, public notaries, local governments etc.) in 2002.
- Development of County Land Office's META system funded by EU PHARE Programme (MEGYEI TAKAROS – County TAKAROS = META). In the framework of META – among others – a Management Information System for monitoring, analysing, controlling and directing all of the activities of the Land Offices was created 2001-2004.
- TAKARNET opened its continuous service for external users in April 2003.

In 2009, a new, so-called one-level star topology of online access to TAKARNET network was introduced for the 121 district land offices and 19+1 county land offices, FÖMI and the Ministry of Agriculture and Rural Development, and serving users through the common client gate of the Hungarian E-Government's Bone Network (EKG). (Figure 8.)

Figure 8. The official website of the land offices, www.foldhivatal.hu



4 UPDATING PROCEDURES

In Hungary, all of the land and real estate properties have been registered and the entire country covered by cadastral maps since mid 19th century. The cadastre and the land registry (Grundbuch) and later on, with effect of 1971, the unified land registry system have continuously been updated also during the communist period.

In Hungary, the owners/users/trustees or any interested parties are obliged by law to report to the territorially competent district land office about any changes prescribed by law in their property, which modify either the content of the cadastral map, or the content of the legal register.

In the case of cadastral maps, the land offices are authorized to act on behalf of the owner/trustee and on his/her expenses, if they fail to present the necessary documents.

4.1 Existing Types

4.1.1 Updating of the cadastral map

It is needed in the following cases:

- changes of legal parcel boundary and administrative boundary,
- newly built house or other constructions,
- changes of land use,
- changes of agricultural cultivation,
- changes of street name,
- changes of address, (house number)
- mass renewal of cadastral maps by settlements.

For many of the cases (parcel boundary changes, new buildings etc.) survey plan and permission by building authorities are needed. Licensed surveyors are authorized to prepare the survey plan and the competent district land office checks and certifies it before the building authority issues the final permission.

Certified survey plan, valid permission by building authority and other documents according to law are required for final registration and updating the cadastral map and the property sheets.

4.1.2 Updating of the legal registry (property sheet)

The property sheet is also being continuously updated based on documents submitted by clients or other interested parties. The conveyance of properties, ownership changes are compulsory to report to the district land offices for registration. Law prescribes the content and format of deeds and other legal documents.

Most important cases:

- change in ownership,
- parcel number changes,
- mortgage registration and release,
- condominium registration,
- easement and restriction etc.

4.1.3 Updating of the land lease registration

The land lease registration is continuously updated, it is compulsory by law to report any changes in the registered data to the district land office.

4.2 Organisations and Persons Involved

The district land offices are responsible for updating the cadastral maps and the property sheets. The Survey Divisions of the district land offices are also responsible to perform the quality control of the cadastral survey plan, which is the basic document for updating the cadastral maps.

The private sector is involved in the preparation of the required documents both for legal and cadastral mapping changes.

It is compulsory by law that licensed surveyors are only permitted to produce cadastral survey plan and perform cadastral survey.

The involvement of public notaries and lawyers in preparation of legal documents for registration of changes in rights related to properties is also compulsory according to law.

In some cases, authorities are also obliged to report changes in the content of the cadastre or legal

registry, e.g. the local governments, municipalities are responsible to submit application for changing street names, building address etc.

4.3 Automation of Processes

FÖMI, Institute of Geodesy Cartography and Remote Sensing has been supporting the majority of IT systems within the institutional network.

The software applications for the maintenance of legal data registration have been developed during the 90s and still used. There are two different applications. The BIIR has been used in Budapest Districts Land Office and TAKAROS has been used countrywide.

For the management of digital cadastral maps, there are also different software systems in use both in Budapest and in county land offices. The Budapest Land Offices applied first INFOCAM digital cadastral map management system developed by the Swiss LEICA Geosystem in mid 90s. In 2006, Budapest introduced TOPOBASE Autodesk digital cadastral mapping application, developed by the Swiss as well. The migration of data from INFOCAM to TOPOBASE system will be completed in 2009.

There were a DatView and another ITR data handling software used in land offices for some years. Recently, cadastre database managing software called DATR has been developed in FÖMI and distributed all over the land offices in Hungary. DATR is fully harmonized with DAT standard, land office procedures and the land registry textual data handling software TAKAROS. By 2009, TAKAROS and DATR became integrated software systems serving like two modules of the unified land registry of Hungary in all land offices.

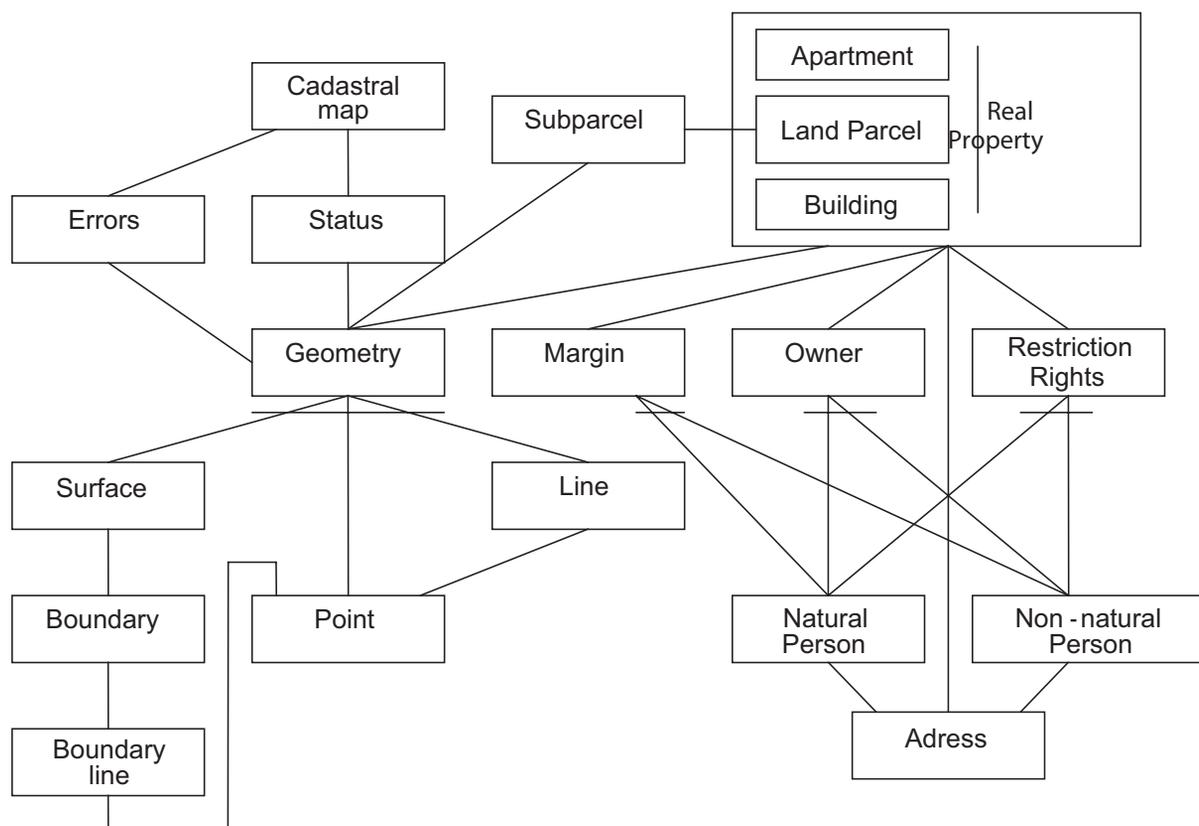
Below, the DATR Core Data Model for cadastre database management is given (Figure 9). This Core Data Model is compatible with ISO Land Administration Domain Model standard proposal.

5 PROVIDED SERVICES

Integrated Land Information Services

Land offices and FÖMI provide legal and cadastral mapping information, data and other services for external users and citizens generally for fees. The products are available both in analogue and digital form. The sufficient revenue is very important because of self-financing status of land administration.

Figure 9. DATR Core Data Model for cadastral database management



The majority of basic laws supports the generation of revenue, for example, the Survey Law prescribes the compulsory use of cadastral mapping database for local governments, municipalities, public utility companies for different activities (town planning, public utilities registration etc.). But there are exceptions defined by law concerning the legal data/property sheet data services; local authorities, governmental institutions, ministries, etc. can receive data and services free of charge.

The number of property sheet (legal document of the property) information queries is about 2.8 million annually. The number of property sheets for fee is about 1.9 million. The number of property sheets serviced free of charge is about 0.9 million. The number of online information through TAKARNET is about 3.0 million but increasing rapidly. The number of extract of cadastral maps is about 500 000, 400 000 paper copies, 100 000 in digital format.

Land offices and FÖMI also provide mass data selling and services (legal and mapping) for major external users (local authorities, public utilities, etc.), based on long term contract agreement.

The TAKARNET network introduced in 2003 is the base of the land and real estate properties information services. FÖMI and Land Office network provides information (legal and mapping) of properties not only for internal use, but both for public and private users.

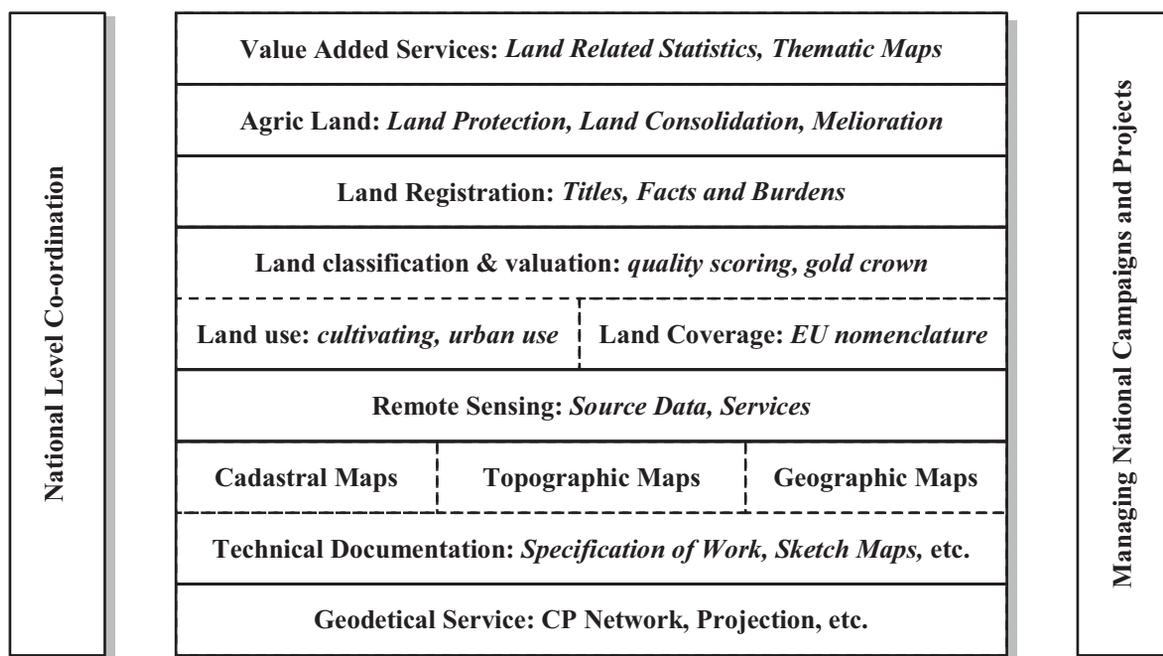
Basic services are the legal information about properties (property sheet copies) and cadastral map information, only in raster (PDF) format. Other services are billing information on TAKARNET services, downloading standardized application forms, property monitoring etc.

The Hungarian unified land registry system has been totally self-financing since January 2007, without any support from the State budget. As the income has to be generated from data selling and services, it is extremely important for the organization to provide wide range of quality services and products both to public and private clients (authorities, citizens, major players in the economy and other external users).

This system is largely in place, and coupled with the decentralised nature of the Hungarian system. This system provides the large-scale basis for the collection and recording of other land related data (land use and classification, land protection) and thus forms a true multipurpose integrated system. The structure of the services is shown in Figure 10.

Co-financed by the EU Phare Aid Programme, the countrywide computerisation of land offices, in other words, the land registration office network has been realised in line with the TAKAROS concept by 1997. The improvement and enlargement on higher level can be realised in the framework of e-government and e-administration. Since then, property sheets have been maintained and applications managed on computer all over the country. The intranet-like network of the land offices (TAKARNET) was also built up. This network is connecting all official players of the land administration sector, providing online access to the continuously updated land registration data. Recently, the land offices are also being connected to the Government's Bone Network.

Figure 10. Layer Model of Services



Since April 2003, online access to TAKARNET network has been provided also for external users (registered and authorized) through Internet. Depending on their registered rights, they can have access to all registration data of Hungary's lands and other properties. Due to the improvement of the online case management through TAKARNET, the Hungarian land registration data supply/service managed to reach third level of e-governmental service in a qualification system defined by the EU. It means a service providing interaction from both sides.

A linear trend can be observed in the growth of users' number (Figure 11 and 12) since the start of online service. Currently, private individuals cannot join the network yet; this opportunity is offered mostly for users requiring bulk data (notaries, banks, attorneys at law, lawyers, local governments etc.). For certain official users (courts, bailiffs etc.) it is obligatory to use this network only. By 2009, there are more than 8000 registered users of the TAKARNET system.

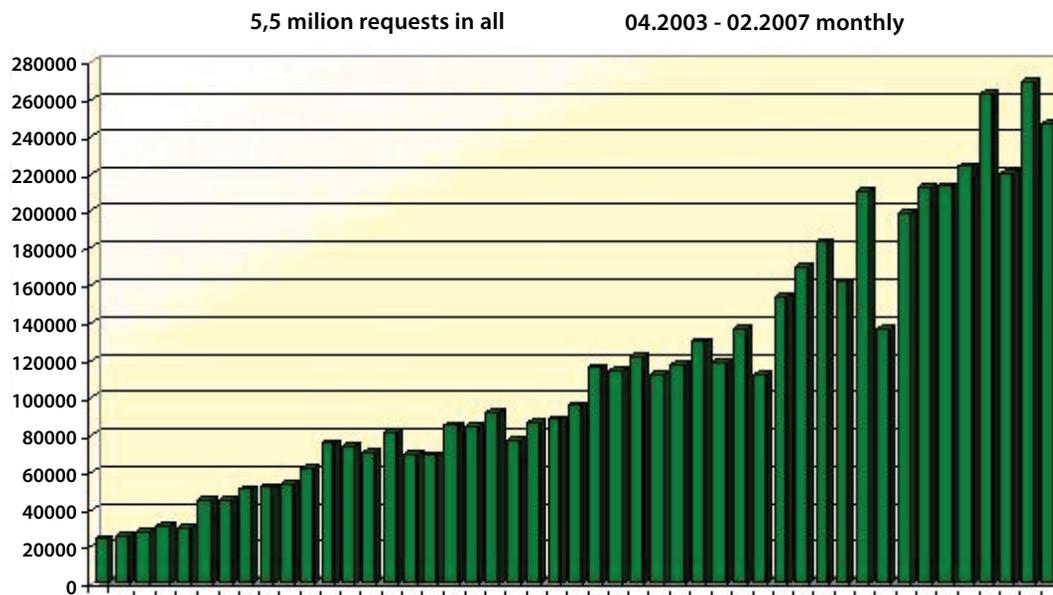
Figure 11. Number of online users (certificates)



The dynamics of these factual data and the ever growing strong need for this kind of service give basis for the expectations that by further widening of the services, the improvement would be not only a necessary and useful investment for the benefit of the whole society, but a financially viable venture too.

Because of the latest development in the land administration sector, copies of digital maps are available online for the users. First, the cadastral maps officially accepted by the Capital Land Office of its area of competency, and later, since 2006, the digital maps of rural areas, and in 2008, also urban areas became accessible. The Hungarian unified land registry system as vital part of the national basic data structure reached such a level of service that has a promising future.

Figure 12. Number of property sheet copies requested online



Payment Methods

Clients, natural persons using the land office client service can pay in cash, with cheque issued by the land office or through bank transfer/credit card. Registered users of the online service of TAKARNET can only pay through bank transfer. Private individuals nowadays cannot use this service yet. Access for the wide public is also planned through a governmental clients' gate.

Financial figures (in million Euro)

The land office institutions and FÖMI have been self-financing since January 2007 and their budget is based on their revenue. Unfortunately, they have a limited freedom how to use it; the central government still defines the majority of figures in the central budget. The annual revenue and the budget as well, is about 90 million EURO (25 billion HUF).

Components of the revenue (in million Euro)

- registration fee	35.2
- selling of legal information	26.8
- selling of cadastral mapping data	4.8
- cadastral survey services	7.2
- online and other services	16.0

Some current services and products

a) Legal:

- Registration of change in ownership/property,
- Registration of mortgage/property,
- Registration of foundation, changes of condominium/property,
- Fast track registration,
- Certified property sheet (legal document of property),
- Non-certified property sheet,
- Copy of archived document/page.

b) Cadastral map and other mapping services:

- Extract of cadastral map/parcel (A4, A3),
- Copy of cadastral map (A0),
- Data for private surveyors (minor cadastral works)/parcel,
- Copy of topographic map (paper)/sheet,
- Digital topographic map /sheet,
- Coordinates of control and geodetic points/coordinate,
- Certifying of cadastral plan made by private surveyors.

For the future, it is also planned to supply data from the topographic map database, provide digital orthophotos, digital elevation models and satellite images too. The extension of land information services with the combination of legal and mapping land registry data should result in an ever-wider range of services.

From national economic point of view, the unified land registry system operating in Hungary is one of the most important databases of the country. The land registration databases are currently decentralized, i.e. the land registration databases are stored – in accordance with the principle of territorial competency – in the district land offices keeping the records up-to-date, and those databases are separated physically from one another too.

The latest development idea is to organize the data into one database (data warehouse) synchronized with the central land office database, and in another one, which serves for the data market and data mining. Consequently, data maintenance and data supply will be separated. This way, through organized centralisation of data, a „round-the-clock” land office information service can be realized. This will be accessible for citizens through the Central Clients’ Gate on the Governmental Portal. In the first phase of the long-term “Digital Land Office” development plan, the central system will only supply data, but it is also the basis of the future electronic case management procedure supported by countrywide uniform formats.

As a result of the step-by-step development, the modernisation of the whole procedure of land office case management until a completely electronic case management and servicing will be realized. The land offices can offer an extended electronic service, the level of servicing and data quality will improve, there will be opportunity to data checks based on the data of other public administration databases; all these will strengthen the legal security provided by land registration.

This development would allow applying multilingual user interfaces and data content that helps free information flow within the EU. When modifying the services and enlarging the applications in content, space and time, the land administration sector could more efficiently cope with the demand and supply relations in the market.

6 LINKS BETWEEN CADASTRE AND LAND REGISTRY

There is an integrated system in Hungary on legal basis and institutional level. There are two data holders, the mapping part, (cadastral map of real estates) and the legal part (title-based registration) property sheets.

The two parts are maintained and managed together in a fully computerised system.

7 LINKS BETWEEN CADASTRE AND REAL ESTATE EVALUATION SYSTEM/ REAL ESTATE TAXES

Up-to-now, there is no comprehensive land and real estate taxation in Hungary. There are some land and real estate related tax, e.g. the stamp duty, transaction fee, inheritance tax, tax on income from real estate and some local community or real estate taxes issued by local governments. The stamp duty is a part of the central government revenue, the transaction fee is part of the land office income, and the local governments collect the community tax.

Stamp duty is to be paid after the price declared in the purchase deed. *The inheritance tax* is from zero to certain percentages of the estimated value of the inherited landed or other property according to law, giving details on several terms and conditions concerning the status and relationship etc. of the inheritor. Also there are several cases when individuals or public organs are exempted of payment obligations or obtain certain reduction. *The transaction fee* (registration of ownership, mortgage etc.) is currently 22 Euros/parcel or property (February 2009).

The cadastral mapping and legal, property sheet data have been used for valuation purposes, because these data are the basic information for valuation of real estate properties.

Nowadays, the unified land registry system database in Hungary does not contain the data about the value of real estates, except of agricultural land. In the case of agric land, the property sheet contains the Golden Crown value of it, which does not show the real value, but it is a figure expressing the quality of land.

7.1 Agricultural Land Valuation

In Hungary, the land valuation system originating from the time of the Austro-Hungarian Monarchy called Gold Crown system introduced in the second half of the 19th century is still in power for expressing the value of the land.

Originally, the Gold Crown System based on yearly averaged yield estimation considering the soil quality, topography, climatic and also economic conditions (location, access to transportation, market conditions). Since its introduction, it has been serving its original purpose more or less well.

The soil quality map forms a layer of the digital cadastral mapping database. The district land offices are

responsible for the maintenance of those mapping data. The updated Gold Crown System was the basic source of information for the land privatization procedures.

7.2 Agricultural Land Classification

Based on the similarities of production conditions, agricultural land parcels are categorized according to different types of cultivation like arable land, pastures, forests, vineyards etc.

Calculated to an areal unit of one hectare, different sums of cadastral net income belong to the individual valuation procedures, and within that, to the individual classification regions, according to cultivation lines and quality classes. The agricultural land will be grouped into quality classes from 1 to 8 by cultivation. Classification procedure is supported by a network of sample areas (or their description) set out by classification regions, valuation procedures and settlements so that the characteristics of the land to be classified will be compared with the corresponding sample area.

THE CADASTRAL SYSTEM IN POLAND



www.gugik.gov.pl

March 2009

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1 INTRODUCTION

1.1 History and purposes of the cadastre

The Polish real estate cadastre was formed under influence of cadastral systems applied in neighbouring countries: the Prussian and the Austrian Empires in the middle of the 19th century.

In post partition period, i.e. after 1795 a part of the Polish state, which was included to Austria, was embraced by Austrian cadastre, while land of the Prussian partition – by Prussian cadastre.

Real estates placed in the Russian partition were not embraced by a unified land cadastre. A family Estate of Zamoyski family (Ordynacja Zamojska) was an exception where there was established a detailed register modelled on Austrian cadastre. The range of Prussian cadastre and Austria cadastre is shown on the map below. The coverage of Prussian cadastre (in blue) amounts 40% and the coverage of the Austrian cadastre (in green) – 14%. For the remaining part of the country, depicted in white colour i.e. 46 % of the country's area (the Russian partition), no cadastral documentation was prepared.

The purposes of establishing and running cadastres in Polish territories were as follow:

1. land tax assessment and collection,
2. liquidation of serfdom,
3. affranchising the peasants.

These first origin cadastres in Polish territories significantly influenced the development of the Polish cadastre, its progress direction, dynamics and regional dissimilarity. Preserved cadastral documents coming from that time are still in evidence force as regards proving the right of ownership. Moreover there are regions (Śląsk, Wielkopolska and Pomorze) where the land and building register (real estate cadastre) is still kept according to their patterns.

1.1.1 Characteristics of the Prussian Cadastre

In the eastern provinces of Prussia the land cadastre was established between 1861 and 1864 on the basis of the Act of 1861 on the Land Tax Audit and the Acts on the Common Building Tax. Establishing of cadastre included:

- preparation of cadastral maps,

- calculation of parcels', farms' and precincts area and establishing cadastral books,
- laying open to public inspection and approval of cadastral documents namely: cadastral maps in basic scales 1:2500 and 1:5000, and cadastral books (book of parcels, matricula of land tax, building tax book, list of matricula articles),
- cadastral acts.

Cadastral maps were prepared in a number of local coordinate systems (e.g. Gniezno System, Toruń System).

Cartographic content of maps was supplemented with letter descriptions of land uses and soil classes, parcels numbers, explanatory comments (names of adjacent cadastral units, descriptions of roads and so forth).

In the first period cadastral maps were prepared for precincts (cadastral sections) with division for sheets in scales 1:5,000 or 1:2,500. The 1:4,000 and 1:3,000 scales were also used, due to scales of the

Coverage of Poland with cadastral documentation of former Prussian and Austrian cadastres



original maps coming from the period of cadastre establishing. In the period after 1877 new cadastral maps were implemented in the area unit division in the scale 1:2000 (for rural areas) and in the scale 1:1,000 (for territories with high density of parcels).

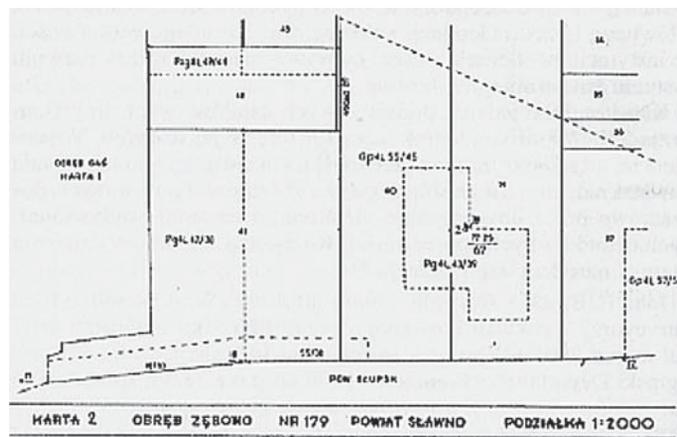
The process of real estate cadastre establishing was completed in 1877. From that time the eleven Cadastral Instructions started to function enabling gradual improvement of cadastral surveys and calculations together with successive replacement of cadastral maps. The Second Instruction for updating cadastral documentation was of special importance for continuity of cadastre maintenance.

In the between-war period in the territory of the Pomorskie, Poznańskie Regions and partly Śląskie Region the cadastral documentation was kept (continuation of the Prussian Cadastre) on the basis of the Act of 1919 on Organisation and Scope of Activities for the Ministry of Public Works.

1.1.2 Characteristics of Austrian Cadastre

The documentation of Austrian Cadastre comes from the 19th century beginning with the issuing of the Patent by the Emperor Francis I dated 1817 concerning Land Tax. However the materials with appropriate quality come from the period after 1883, because they were produced on the basis of the rules for running and maintaining of cadastral documentation for land tax in the up to date state.

Fragment of a cadastral map (Prussian Cadastre)

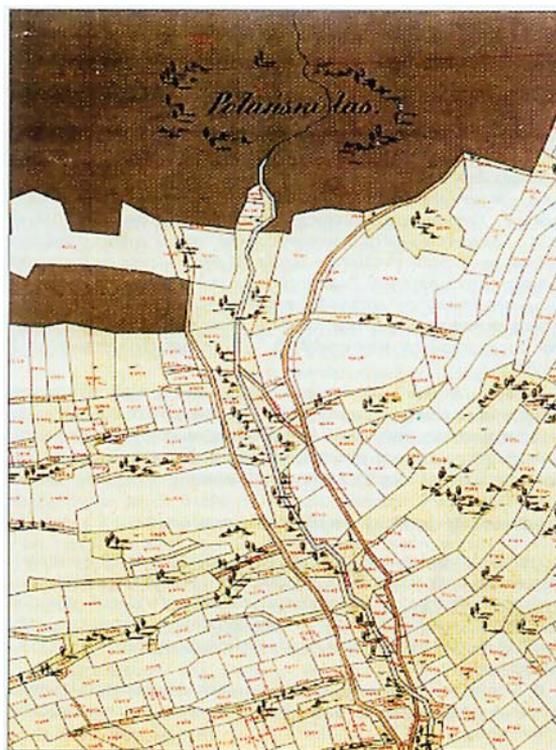


The documentation of Austrian Cadastre covers the following regions in Poland: Rzeszowskie, Krakowskie (except county of Olkusz and Miechów) and a part of Katowickie (counties of Cieszyn and Bielsko-Biała).

Until now circa 30% of present documentation of land register from the above mentioned territories was created on the basis of materials from the previous Austrian Cadastre.

Austrian Cadastre documentation was prepared in the form of maps and cadastral books for each cadastral municipality.

Fragment of a cadastral map – (Austrian Cadastre)



The cadastral documentation included:

- cartographic part i.e. cadastral map (figure below) consisting of sheets for detailed precinct, field sketches,
- descriptive part i.e. books: parcel report, sheets of land possessions, list of sheets, alphabetical list of possessors, mortgage registers.

1.1.3 Characteristics of surveying documents on the areas former Russian partition

The enfranchisement documentation was prepared by virtue of the Ukase of Car dated 1864 on enfranchising of peasants on areas incorporated into Russia.

The enfranchisement documents included:

- liquidation tables – concerning private, institutional estate and undividable large private properties,
- bestowing tables – concerning state governmental properties.

The process of enfranchising in the Russian partition was not accompanied with land surveys, as it was the case in the former Prussian partition. Due to this reason inscriptions concerning the enfranchised settlements were of tentative character.

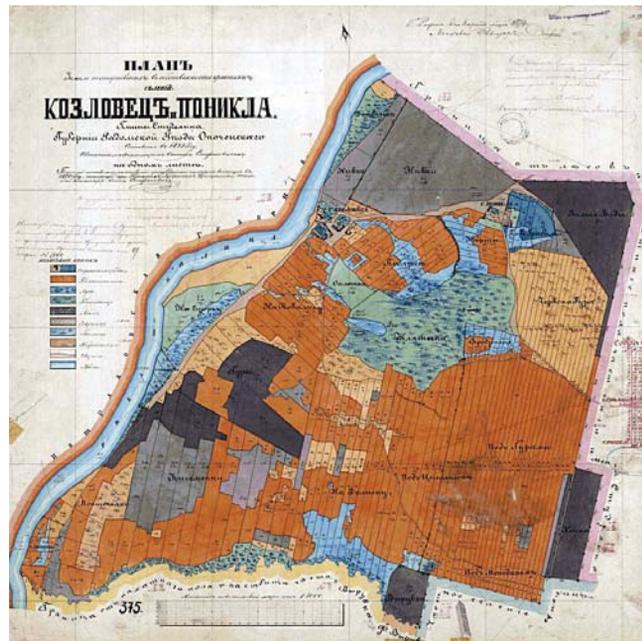
The land surveys were conducted at a later period and they resulted with maps of enfranchised land (usually for a group of villages) and new calculations of areas of settlements and land uses for liquidation tables.

Documents, which confirm the right of ownership in the form of extracts from the liquidation tables, come from the times of enfranchisement of peasants. These documents were produced on the basis of parcels maps of relatively good quality, which were prepared in local coordinate systems in new Polish measures initially and in the Russian system of measures after 1891.

The new surveys conducted after 1891 in the Russian system of measures constituted a basis for production of maps in the scales 1:4,200 or 1:8,400.

The lack of complete coverage with maps for this area was a major reason that hindered establishing of land cadastre.

Fragment of a cadastral map (Russian Cadastre)



1.1.4 Characteristics of Zamoyski Cadastre

In 1859 the Surveying Office was established under the Central Chancery of Zamoyski Estate in Zwierzyniec near Zamość. This Office established the land cadastre between 1865 and 1900 known as “Zamoyski Cadastre”.

The basis for this register was a map of scale 1:5,000 and the surveying and classification register patterned after the surveying rules of the Austrian Cadastre.

During the interwar period documentation of Zamoyski Cadastre was used for liquidation of real servitudes, and after the Second World War for the purposes of the Agrarian Reform for the area in question. Presently the documentation of Zamoyski Cadastre is of only archival importance.

1.1.5 Land Tax Cadastre - interwar period (1918-1939)

During the interwar period a unified cadastral system did not come into being in the revived Polish state. The three parts of the country united after 123 years were different with regard to level of economic development, agrarian system, tax system and soil valuation system, as well as to cadastral system or the lack of it.

Austrian cadastre operating in Małopolska Region was subjected to the Ministry of the State Treasury on the basis of the act of 1919. There were established cadastral divisions in Tax Chambers in Lwów and Kraków, and so called 'land tax cadastral registers' were established in districts. There were gathered maps, descriptive documentation and cadastral files. In 1929 land tax cadastral registers were renamed for cadastral offices, which were next included to tax offices' structures in 1933.

The former Prussian land cadastre in Poznań and Pomorze Regions was subjected to the Ministry of Public Works on the basis of the Act of 1919. Since 1 January 1926 competencies in this scope were taken over by the Ministry of the State Treasury. Similarly as in Małopolska Region, cadastral offices were included to tax offices in 1933.

In the former Russian partition information on lands and its owners were collected in the interwar period on the basis of different geodetic-cartographic materials that, however, did not cover the whole territory of this area.

In 1935-1939 years works aimed at establishment of unified cadastral system were undertaken. The beginning of system organization was the Act dated 26 March 1935 on Land Classification for Land Tax ('fiscal classification').

In 1936 former regulations on land tax of occupant countries were abolished. Between 1936 and 1938 photomaps in 1:5000 were made for part of the country.

In 1938 works on a draft act on land registers were completed. One of purposes of this act was creation of legal basis for connection between the cadastre and mortgage books. The war interrupted these actions.

1.1.6 Decree on land and building cadastre dated from 1947

After 1945 the issue of establishing a unified land cadastre in Poland was still a significant and unsolved economic problem of the state. The same referred to soil valuation and formulation of functions for cadastre in view of new political system.

The first legal act, which assumed a need for establishing and continuation of real estate cadastre in Poland, was the Decree of 1945 on the State Geodetic and Cartographic Service. By virtue of this Decree this task was entrusted to the Main Office for Country Measurements.

The first legal regulation concerning the cadastre issued in Poland after World War II was the decree on land and building cadastre dated 24 September 1947 (Journal of Laws No. 61, pos. 344). Its legacies constituted about establishment of a unified multi-purpose land and building cadastre for the whole area of Poland.

The article 2 of the Decree defined the purposes of the cadastre as follow:

1. denotations of agricultural real estate for establishing and maintaining of land books,
2. assessment of taxes and other public fees,
3. source of information and data on land, their owners for different fields of engineering and social and economic life.

The Decree envisaged also establishment of building cadastre.

The structure of the unified cadastre was based on the patterns of cadastres that already existed cadastral systems.

However the political changes that occurred in Poland were unfavourable for this task (liquidation of private ownership, apotheosis of state and public ownership, possession identified with factual status).

1.1.7 Simplified land register (cadastre) as the effect of social soil valuation

For fiscal purposes, land tax assessment and mandatory supplies of farm products in the end of the 1940s and the first half of the 1950s the function of cadastre was fulfilled by censuses, which were also known in literature as the simplified land cadastre.

The Main Commission for Soil Valuation, which was appointed in 1949 under the Ministry of Agriculture, developed the rules for "Social Valuation of Land". The soil valuation map of scale 1:1,000,000, which was prepared before the World War II and included six soil quality classes, was used for this purpose. On the basis of this map The Main Commission for Soil Valuation calculated the area of land in respective classes, which were then accounted and adjusted in individual regions. Regional valuation commissions, after plotting the borders of counties on soil quality maps of scale 1:300,000, calculated and juxtaposed

areas of soil quality classes for counties and transferred them to county soil valuation commissions, which did the same for communes, and for communities – communal soil valuation commissions. On the basis of farmers' declarations on areas of land uses on their farms the land uses and soil quality classes were attributed to land possessors.

On the basis of results from social soil valuation and the census of land as well as available materials the so called "soil valuation questionnaires" were prepared. They were also known as the questionnaire cadastre of land or the simplified land cadastre. After summing up the respective areas gathered within this simplified land cadastre the shortage of 5% of the total country area, i.e. c.a. 1.5 million hectares, was obtained.

In mid 1953, on the initiative of the Ministry of Agriculture and Ministry of Communal and Housing Management, the process of establishing unified cadastre of land was initiated. It started with unified soil quality valuation. For that purpose a trial soil quality valuation was conducted in six counties, where they received the largest numbers of complaints and which varied in soil quality and economic conditions. The trial soil valuation was conducted with the use materials from the pre- or after War periods. If the maps were not trustworthy they were verified in the field. Where the materials from direct measurements and aerial photographs were available the full soil quality valuation was conducted and its results were compared with the results from estimated soil quality valuation.

This trial soil valuation confirmed fully the defectiveness of estimated (social) soil valuation from 1949.

The rules for conducting the soil quality valuation in Poland were defined in the Decree of the Council of Ministers dated 4th June 1956 on Soil Quality Valuation (Journal of Laws No. 19, pos. 97 with further amendments).

On the basis of this Decree the soil quality valuation was conducted in the whole country for the farm lands, private lands under forests and under water basins with area below 10 hectares.

1.1.8 Land register

New assumptions for public register that was to replace the real estate cadastre in Poland were formulated in the Decree dated 2 February 1955 on land and building register (Journal of Laws No. 6, pos. 32). The land and building register defined by the Decree was supposed to be used for the following purposes:

1. Economic planning;
2. Tax assessment, assessment of obligatory purchase and deliveries;
3. Inscriptions in land books;
4. Data and information supply for different organizations and branches.

The rules of the Decree of 1955 in comparison to the Decree of 1947 do not indicate significant differences. In principle the executive acts to the Decree, i.e. The Instruction of the Minister of Agriculture dated 1955 and the Instruction of Ministry of Communal and Housing Management dated 1956 and subsequently the Order of Minister of Agriculture and Communal Management, dated 20 February 1969, had the fundamental influence on the shape and content of the established register.

Their content was determined by the fiscal purposes. The ownership of real estate was treated marginally and they focused on possession mainly. The land parcel as the basic object of area division, was defined as “track of land which an object of separate possession”, and the possession was understood mainly as spontaneous possession.

The priority for establishing the cadastre of lands and buildings was gaining data for fiscal purposes. By this reason the works on establishing the register of buildings were delayed for future. Consequently the data on buildings, which were plotted on some cadastral maps on the basis of direct measurements or photogrammetric measurements, were not updated and gradually lost their reliability. In many cases they limited only to plotting contour line of the built-up land use.

On the basis of the afore mentioned Decree cadastral maps were prepared with the use of different technologies, i.e. for:

- 38% of the country's territory these maps were prepared on the basis of terrain surveys,
- 26% of the country's territory – with the use of photogrammetric techniques,
- the rest of the country's territory – on the basis of other elaborations (old cadastral maps, consolidation maps, parcelling maps, management maps of The State Forests National Forest Holding etc.).

Cadastral maps were prepared in the following scales:

- 1:500 – 0.6% of the country's territory,

- 1:1000 – 2.4% of the country's territory,
- 1:2000 – 10.2% of the country's territory,
- 1:5000 – 79.7% of the country's territory,
- other scales – 7.1% of the country's territory.

The main characteristics of real estate register are as follow:

- common register - it covers entire territory of the country,
- uniform register for the entire country,
- information contained in the real estate cadastre are open to public,
- exclusiveness as source of data of actual state of land use.

1.1.9 Register of land and buildings - real estate cadastre

Register of land and buildings was named real estate cadastre in act dated 17 May 1989 - Geodetic and Cartographic Law (Journal of Laws of 2005 No. 240, pos. 2027 with further amendments): 'until transformation of land and building register into real estate cadastre, the cadastre is understood as this register' (article 5a of the Act).

According to the art. 2, point 8 of the Act register of land and buildings (real estate cadastre is understood as 'is a uniform collection for the whole country of systematised, updated data on land, buildings and premises, their owners and other natural persons and corporate bodies holding these lands, buildings and premises'.

The main objective of real estate register defines art. 21 of The Geodetic and Cartographic Law. Data included in the register are basis for:

1. economic planning,
2. spatial planning,
3. tax and fees assessment,
4. denotations in land and mortgage registers,
5. national statistics,
6. land management,
7. farm registry.

Running the real estate register as a task of the government administration is assigned to chiefs district official (starosta) and Presidents of the cities governed on district laws performing his tasks with the assistance of the district surveyors. Control on starosta's (district chief official) actions within the scope of these tasks is performed by province heads (voivodes) with the assistance of Regional Inspector for Geodetic and Cartographic Supervision. Central governmental administration unit supervised the State policy within the scope of these tasks is Surveyor General of Poland.

Land and building register embraces the whole land territory of Republic of Poland together with inland surface waters and part of land under internal sea waters.

Total surface of land covered with land and building register amounts 312,683 km², including land within cities' boundaries – 21,345 km², and rural areas – 291,338 km².

Currently, for needs of land and building register, the area of the country is divided on:

- 3072 cadastral complexes,
- 54007 cadastral precinct,
- over 33.2 M cadastral parcels, including:
 - parcels within cities' boundaries – 6.5 M,
 - parcels in rural areas – 26.7 M.

Cadastral documentations include information on:

- all cadastral parcels,
- 52% buildings within cities' boundaries and 10% buildings in rural areas,
- 35% premises within cities' boundaries and 9% premises in rural areas.

Data contained in land and building register, the register of land utilities and other data in the national geodetic and cartographic resources such as:

- the State register of boundaries and areas of the State territorial division units,
- real estate price and value register,
- base map,
- topographic data base

constitute the basis on which a **national land information system** will be established (according to art. 5 of the Geodetic and cartographic law).

1.2 Development of the institutional and organisational structure

By virtue of the Decree on State Geodetic and Cartographic Service dated 13 June 1956 (Journal of Laws No. 25 position 115) the Central Office of Geodesy and Cartography (CUGiK), which had been subjected to the Prime Minister, was subordinated to the Ministry of Internal Affairs. According to the Article 2 the bodies of the state geodetic and cartographic service were: the Central Office of Geodesy and Cartography (further Head Office of Geodesy and Cartography - GUGiK) and the ministerial geodetic services that could execute definite geodetic tasks after order of the Council of Ministers.

The Regulation on Scope of Activities for Organs of State Geodetic and Cartographic Service dated 13 June 1956, which was issued on the basis of the Decree, defined the detailed scope of activities for GUGiK and Ministerial Services.

Establishing and maintenance of land and building register (cadastre) was subordinated to:

- Minister of Agriculture - for areas of communities, districts and towns which were not excluded from regions and counties,
- Minister of Communal Management – for towns, which were excluded from regions and counties.

In January 1957 in the Ministry of Agriculture there was established the Department for Rural Land Development in which the Division for Geodesy and Cadastre was responsible for establishing the Land Cadastre. In Regions the Regional Offices for Geodesy and Rural Land Development were appointed. They included the Section for Map and Land Cadastre Updating and the Section for Soil Mapping and Rural Land Development, which were responsible for establishing the documentation of Land Register (Cadastre).

The Land Cadastre (without Buildings) was established by the executive ministerial units with the assistance of surveying companies which belonged to the Head Office of Geodesy and Cartography and the intervention teams of the Ministry of Agriculture.

1.3 Financial and organizational issues

Currently the central body of government administration responsible for issues of geodesy and cartography is the Surveyor General of Poland, who performs his tasks with the assistance of the Head Office of Geodesy and Cartography. Supervision of the Surveyor General of Poland is administered by the minister appropriate for public administration..

The Geodetic and Cartographic Service comprises:

1. organs of geodetic and cartographic supervisions:
 - a) Surveyor General of Poland,
 - b) region head (voivode) performing tasks with the assistance of the province geodetic and cartographic inspector as the head of geodetic and cartographic inspection, being a component of the joint government administration in the regions;

2. bodies of geodetic and cartographic administration:
 - a) chief regional official (marshal) performing his tasks with the assistance of the regional surveyor being a member of the office of the chief regional official,
 - b) chief district official (starosta) performing his tasks with the assistance of the district surveyor, being a member of the district chief official's office.

The district chief official, on a motion by the municipality entrusts the head of the municipality (wójt) or mayor or town president, by way of agreement, with matters being within the scope of his tasks and competence, including the issuing of administrative decisions after satisfying the appropriate conditions. The head of a municipality (mayor, Presidents of the city) manages the entrusted issues with the assistance of the c municipality surveyor who is a member of the municipality office.

The regional inspector of geodetic and cartographic supervision who, according to the administrative proceeding code, is higher in the hierarchy than units of geodetic and cartographic administration, performs tasks and competence of the Geodetic and Cartographic Service in the name of the region head.

Tasks from the scope of land and building register (real estate cadastre) are financed from the budget of the State and from resources of purpose fund (Management Fund for Geodetic and Cartographic Resources), which is generated from charges collected from executors of geodetic and cartographic works and from recipients of information and materials collected in State Geodetic and Cartographic Resources.

1.4 Decentralization, involvement of the private sector

The Head Office of Geodesy and Cartography is central body of government administration, acts on a basis of the statute conferred by ordinance, by the Chairman of the Council of Ministers.

The Surveyor General of Poland is president of the Head Office of Geodesy and Cartography and manages the Office with the assistance of the deputy chairman, director general and directors and managers of organizational units.

Head Office of Geodesy and Cartography does not have branch offices or local branches but it acts for the whole area of the country.

Main Geodetic and Cartographic Documentation Centre In Warsaw established as a subordinated organisation assists in activity of Head Office of Geodesy and Cartography.

Geodetic and cartographic works are performed by **bodies pursuing economic activities** and also other organizational units established in accordance with legal provisions, should the subject of their activity comprise performance of such work (*art. 11 of Geodetic and Cartographic Law*).

According to art. 2, point 1 of the Geodetic and Cartographic Law geodetic work is understood as: the planning and performing of geodetic surveys, taking aerial photographs, calculations and also drafting and processing geodetic documentation, establishing and up-dating data bases, as well as photogrammetric, gravimetric, magnetic and astronomical measurements and elaborations related to the substantiation of tasks in the field of geodesy, cartography and the national land information system.

According to the Act dated 2 July 2004 on freedom of business activity, entities running business activity are „**businessmen**” (Journal of Laws of 2007 No. 155, pos. 1095).

According to the article 46 clause 1 and article 75 clause 1 of the Act dated 2 July 2004 on Freedom of Business Activity for running business activity in the field of geodesy and cartography any licence or permission is required.

According to the article 14 of the Act businessman can undertake business activity after registration in businessman register in the National Court Register or in the Business Activity Register.

Art. 12 of the Geodetic and Cartographic Law constitutes that ‘A party undertaking geodetic and cartographic work shall notify the bodies mentioned in art.40 clause 3 the work is to be performed prior to commencing it and deliver the created materials or information **about these materials to the national geodetic and cartographic resources** when performed.’

Performing of some activities, which in art. 2, point 1 of the Geodetic and Cartographic Law are mentioned as geodetic and cartographic work, comes within duties of **Geodetic and Cartographic Services'** tasks, e.g. updating cadastral data base and processing geodetic and cartographic documentation in process of this updating as well as making of extracts and copies from cadastral documentation. Regulations of art 11, 12 and 42 of Geodetic and Cartographic Law are not applicable for these activities.

According to art. 42–45 of Geodetic and Cartographic Law, independent function in geodesy and cartography, can be performed by natural persons, who acquired adequate professional licenses granted by the Surveyor General of Poland. These professional licenses **shall not be granted to legal entities** and organizational units.

Performing independent functions in geodesy and cartography is understood as:

- managing geodetic and cartographic works which have to be notified to the national geodetic and cartographic resources, and direct supervision of such works,
- performing the function of a chartered expert in geodetic and cartographic works which have to be notified to the national geodetic and cartographic resources,
- fulfilling the function of geodesy and cartography supervisory inspector,
- carrying out technical and administrative activities related to demarcation of real estate property,
- performing geodetic and cartographic works as may be imperative to make entries into land and mortgage registers and such works the result of which could lead to danger to life or health.

Licenses for performing independent functions in geodesy and cartography, hereinafter referred to as 'professional licenses' are granted by the Surveyor General of Poland on the basis of qualification proceedings performed by a qualifying committee for professional licenses.

Professional licenses are granted in the following fields:

1. planimetric and altimetric surveys, and also engineering and inventory surveys,
2. real estate (land) demarcation and subdivisions and also the drawing up of documentation for legal purposes,
3. basic geodetic surveys,
4. geodetic services for investments,
5. surveys for development of rural and forestry land,
6. editing maps,
7. photogrammetry and remote sensing.

Professional licenses in geodesy and cartography, may be granted to persons who:

1. have higher or secondary geodetic education,
2. have three years professional practice in the case of persons with university education and six years professional practice in the case of secondary education,
3. prove a knowledge of regulations existing in geodesy and cartography,
4. enjoy an impeccable professional standing.

According to art. 13, clause 1 of Geodetic and Cartographic Law persons undertaking geodetic and cartographic work enjoy the right of:

- entry onto land and building objects and to carry out operations imperative for the work they are performing,
- cutting glades through trees and shrubs to the extent required to perform geodetic work,
- cost-free location of geodetic, gravimetric and magnetic marks on land and building objects also of arrangements to protect such marks,
- location of triangulation structures on land and building objects.

2 CONTENT OF THE LAND AND BUILDINGS REGISTER (CADASTRE)

According to art. 20, clause 1 and 2 of the Geodetic and Cartographic Law, the register of land and buildings (real estate cadastre) comprises information concerning:

- land - its location, boundaries, area, kinds of grounds (land uses) and their soil quality, the denotations in land and mortgage registers or collections of documents,
- buildings - their location, designation, utility function and general technical data (year of completion of construction, number of storeys, material used in external walls of a building),
- premises - their location, utility function and utilizable area.

The land and building register also identifies:

- the owner and, in the case of state and communal land, other natural persons or bodies corporate who hold the land and buildings or their parts,
- the place of residence or the registered address of the owners and possessors of real estates,

- information on entering of the real properties or their parts to the historical monuments register,
- the value of the real estate (cadastral value, determined through Real Estate Mass Appraisal ¹⁾).

According to art. 51 of Geodetic and Cartographic Law, the land and building register specifies the holding person as well as the proprietor until the property title is finally settled.

In particular cases, described in other regulations, in land and building register there is shown data of persons and organizational units, which possessed land under a lease agreement.

Real rights shown in land and building register are connected with following basic cadastral objects:

1. cadastral parcel,
2. building,
3. premises.

Continuous area of land, situated within one cadastral precinct, unified in respect of law, allotted from surroundings with the use of boundary lines, constitutes a cadastral **parcel**.

Buildings are roofed space structures with inbuilt installations and technical devices, used for permanent needs, adjusted for a stay of people, animals and protection of objects.

Island station roof, which constitutes a terrestrial room, non-enclosed with walls from all directions or even without any walls, is considered to be a special kind of building.

Buildings are also underground building objects adapted for protection of people, animals or articles (e.g. underground shelters, hospitals, trading centers, workshops and garages).

Building objects mentioned in building's definition are understood as constructions connected with ground in permanent way, made of building material and component elements, which are a result of building works.

Premises shown in land and building register are residential premises or premises for other purposes, according to regulations of the Act dated 24 June 1994 on Ownership of Premises (Journal of Laws of 2000 No. 80, pos. 903 with further amendments). According to art 2 clause 2 of the Act *'premises is*

1) The Real Estate Mass Appraisal was not conducted until now.

a unit, room or group of rooms, separated with fixed permanent walls within a building, designated for permanent presence of people. Together with service units is used to fulfil the housing needs of the residents. This regulation also applies to premises used, according to their destination, for non-residential purposes' Architectural and building authority (chief district official. and President of the city) states an assignment of the premises in form of certificate.

Buildings' legal status

Building, as a rule, is part of the ground.

In particular cases, described in regulations, building can be real estate separated from the ground. An example of such regulation is art 235 § 1 of the act dated 21 August 1997 on Real Estate Management.

Art. 235. § 1. *Buildings and other utilities erected on the ground of the State Treasury or on ground belonged to territorial self-government units or their associations, by perpetual leaseholder constitute his property. The same applies to buildings and other utilities which a perpetual leaseholder purchased, according to proper regulations, through concluding of perpetual leasehold deed.*

Premises' legal status

Residential premises and also premises for other purposes can constitute parts of real estate as well as separated real estate.

The rules for an assignment of the premises' property are as follow:

1. statement on assignment of the premises in form of certificate (technical assignment),
2. notary deed of purchase and sale (part legal – declaratory assignment),
3. establishing of land book (complete legal – constitutive assignment).

With an assignment of the premises' property, share in the common real estate is connected. Common real estate constitutes:

- *right for land,*
- *right for building and other utilities, which did not serve only for premises' owners use.*

Owner's share in premises being a part of common real estate is equal to the ratio of the usable area of the premises together with the area of its accompanying rooms to the total usable area of all premises together with their accompanying rooms.

2.1 Cadastral maps

Cadastral map is a large-scale map, which contains spatial cadastral data. It can have traditional, analogue form or numerical adapted to information technologies form.

Contents of a cadastral map:

1. boundaries: of the State, units of fundamental three level territorial division, cadastral complexes, cadastral sections, cadastral parcels,
2. designations of boundary points, with distinguishing points which were determined in proper procedure and with proper accuracy and among them – points solidly marked in terrain,
3. contours of land uses and their designations,
4. contours of soil valuation classes and their designations,
5. contours of buildings,
6. numbers of cadastral parcels,
7. boundaries of statistical areas and their designations,
8. descriptive-informational data, and in particular:
 - a) names of the units of fundamental three level State territorial division,
 - b) designations of cadastral unit and cadastral section,
 - c) name of street, square, sacred spots, watercourse, water basins and other physiographic objects,
 - d) numbers of public roads given on the basis of regulations on public roads,
 - e) reference and cadastral numbers of buildings.

The content of the cadastral map can be names of urban complexes, hamlets and tilths.

Depending on degree of area urbanization and the structure of land possession, the cadastral map is prepared in scales: 1:500, 1:1.000, 1:2.000 or 1:5.000. Editing the map, particularly in scale 1:2.000 or 1:5.000, its descriptive and informational data on buildings and numbers of boundary points do not have to be shown.

According to the status for 31 December 2008 the digital cadastral map covers:

- 94% of the area of cities,
- 66% of rural areas.

For the rest of the country the cadastral map is conducted in traditional (analogue) form or in raster form map completed with vector data, which are result of new surveys. It is estimated that the process of conversion of cadastral map into vector form will end till 31 December 2010.

2.2 Cadastral Register

The way of conducting descriptive part of land and buildings register (real estate cadastre) is defined by regulations of Decree of Minister of Regional Development and Construction dated 29th March 2001 on Land and Building Register.

According to § 22 of the decree, on the basis of cadastral data bases and with the use of an IT system there shall be created the following basic reports for particular cadastral sections, which depict cadastral data:

1. register of land,
2. register of buildings,
3. register of premises,
4. directory of buildings,
5. directory of premises,
6. cadastral map.

Land register contains cadastral data on all cadastral parcels within boundaries of a cadastral section, information on real rights connected with these parcels, their owners or other possessors.

Building register contains cadastral data on buildings being a separate object of ownership than ground and their owners.

Premises register contains cadastral data on premises being separate real estates and their owners.

Directory of buildings contains descriptive data on all buildings constitute parts of grounds as well as building property.

Directory of premises contains descriptive data on all premises notified in land and building register, including premises being a separate property.

Information on land, buildings and premises are **open to public and commonly accessible**. However

the accessibility to cadastral data is restricted in cases when the data sets or documents include personal data.

The fees are collected for disseminated data sets and distributed extracts from the registers and directories as well as for copies of cadastral maps.

The definite group of public organizations according to law is not charged for cadastral data access. In connection with transposition of the INSPIRE Directive to the Polish legal system, according to the draft Act, all public organizations will be not charged for access to cadastral data in case when they will be used for realization of public purposes.

Detailed scope of information which should be gathered in land and building cadastre is defined in the Chapter 4 of the Decree of the Minister of Regional Development and Construction dated 29 March 2001 on Land and Building Cadastre, which can be found below:

§ 59. *Cadastral data on land situated in cadastral section are:*

1. *name of cadastral section and its number, which is a part of cadastral section identifier,*
2. *digital description of boundaries of a cadastral section, with respect to boundaries of administrative territorial three level division of the state units,*
3. *data on a cadastral parcels within boundaries of a cadastral section,*
4. *data on buildings which are a part of land,*
5. *data on localization of buildings which are object of ownership rights separate from the land,*
6. *land use and soil valuation classes,*
7. *data on statistical locality.*

§ 60.1. *Cadastral data on a cadastral parcel are:*

1. *number of parcel, which is a part of cadastral parcel identifier,*
2. *digital description of boundaries of a cadastral parcel,*
3. *area of a cadastral parcel,*
4. *information on areas of contours of land use and soil valuation classes within boundaries of a cadastral parcel,*
5. *value of a cadastral parcel and its assessment date,*
6. *number of a register unit of land to which a cadastral parcel was assigned; this number is part of identifier of this register unit,*

7. *designation of a perpetual book, and if this perpetual book is not established – designation of documents defining ownership,*
8. *designation of documents defining other rights to a cadastral parcel than ownership and usufruct rights,*
9. *number of the historical monuments register run on the basis of regulations on culture goods protection,*
10. *number of statistical district, which is a part of identifier of this locality.*

§ 60.2. *Cadastral data on a cadastral parcel are also, apart from those mentioned in clause 1:*

1. *for cadastral parcels that are a part of built-up properties or properties devoted to be built-up – address number, which designates a property on the strength of regulations on numbering of properties, and name of street where a cadastral parcel is situated,*
2. *for cadastral parcels that are public roads – numbers of these roads granted on the basis of regulations on public roads and additionally name of street, if a public road performs this function,*
3. *for cadastral parcels that are physiographic objects, such as watercourses, basins, parks, forest districts – name of these objects.*

§ 60.3. *In case when a cadastral section includes differentiated by custom urban complexes, hamlets, lands between villages and tilths – cadastral data on cadastral parcels can be supplemented with names of those areas.*

§ 61. *Numerical description of cadastral parcel boundaries is provided with use of points coordinates which define the course of boundary lines.*

§ 62. *Area of cadastral parcel is calculated on the basis of coordinates, mentioned in § 61, in hectares and with the accuracy of 0.0001.*

§ 63.1. *Cadastral data on a building, which is a part of the land, are as follow:*

1. *cadastral number of a building which is a part of identifier of a building,*
2. *address number, given to a building on the basis of regulations on real estate numbering,*
3. *numerical description of contour lines determined through rectangular projection on horizontal surface of external surfaces of walls of ground storey of building and in buildings based*

on pillars – of the storey based on those pillars – hereafter called building contour numbers of cadastral parcels, where a building is situated,

4. *numbers of cadastral parcels, where a building is situated,*
5. *designation of the basic function of a building,*
6. *value of a building and dated of its estimation,*
7. *year of completion of construction,*
8. *built area in m²,*
9. *number of aboveground storeys and number of underground storeys,*
10. *information on a material used in external walls of a building,*
11. *total number and numbers of premises constituting separate dwelling-type real estates,*
12. *total number and numbers of premises other than listed in point 11,*
13. *total area of floor space in m² of:*
 - a) *all premises within a building,*
 - b) *rooms appurtenant with regard to these premises,*
14. *number in the register of historical monuments run on the basis of the act on culture goods protection.*

§ 63.5. *Cadastral data defining the year of construction completion for individual buildings are adopted from the register of started and reported for usage structures which is maintained by the organs of architecture and construction administration and construction supervision on the basis of Construction Law or, in case of lack of appropriate data in this register, the estimated date of construction completion determined on the basis of reliable information.*

§ 64. *Cadastral data on a building that constitutes a separate object of ownership than ground are (apart from mentioned in § 63, clause 1. data):*

1. *designation of land and mortgage register book or other documents that define ownership of a building,*
2. *designation of documents define other rights to a building than ownership,*
3. *number of a register unit.*

§ 65.1. *Due to the basic usage function, buildings are divided into the following categories:*

1. *residential buildings,*
2. *industrial buildings,*

3. *buildings for transport and communication,*
4. *buildings for shopping and services,*
5. *containers, silos and storehouses,*
6. *offices,*
7. *buildings of hospitals and medical care institutions,*
8. *educational, science and culture buildings and sport buildings,*
9. *buildings for production, services and technical for agriculture,*
10. *other non-residential buildings.*

§ 65.2. *The affinity of a building to a proper category is determined according to the rules of the Assets Classification introduced on the basis of public statistics regulations.*

§ 66.1. *Cadastral data on land uses and soil valuation classes are:*

1. *digital description of boundaries of land uses and soil valuation classes,*
2. *designation of land uses and soil valuation classes in boundaries of individual contours and numbers of these contours.*

§ 66.2. *Soil quality classes for individual land uses, their contours and designations are adopted from the documentation for soil quality valuation.*

§ 67. *Land uses revealed in the register may be divided into the following groups:*

1. *agricultural land,*
2. *arable land and land covered by trees and bush,*
3. *built-up and urban land,*
4. *ecological land, designated with a symbol consisting of 'E' letter and symbol of appropriate land use that defines a method of land development or use, e.g. E-Ws, E-Wp, E-Ls, E-Lz, E-N, E-Ps, E-R,*
5. *abandoned land, designated with 'N' symbol,*
6. *land under water,*
7. *different areas designated with 'Tr' symbol.*

§ 68.1. *Agricultural land divides into:*

1. *arable land designated with 'R' symbol,*
2. *orchards, designated with 'S' letter and symbol of appropriate land use that is a part of designation of soil valuation class of land where an orchard is situated, e.g. S-R, S-Ł, S-Ps,*
3. *permanent meadows, designated with 'Ł' symbol,*
4. *permanent pastures, designated with 'Ps' symbol,*
5. *arable built-up land, designated with a symbol consisting of 'B' letter and symbol of appropriate land use that is a part of designation of soil valuation class of land where buildings are situated, e.g. B-R, B-Ł, B-Ps,*
6. *land under ponds, designated with 'Wsr' symbol,*
7. *Ditches, designated with 'W' symbol.*

§ 68.2. *Arable land and land covered by trees and bush divide into:*

1. *forests, designated with 'Ls' symbol,*
2. *land covered by trees and bush, designated with 'Lz' symbol, or, in case of wooded lands within agricultural land, which appeared on land embraced by soil valuation classes – a symbol composed of 'Lz' letters and symbol of appropriate land use that is a part of designation of soil valuation class, e.g. Lz-R, Lz-Ł, Lz-Ps.*

§ 68.3. *Built-up and urban land divides into:*

1. *housing areas, designated with 'B' symbol,*
2. *industrial areas, designated with 'Ba' symbol,*
3. *other built-up areas, designated with 'Bi' symbol,*
4. *urban non-built-up areas, designated with 'Bp' symbol,*
5. *recreational terrains, designated with 'Bz' symbol,*
6. *mining land, designated with 'K' symbol,*
7. *transport terrains, incl.:*
 - a) *roads , designated with 'dr' symbol,*
 - b) *railway terrains, designated with 'Tk' symbol,*
 - c) *other transport terrains, designated with 'Ti' symbol..*

Land under water divides into:

1. *land under internal waters, designated with 'Wm' symbol,*
2. *land under inland flowing waters, designated with 'Wp' symbol,*
3. *land under inland dead waters, designated with 'Ws' symbol..*

§ 68.5. *Orchards with area below 0.1000 ha and other land uses with area below 0.0100 ha are not indicated in the cadastre.*

§ 68.6. *The rules for rating lands among individual land use are defined in Attachment no. 6 to the Decree.*

§ 69. *Cadastral data on statistical areas are numerical descriptions of boundaries of these objects and their numbers accordant with the Country Register of Official Territorial Division of the Country, which is kept on the basis of regulations concerning public statistics.*

§ 70.1. *Cadastral data on premises:*

1. *number of premise which is part of identifier of premises,*
2. *serial number of a building that contains,*
3. *designation of usage function of premises,*
4. *number of premises' rooms and number and type of premises' appurtenant rooms,*
5. *total area of floor space in m² of premises and area of premises' appurtenant rooms.*

§ 70.2. *Cadastral data on premises that constitutes a separate real estate are (apart from the data mentioned in clause 1):*

1. *designation of land and mortgage register,*
2. *designation of documents that define other rights to premises than ownership,*
3. *cadastral number of premises register unit,*
4. *value of premises and date of its estimation..*

§ 70.3. *With respect to the use type the following premises are differentiated in the register:*

1. *residential premises,*
2. *non-residential premises'.*

§ 73. Cadastral data on register subjects and persons, organisational units and organs, mentioned in § 11 clause 1 points 1 and 2 are:

1. for natural persons:
 - a) surname, names and parents' names,
 - b) address of permanent residence,
 - c) information whether the natural person is a foreigner in meaning of the Act of 24 March 1920 on purchasing of real estate by foreigners (Journal of Laws of 1996 No. 54 position 245, of 1997 No. 140 position 939 and of 1998 No. 106 position. 668),
2. for the State Treasury – name “State Treasury”,
3. for the units of territorial self-governments and their associations:
 - name of the unit or association,
 - headquarters of their organs,
4. for the organs of public administration and their affiliated units:
 - a) name of the organ or the affiliated unit,
 - b) headquarters of their organs or the affiliated unit,
5. for legal persons not mentioned in points 2 and 3:
 - a) name of the legal person – full and abridged,
 - b) headquarters,
 - c) information whether the legal person is a foreigner in meaning of the Act on purchasing of real estate by foreigners.

Identifier of a cadastral parcel is a sequence of numbers and signs in the dominative form as:

WWPPGG_R.XXXX.NDZ.

where:

WWPPGG_R – identifier of cadastral section,

XXXX – cadastral number of cadastral section,

NDZ – cadastral number of parcel, unique in cadastral section.

Example: 026401_1.0001.121

Identifier of a building is a sequence of numbers and signs in the dominative form as:

WWPPGG_R.XXXX.NDZ.Nr_BUD

where:

NDZ – cadastral number of a parcel, on which the building is located,

Nr_BUD – cadastral number of building determined as a natural number,

BUD – designation of a building.

Example: *026401_1.0001.156.1_BUD*

Identifier of premises is a sequence of numbers and signs in the dominative form as:

[identifier of building].NR_LOK

where:

NR_LOK – code of the premises in building,

NR BUD – cadastral number of premises in building determined as a natural number.

Example: *026401_1.0001.156.1_BUD.12_LOK*

2.3 Modernisation of Land and Buildings Register

During last years many improvements in the Land and buildings register (cadastre) were undertaken, such as: Modernisation, IPE, Geoportal. The total area of land included in the land and buildings registers amounts to 312,683 square kilometres including land with urban border – 21,345 sq. km and in rural areas – 291,338 sq. km. The country has been divided into the following units for the purpose of land and buildings registers:

- 3072 registration units,
- 54007 registration precincts,
- more than 33.2 mln registration parcels, including 6.5 mln parcels within urban borders and 26.7 mln parcels on rural land.

Modernisation of land and building registers is performed by chief county officials (starosta) and presidents of towns holding county rights. Province inspectors of geodetic and cartographic supervision also participate actively in these tasks, consulting modernisation projects, personnel training and undertaking planned and casual monitoring operations. The modernisation of land and buildings registers also enjoys the support of the Surveyor General of Poland.

The effort of the Geodetic and Cartographic Service as regards modernisation of registers is focused on:

- converting analogue register maps to a digital (vector) form;
- supplementing survey registration dossiers with data concerning buildings and homes;
- improving the quality of registration data and giving these data a standard shape.

Land and buildings registers contain basic descriptive and spatial information (excluding property values), concerning borders of registration parcels, contours of arable land, classification contours, buildings and also an almost complete collection of information about residence properties. Computer software is also used in these counties to manage a vector registration map for urban areas of complete substance, i.e. holding spatial data concerning the borders of registration parcels, contours of arable land, classification contours and buildings.

Surveyor General of Poland is supporting modernisation of land and buildings registers in the following areas in particular:

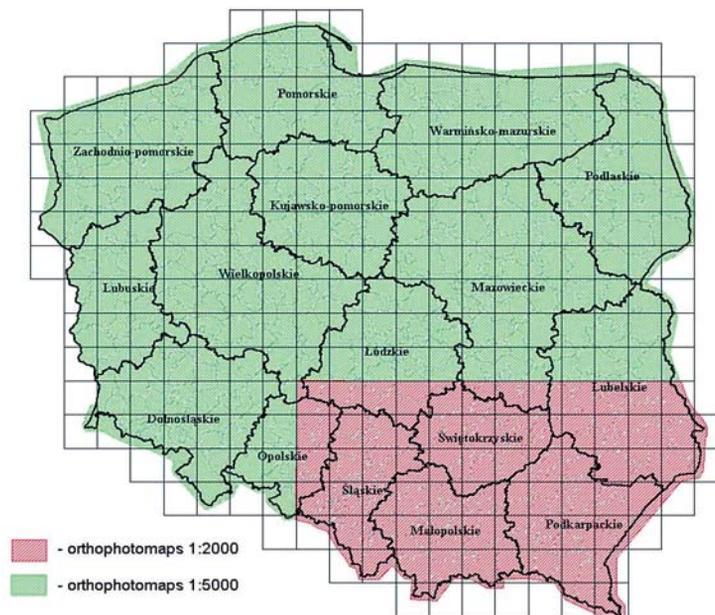
1. training organised for workers of the province and county Geodetic and Cartographic Service;
2. cooperating with the Agency for Restructuring and Modernisation of Agriculture (ARMA) in elaborating digital orthophotomaps and preparing technical conditions concerning the construction and updating of the LPIS (Land Parcel Identification System) constituting an element of IACS (Integrated Administration and Control System);
3. Implementing following projects:
4. Phare 2003 – Construction of the Integrated Cadastral System – stage III;
5. Phare 2003 – Vectorisation of cadastral maps in Poland GEOPORTAL.GOV.PL;
6. Implementing an IT system destined for managing the national register of borders and areas of units of the territorial division of the country.

Cooperation between the Head Office of Geodesy and Cartography (HOGC) and ARMA is of essential importance in the process of modernising land and buildings registers on rural areas.

This cooperation results in the elaboration of a digital orthophotomap for the whole country and its technical parameters being adapted both to the requirements of the LPIS constructed by ARMA and of land and buildings registers.

To allow adaptation to the needs of land registers in south-east Poland, the orthophotomap is elaborated in a 1:2000 scale basing on aerial photographs in a scale of 1:13000 and for the remaining area in a 1:5000 scale basing on aerial photographs in a 1:26000 scale, and partly basing on satellite photographs. The map presented below displays the area covered by the orthophotomap in those scales.

Orthophotomaps coverage of Poland



Technical parameters of the orthophotomap:

- orthophotomap land pixel 0.5 – 1.0 m
- RMSE error of position 1.5 – 2.5 m
- orthophotomap land pixel 0.25 m
- RMSE error of position 0.75 m

The digital orthophotomap is used in the process of modernising land and buildings registers, in particular for:

- calibrating raster screen registration maps,
- verifying the course of registration parcels and eliminating erroneous data concerning these borders,
- verifying and updating arable land,
- verifying and updating contours of buildings.

The results of these projects are standard vector registration map coherent with the descriptive data in this register. Registration data is also be acquired concerning changes of arable land, the border of which will be defined by photo-interpretation, as well as spatial and descriptive data concerning agricultural plots and farm fields. A vector layer of buildings' contours is also created in the projects implemented by the HOGC, the spatial data of which are presently held in the national geodetic and cartographic resources.

The results of implementing these projects have a fundamental impact on improving the level of the standardisation of the Polish real estate cadastre and the quality of the data it contains, also allowing this public register to be managed both as regards descriptive data as well as spatial data in computer technology.

This project also results in stocktaking of materials collected in the national geodetic and cartographic data resources of significance for the cadastre, and also in assessing the quality of these materials. County surveyors, basing on reports drafted by project contractors, thus possess detailed knowledge of the data collections for which they bear responsibility, and thereby for further operations connected with modernising land and buildings registers, allowing them to spearhead their efforts on eliminating essential errors and irregularities.

The scope of this task places basic significance on the organisation and course of quality and quantity control performed in the projects, to ensure that proper results are achieved.

3 TECHNOLOGICAL INFRASTRUCTURE

According to program of development of Government Programme of The Development of an Integrated System of Real Estate Information, in scope of projects co-financed from funds of programs: PHARE 2000, Phare 2001 and Phare 2003, there was created IT system, based on wide area network, including most districts, regional Office, Head Office of Geodesy and Cartography, local courts running land and mortgage register, Ministry of Justice and Ministry of Internal Affairs.

The system assumed:

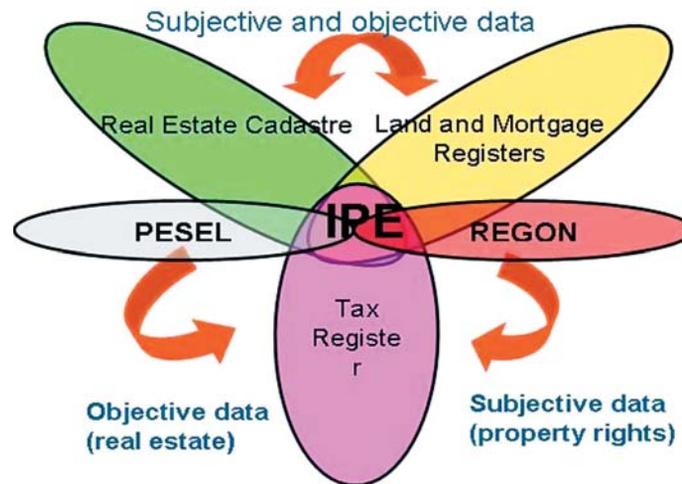
1. generating notifications on cadastral data changes in electronic form and transfer these notifications to the land book division and to authorities conducting tax register,
2. transfer notifications (in electronic form) on entries in central data base of land book (in chapter I and II) and directing these notifications to units conducting land and building register,
3. giving answers to questions directed by authorized users to the land and building register system,

4. giving answers to questions directed by authorized users to the central data base of land book,
5. verification of personal data included in land and building register with data in central data base of natural persons register (PESEL),
6. distribution data from REGON register to authorized users,
7. preparing of cadastral data export for needs of LPIS system and tax register.

3.1 Integrating Electronic Platform (IEP)

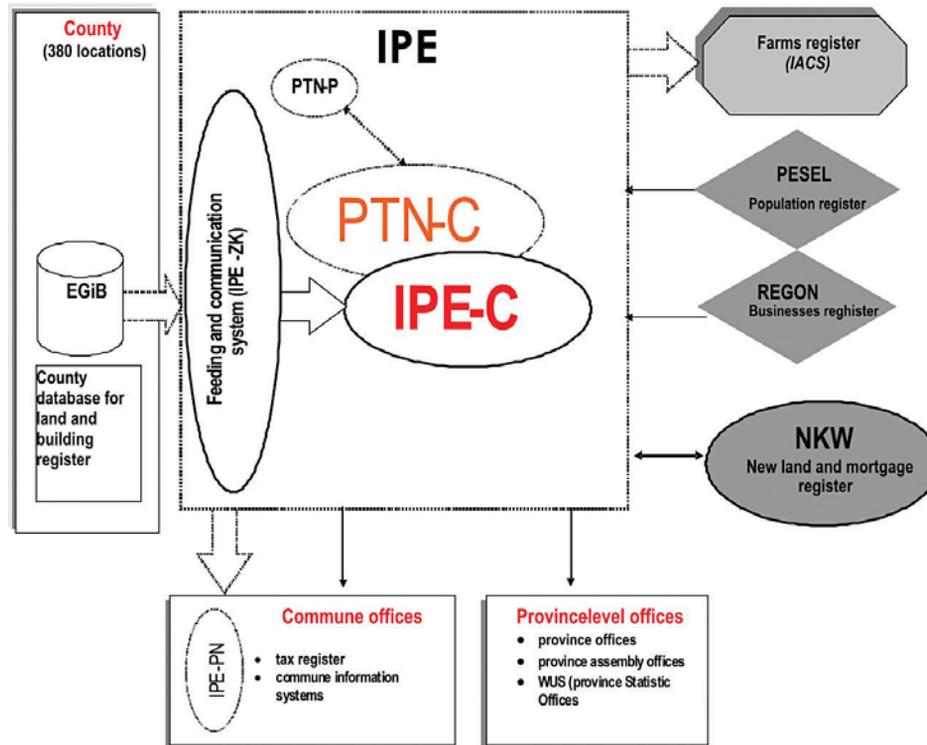
Integrating Electronic Platform (IEP) System allows exchange of data between land and buildings registry, land and mortgage registry and tax register. Also it allows access to data from land and buildings registers for the needs of the Integrated Administration and Control System, as well as other IT systems run by public administration bodies, verification of data in land and buildings registers with data held in PESEL (Universal Population Census Register) and REGON (National Official Register of Economic Subjects).

Data integration within IPE system



The structure of IEP which is illustrated the following pictures, constitutes the foundation of the Integrated Cadastral System (ICS). The principal modules of the IEP system were constructed between 2001 and 2003 within the construction of the ICS, in conjunction with the Ministry of Justice, Ministry of Finance, Ministry of Internal Affairs and Administration and the Main Office of Statistics.

Physical architecture of the IPE system



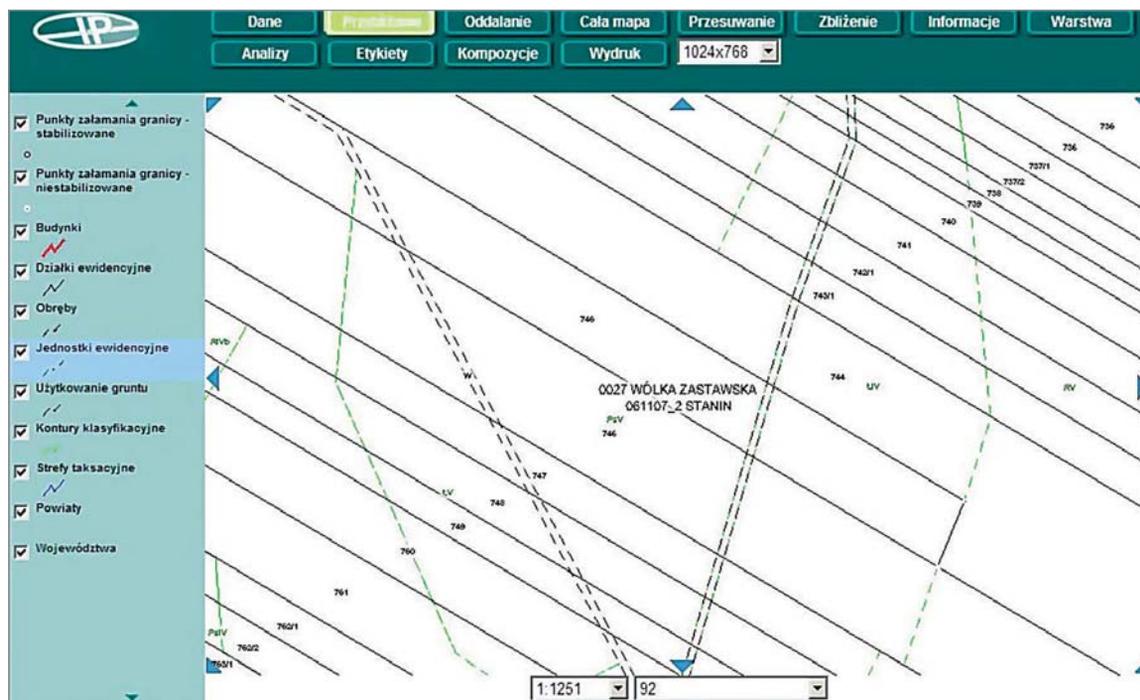
Main features of IPE systems:

- integration of real estate connected national registries into unified, synchronized electronic platform for exchange of data,
- creating conditions for elimination of existing divergences between Land book and Land and Buildings Registry,
- improvement of Land and Buildings Registry by gaining access to other public data registers,
- improvement of availability of complex information on real estate.

Main functions realised by the IPE system:

- generation of electronic notifications of changes in registers and sending these information to adequate land book divisions, tax offices and statistical offices;
- sending electronic notifications on changes and entries in central land book registry (sections I and II) to the units responsible for maintenance of Land and Buildings Registry;
- responding to questions directed by system users regarding Land and Buildings Registry, central Land Book registry, REGON and PESEL systems;
- visualisation of registry data in form of maps, extracts, tables and balance sheets;
- exporting data to the IACS system and tax registry;

Main screen of the IPE application (digital cadastral map)



IPE electronic extracts of the Land book changes

WERYFIKACJA KSIĘGI WIECZYSTEJ

Numer księgi : **KA1Y/0000451/9**
 Data weryfikacji : **2004-02-20**
 Wynik weryfikacji : **N**

Porównywane obiekty:

Typ obiektu	Dane identyfikacyjne	Zidentyfikowano	Wynik weryfikacji
działka	ID_DZIAŁKI_EWIDENCYJNEJ.; GMINA.; NUMER_OBIEKTU.; NUMER_DZIAŁKI_481/6;	tak	N

Porównania ogólne:

Nazwa KW	Nazwa EGIB	Wartość KW	Wartość EGIB	Wynik weryfikacji
Numer czynu prawocuchania działek				Z
Numer czynu prawocuchania	563		563	Z

Weryfikowany obiekt - działka

Dane identyfikacyjne : ID_DZIAŁKI_EWIDENCYJNEJ.; GMINA.; NUMER_OBIEKTU.; NUMER_DZIAŁKI_481/6;
 Zidentyfikowano : **tak**
 Wynik weryfikacji : **N**

Przeprowadzone porównania:

Nazwa KW	Nazwa EGIB	Wartość KW	Wartość EGIB	Wynik weryfikacji
Podkreślenie i oznaczenie działki				
Działka ewid.				
Oznaczenie				
Numer obrotu				
Numer działki				
Oznaczenie księgi wieczystej				
Oznaczenie księgi wieczystej				
Sposób wyliczenia działki				
Sposób liczenia				
Porównanie danych właścicieli i władających działką				

Porównanie danych właścicieli i władających działką - szczegóły

Właściciel/Władający 1 (zidentyfikowano = tak, wynik weryfikacji = Z) - przeprowadzone porównania:

Nazwa KW	Nazwa EGIB	Wartość KW	Wartość EGIB	Wynik weryfikacji
Dane identyfikacyjne				
NAZWA	Nazwa	SKARB PAŃSTWA	Skarb Państwa	Z

Strona: 1

20-02-2004 12:58

Odpsis zupełny z księgi wieczystej, stan z dnia 20-02-2004 12:58

OZNACZENIE KSIĘGI WIECZYSTEJ

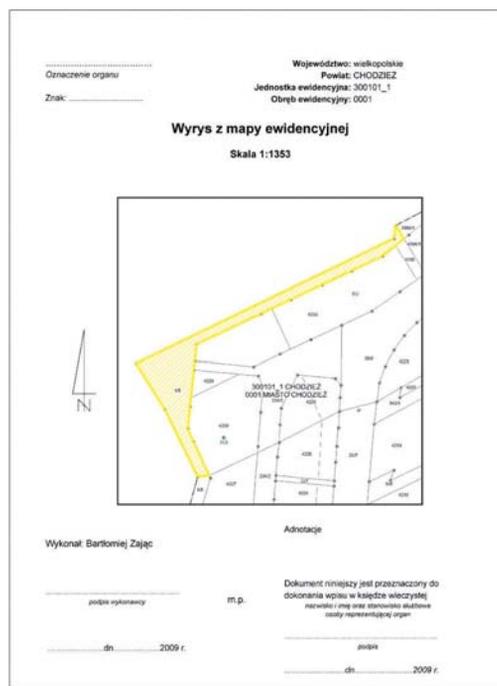
Numer i nazwa pola	Zmi.	Treść pola
Rubryka 0.1 - Informacje podstawowe		
1. Numer księgi		KA1Y/0000451/9
2.		Oznaczenie wydziału
		A: nazwa sądu
		B: siedziba sądu
		C: kod wydziału
		D: numer wydziału
		E: nazwa wydziału
3. Typ księgi	1.	WYDZIAŁ KSIĄG WIECZYSTYCH NIERUCHOMOŚCI GRUNTOWA
Rubryka 0.2 - Dane o założeniu księgi wieczystej		
1. Stan w czasie założenia	1.	ZALOZENIE KSIĘGI WIECZYSTEJ DLA NIERUCHOMOŚCI, DLA KTÓREJ PROWADZONA BYŁA KSIĘGA WIECZYSTA GRUNTOWA
2. Chwila zapisania księgi		2003-10-14-11.14.22.825681
3. Chwila ujawnienia księgi		
4. Data założenia dotychczasowej księgi wieczystej	1.	1952-08-13
Rubryka 0.3 - Dane o zamknięciu księgi wieczystej		
1. Chwila zamknięcia księgi	1.	
2. Podstawa zamknięcia księgi	1.	
Rubryka 0.4 - Podstawa zmiany		
Brak wpisu		
DZIAŁ I-O - "OZNACZENIE NIERUCHOMOŚCI"		
Rubryka 1.1 - Wzmianki w dziale I-O		
Brak wpisu		

Strona 1 / 8

IPE extract of the land and buildings registry

<p style="text-align: center;"><i>Zawiadomienie o zmianach w danych ewidencji gruntów i budynków</i></p> <p style="text-align: center;">..... dn. 200... r.</p> <p style="text-align: center;">ZAWIADOMIENIE o zmianach w danych ewidencji gruntów i budynków</p> <p>Zgodnie z § 49 rozporządzenia Ministra Rozwoju Regionalnego i Budownictwa z 29.03.2001 roku w sprawie ewidencji gruntów (Dz. U. nr 38 poz. 454)</p> <p style="text-align: center;">zawiadamiam</p> <p>ze w ewidencji gruntów i budynków obrębu 246201_1.0002, w jednostce ewidencyjnej 246201_1 wprowadzone zostały zmiany dotyczące</p> <ol style="list-style-type: none"> 1) danych ewidencyjnych podmiotów ewidencyjnych: podmiotów ewidencyjnych*, osób*, jednostek organizacyjnych, jednostek organizacyjnych*, organizmów: roślin*, 2) danych ewidencyjnych: działek*, 3) danych ewidencyjnych i opisowych budynków*, 4) danych ewidencyjnych i opisowych lokali*. <p>przedstawione w załączniku nr 1 do niniejszego zawiadomienia.</p> <p>Podstawę dokonanych zmian stanowiły:</p> <p style="text-align: center;">.....</p> <p style="text-align: center;"><i>(oznaczenie dokumentu stanowiącego podstawę do zmiany; data wprowadzenia zmiany)</i></p> <p>Oznaczenia jednostek rejestrowych oraz pozycji kartotek, w których nastąpiły zmiany:</p> <ol style="list-style-type: none"> 1) Nr jednostki rejestrowej gruntów - G782, <p>* niepotrzebne skreślić</p>	<p style="text-align: right;">Województwo: WOJ. ŚLĄSKIE Powiat: Powiat m. Bytom Gmina: M. Bytom Jednostka ewidencyjna: M. Bytom Obręb: 246201_1.0002</p> <p>..... (Nazwa organu wydającego dokument)</p> <p>Nr kancelaryjny:</p> <p style="text-align: center;">WYPIS Z REJESTRU GRUNTÓW</p> <p>Nr jednostki rejestrowej: G782</p> <p>Właściciel: Skarb Państwa, udział : 1/1 Siedziba: Bytom Zarządca: Bytomska Spółka Węglowa - Spółka Akcyjna, udział : 1/1 Siedziba: Bytom, ul. Strzelców Bytomskich 207</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Id. działki</th> <th rowspan="2">Numer działki</th> <th rowspan="2">Bliższe określenie położenia</th> <th rowspan="2">Opis użytków</th> <th rowspan="2">Cm. użytków i kod klasyfik.</th> <th colspan="2">Powierzchnia</th> <th rowspan="2">Nr księgi wieczystej (miej.)</th> </tr> <tr> <th>użytków w ha</th> <th>działki w ha</th> </tr> </thead> <tbody> <tr> <td>246201_1.001 02_AR_85.48 1/6</td> <td>481/6</td> <td>ul. ul. Wallon</td> <td>Użytki rolne - Użytki rolne zabudowane Grunty zabudowane i zurbanizowane - Tereny mieszkalne</td> <td>B</td> <td>0,0563</td> <td>0,0563</td> <td>451</td> </tr> <tr> <td colspan="5">Wartości: - (+)</td> <td colspan="2">Razem:</td> <td></td> </tr> <tr> <td colspan="5"></td> <td></td> <td>0,0563</td> <td>0,0563</td> </tr> </tbody> </table> <p>Słownie: pięćset sześćdziesiąt trzy m kw</p>	Id. działki	Numer działki	Bliższe określenie położenia	Opis użytków	Cm. użytków i kod klasyfik.	Powierzchnia		Nr księgi wieczystej (miej.)	użytków w ha	działki w ha	246201_1.001 02_AR_85.48 1/6	481/6	ul. ul. Wallon	Użytki rolne - Użytki rolne zabudowane Grunty zabudowane i zurbanizowane - Tereny mieszkalne	B	0,0563	0,0563	451	Wartości: - (+)					Razem:									0,0563	0,0563
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IPE electronic extract of the cadastral map



3.2 GEOPORTAL.GOV.PL

Project GEOPORTAL.GOV.PL creates an infrastructure of nodes of National Spatial Data Infrastructure, cooperating together and providing services - from searching, through giving access, to analysing data. Geoportal is an Internet based portal harmonious with regulations of EC Directive INSPIRE, playing a role of broker, allowing its users to access demanded geospatial information where a key role is assigned to cadastral data.

One of the crucial requirements of the developed solution is to ensure interoperability in a meaning of ability for cooperation of nodes regardless to the system, hardware or software platform used, assuming that implementation of the nodes of infrastructure was unanimous with international (ISO, OGC) and national standards (PKN).

GEOPORTAL.GOV.PL provides:

- sozological maps prepared in 1:50 000 scale,
- hydrographical maps prepared in 1:50 000 scale,
- raster topographical maps prepared in scales: 1:10 000; 1:25 000; 1:50 000; 1:100 000,
- data on borders of the state territorial division units,
- data of the state register of geographical names.

The nodes of National Spatial Data Infrastructure (KIIP) operate on the three levels: central, provincial (voivodeship) and district. The databases of the register of lands and buildings (cadastral data) are placed in the districts, while the warehouses of the topographical data are stored on the provincial level. Physically cadastral data is maintained at the database while applications are supported by application servers. Access procedures to the cadastral data are realized by dedicated applications. Data transmission network is composed of local LAN networks connected to a nationwide WAN network.

GEOPORTAL.GOV.PL enables access to geospatial information in the form of redirecting or indication to the outer data (any spatial data services registered in the system) and also be able to act as the data access point that indicates the source of the data (so called "one stop").

Currently completed GEOPORTAL.GOV.PL project will be continued and further developed in following phase called GEOPORTAL 2 focusing on extension of National Spatial Data Infrastructure.

This infrastructure will be a part of the wider European Spatial Data Infrastructure by meeting requirements of EC Directive INSPIRE and basing on fully digitalised documents, materials and data contained in the Polish National Geodetic and Cartographic Resource.

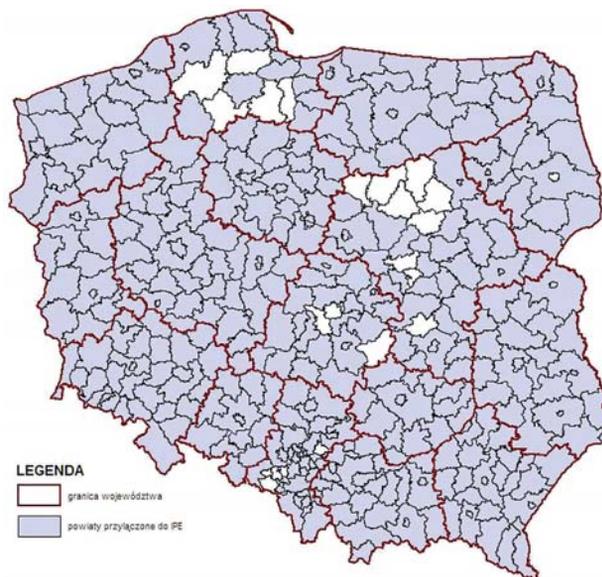
It is anticipated that the GEOPORTAL 2 project will extend the current functionality to include among other issues:

The key features of geoportal are:

- on-line services of accessing cadastral data, geospatial elaborations and data, aerial and satellite orthophotomap elaborations and photographs and cadastral information;
- creating and implementing the Internet Geoportal gov.pl portal giving paid access to the above offered services through internet and a website;

- creating and implementing a Central Data Repository (CDR) constituting a comprehensive archive of spatial data;
- implementing new systems of land and buildings registers and reconstructing and updating existing systems in county centres;
- introducing county units to the Integrating Electronic Platform by the IEP-ZK feed and communication system of the IEP – draw 4;
- converting the geospatial data held by Province and Main Geodetic and Cartographic Documentation Centres and also verification of data sent through IEP-ZK;
- sharing of data selling capabilities in the electronic or paper form in the transactional mode with the use of the Electronic Charging System;
- support for spatial queries (e.g. query for the closest hospital);
- possibility to include in the systems spatial data files and services provided by third parties;
- geospatial address localization service;
- access to the geodetic network database.

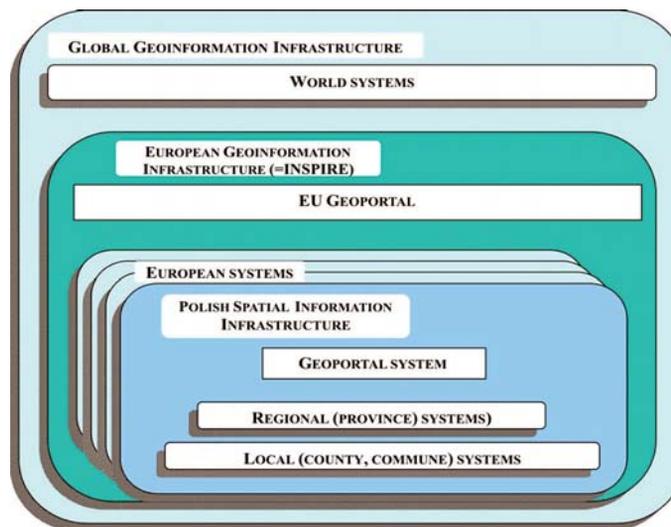
County units, which are to introduce the Integrating Electronic Platform system within the “GEOPORTAL.GOV.PL” project



GEOPORTAL is becoming an electronic access point to the national geodetic and cartographic resources.

Following schema displays the position of the Geoportal system as a system situated among the “uppermost hierarchy” of the Polish Spatial Information Infrastructure, accessing this infrastructure’s services in the European Union’s geoportal (EU Geoportal).

Spatial Information Infrastructure



4 UPDATING PROCEDURES

4.1 Existing types

Chief district officials are by law obliged to keep the real estate register updated. The obligations with this regard are as follow:

1. Entering changes to cadastral documentation promptly i.e. without unnecessary delay.
2. Demanding from the engaged persons documents which constitute the basis for change in cadastral data.

3. Collecting and keeping notifications on changes together with source documents for changes.
4. Mandatory notifying Divisions of Land Books of a proper courts of justice in case of changes on designations of real properties in land books.
5. Mandatory notifying tax organs responsible for agricultural tax, forest tax and real estate tax in case of changes which influence assessment and collection of these taxes.
6. Mandatory notifying public statistics organs in case of changes in address of real estate, construction or diminution of buildings.
7. Mandatory notifying owners and possessors (who applied for changes) on changes in cadastral data.

Real estate owners are obliged to:

- Notify a proper county chief official on all changes of cadastral data,
- Comply with a term for notification of a change – 30 days from the date when the change occurred,
- Deliver documents from which changes stem out on request of a county chief official.

There are no sanctions both on county chief officials and on owners and possessors for not meeting their obligations as regards updating of the cadastral documentation.

According to the Decree of the Minister of Regional Development and Construction dated 29 March 2001 on Land and Building Register updating of cadastral documentation is performed on entry of documented changes in cadastral data base.

For updating the following are used:

1. materials and information collected in State geodetic and cartographic resources,
2. results of photogrammetric surveys,
3. results of field surveys,
4. data included in other registers, which are conducted on the basis of separate regulations by: courts, authorities of public administration and governmental and self-governmental organizational units,
5. data included in documents made available by interested persons, authorities and organizational units,
6. data included in architectural and building documentation collected and keeping by authorities of public administration,
7. results of inspections.

4.2 Organizations and persons involved (also involvement of the private sector)

According to Art. 23 of the Geodetic and Cartographic Law the appropriate bodies, courts and law and public notary offices will deliver to the chief district official of legally valid decisions, rulings and copies of authenticated notarial deeds which give evidence of changes in data comprised in the register of land and buildings, within 30 days from the date on which the decision, ruling or the draft of a notarial act (deeds) becomes binding.

Geodetic documentation necessary for updating the real estate register (real estate cadastre) is gathered in the national geodetic and cartographic resources as a result of duties arising from art. 12 of the Geodetic and Cartographic Law realization by executors of geodetic and cartographic works.

Sources of data necessary for updating the real estate register (real estate cadastre) are also public registers, such as:

- electronic land and mortgage register (land books),
- common electronic register of natural persons (PESEL),
- state register of the national economy entities (REGON),
- State register of boundaries and areas of the State territorial division units (PRG),
- national official register of the country's territorial division (TERYT),
- national register of geographical names.

Data included in land and building register are subject to updating **ex officio** or on request of interested persons, authorities and organizational units. Changes entered ex officio result from:

1. legal decisions of the court, notarial acts, final administrative decisions, normative acts;
2. geodetic and cartographic elaborations, including lists of cadastral data changes and approved in the State geodetic and cartographic resources;
3. architectural and building documentation collected and keeping by authorities of public administration;
4. public registers conducted on the basis of other regulations.

According to regulations in force updating of cadastral documentation can be performed by way

No	Type of data	Source of data
1	Spatial and descriptive data of cadastral parcels' boundaries, cadastral complexes and cadastral sections.	Geodetic elaborations, in particular of: establishing and updating of real estate register, subdivision of real estate, delimitation of real estate, renewal and determination boundary points, land consolidation, and connected with them administrative decisions and decisions of the court
2	Spatial and descriptive data of State boundaries	State register of boundaries and areas of the State territorial division units
3	Descriptive data of regions', districts' and municipalities' boundaries.	State register of boundaries and areas of the State territorial division units
4	Spatial and descriptive data of land uses	Geodetic elaborations, digital orthophotomap, vector data LPIS and appropriate normative act of ecological uses, forest management plans and simplified forest management plans
5	Spatial and descriptive data of soil quality contours	Documentation and decision of soil valuation classes
6	Spatial and descriptive data of buildings	Geodetic inventory of building objects, digital orthophotomap, building documentation
7	Data of property rights and shares in ownership and possession	Notifications on new entries to land and mortgage register, notarial acts, decisions of the court, administrative decisions, instructions included in normative acts
8	Data of natural persons	Notifications on new entries to land and mortgage register, notarial acts, decisions of the court, administrative decisions and common electronic register of natural persons (PESEL)
9	Data of legal entities and organizational units	on new entries to land and mortgage register, notarial acts, decisions of the court, administrative decisions and state register of the national economy entities (REGON).
10	Descriptive data of premises	Inventory documentation and appropriate certifications of chief province official delivered by interested persons, notarial acts, on new entries to land and mortgage register.
11	Official names of cities and names of streets as well as code designations of State territorial division units	List of official names of cities, o which is mentioned in the Act dated 29 August 2003 on official names of cities and physiographic objects, national official register of the country's territorial division (TERYT)
12	Data of statistical areas and census districts	national official register of the country's territorial division (TERYT)
13	Data on entries to register of monuments	Decisions of regional heritage conservator,
14	Real estates' address numbers	Register of address numbers of real estate conducted in municipality
15	Cadastral value	Real Estate Mass Appraisal System (was not conducted until now)

of material and technical activities or, if there are circumstances described in § 47 clause 3²⁾ of the decree, by way of administrative decision.

The chief district official updates cadastral elaboration also within a framework of:

- modernization of land and building register,
- periodical cadastral data verification.

4.3 Processes' automation

Article § 3 of the Decree of the Minister of Regional Development and Construction dated 29 March 2001 on the Land and Building Register constitutes that the land and building register is maintained in IT system, which is based on computer cadastral data bases. The process of converting the descriptive part of the land and building register into numerical form was finished in 2004. According to the cadastral maps the process still goes on. It is assumed that the process will be finished in 2010.

Simultaneously actions aiming at standardization of cadastral databases kept in counties and municipalities are taken, and at automation of updating. The Exchange Cadastral Data Standard (SWDE), which has been ratified by the Decree of the Minister of Regional Development, fulfills a special role in these actions and Construction dated 29 March 2001 on the Land and Building Register.

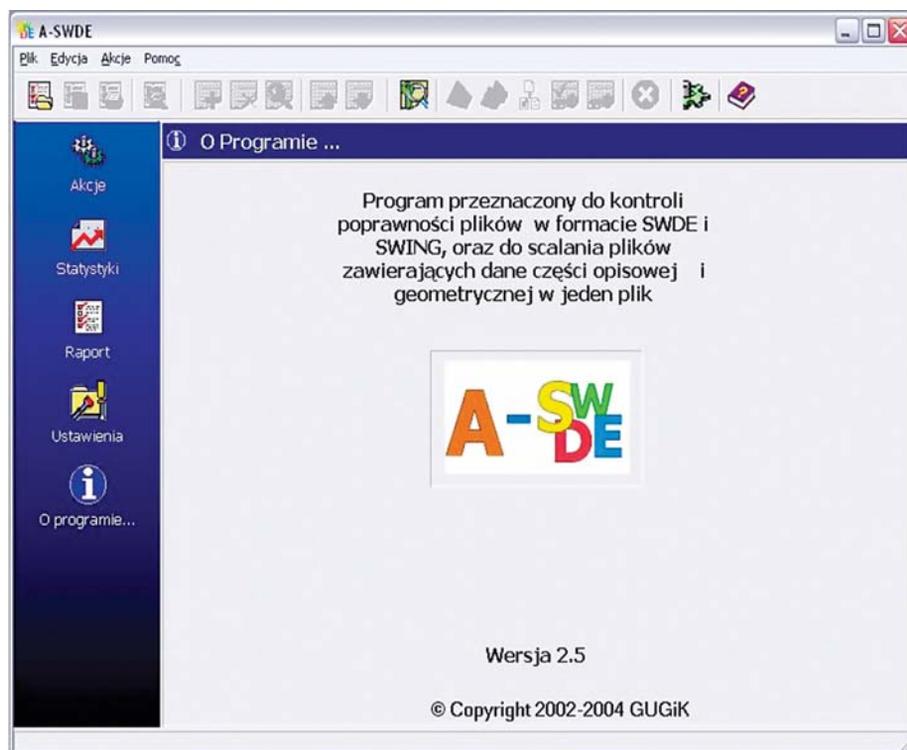
Actions aiming at standardization of cadastral data bases, and as a result enabling automation of updating processes, are supported with following software programs: A-SWDE, V-SWDE, SWDE_konwertor 2000, O-SWDE, SWDE_TOPO, LPIS-SWDE.

The software program A-SWDE enables:

1. verification of syntactic and semantic correctness of SWDE data files,
2. SWDE data file authorization,
3. integration of files with descriptive data with files which contain geometrical data.

2) § 47.3. In case when updating of cadastral documentation requires clarifications from the involved parties or obtaining of additional proofs, a county chief official conducts an administrative proceeding on this updating or applies the article 22 clause 3 of the Act.

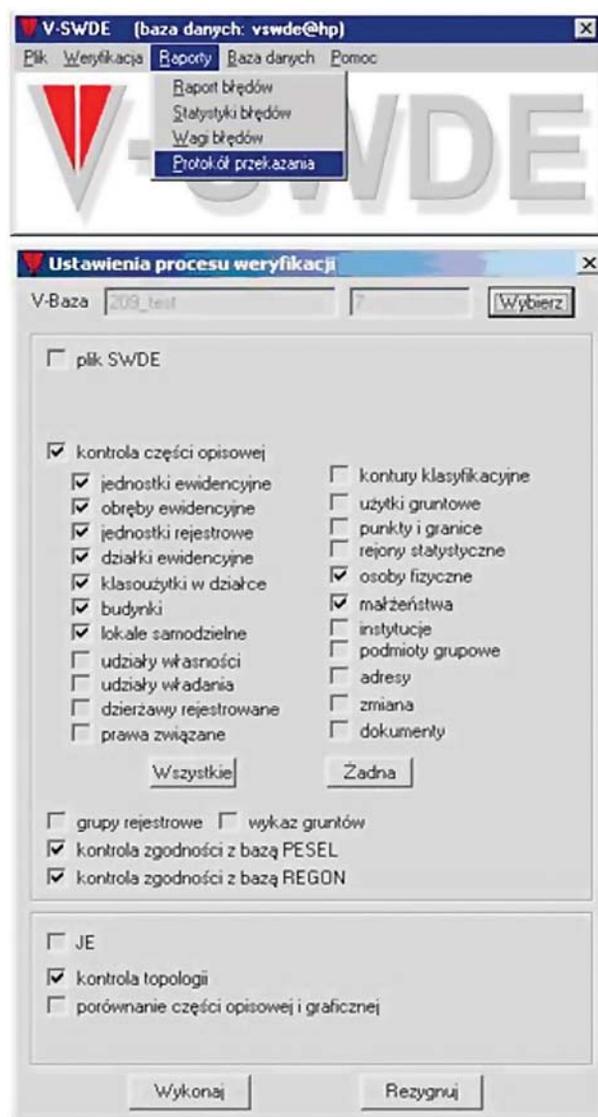
Main screen of the application for verification of SWDE



The software program V-SWDE enables in particular verification of:

1. correctness of data base objects' identifiers,
2. conformity of attributes contained in cadastral data base with allowed values defined in Appendix 4 to the Decree on land and building register,
3. correctness of relations between database objects,
4. topological correctness of geometrical objects,
5. conformity of descriptive data with geometrical data where separate databases are kept for the descriptive and geometrical parts.

Main screen of the application for verification of SWDE



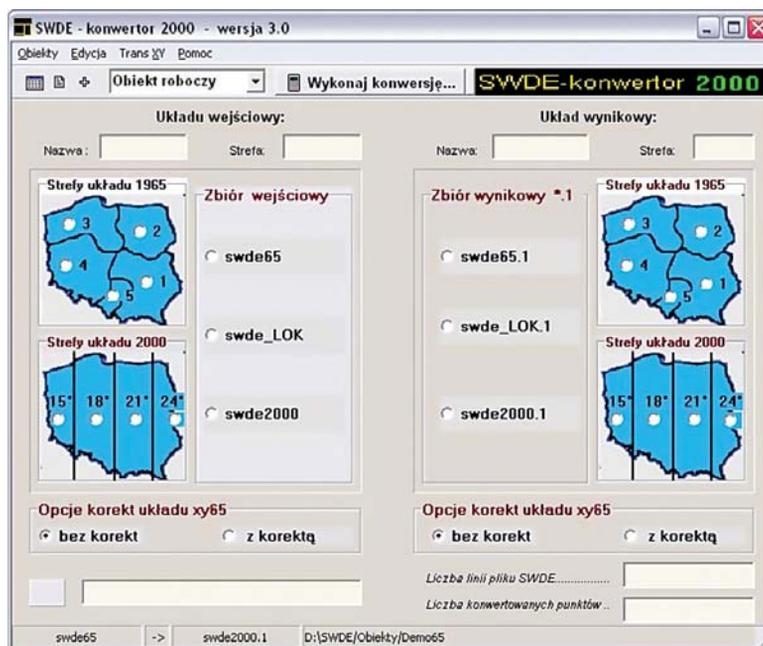
Software program SWDE_konwerter 2000 enables conversion of geometric data file in SWDE format from the coordinate system “1965” and local coordinate systems to the binding coordinate system “2000”, which was implemented by virtue of the Decree of the Council of Ministers, dated 8 August on State Coordinate System (Journal of Laws No. 70 position 821).

Software program O-SWDE enables filtering of SWDE data files according to needs of users.

Software program LPIS-SWDE enables among others verification and updating of cadastral data in SWDE format on the basis of:

- data on eligible areas in XML format obtained from the Land Parcel Identification System kept by the Agency for Restructuring and Modernization of Agriculture,
- digital orthophotomap.

Main green of the SWDE_konwerter_2000



5 PROVIDED SERVICES

According to § 51, clause 1 of the decree of the Minister of Regional Development and Construction dated 29 March 2001 on the Land and Building Register chief county officials distribute cadastral data in following forms:

1. computer printout cadastral map, register, directories, lists, specifications and indexes, mentioned in § 22-32;
2. extracts from registers and directories;
3. copies from cadastral map;
4. computer files;
5. information conveying orally and visually.

The basic way of distribution of cadastral data is personal contact of interested persons with authority responsible for running land and building register.

In many cases, on initiative of local or regional self-government's authorities, Internet portals, enabling dedicated and, in some scope, also public access for cadastral data, are established.

It is assumed that in 2009-2010, in mentioned scope there will be system solutions implemented covering whole country. These solutions are based on provisions of the Act on Spatial Data Infrastructure, which is a transposition of the Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (Official Journal of UE No 108, dated 25.4.2007, page 1) to Polish legal system, and on executive regulations of the Directive, accepted by the European Union authorities.

Project of the Act on Spatial Information Infrastructure is currently subject of legislative actions.

Regulations of the Geodetic and Cartographic Law constitute that information, as well as extracts and copies from the register documentation are issued against payment. However there are many exceptions from this rule, connected with public entities and arising from both regulations of the Geodetic and Cartographic Law and other acts.

6 LINKS BETWEEN LAND AND BUILDING REGISTER AND LAND AND MORTGAGE REGISTER

Public register close related to Land and Building Register is Land and Mortgage Register (land books)

maintained on the basis of the act dated 6 July 1982 on Land and Mortgage Register (Journal of Laws of 2001 No. 124, pos. 1361 with further amendments). 'The purpose for running the land and mortgage register is to define a legal status of property' (art. 1 clause 1 of the Act).

Both registers - land and building register and land and mortgage register, are two independent real estate data sets. Data collected in the registers partly coincide and partly not.

Land and building register contains full information of lands, buildings and premises, and limited information of real estate's legal status. On the other hand, land and mortgage register contains real estate's full legal status and limited information of real estate's designation.

Land and mortgage register is maintained by local courts of justice (the land book divisions) in accordance with the location of real estate. Currently 350 divisions run the land and mortgage register. It is estimated that about 60% of real estate is registered in land books.

Land books are open to public therefore no one can plead ignorance of entries in land book.

It is alleged that open right written in a land book is entered in accordance with actual legal status (art. 3, clause 1).

Entries in land books on rights for real estate are under **public faith warranty of land books** – in case of discrepancy between legal status shown in land book and actual legal status, content of a land book decides in favour of person, who purchased through legal activity ownership or other real right from the person entitled according to the land book.

According to art 26 clause 1 of above mentioned act the basis of **real estate designation** in the land book is **cadastral data**.

Since 2003 on the basis of the Act dated 14 February 2003 on Migration of Land Book Contents to the Structure of Land and Mortgage Register kept in IT system (Journal of Laws No. 42, pos. 363 with further amendments) the project of land book computerisation is realized. In most land books courts new land books are established and conducted at once in electronic form. The content of existing land books, conducted previously in written form, is transferred to electronic form (to the NKW system) by way of so called migration, which takes place in special migration centres. It is assumed that this process will be finished in 2010.

The contents of land books included in the NKW system is collected in **Land and Mortgage Register Central Database**, localized in the Main Centre of Data Processing of Ministry of Justice.

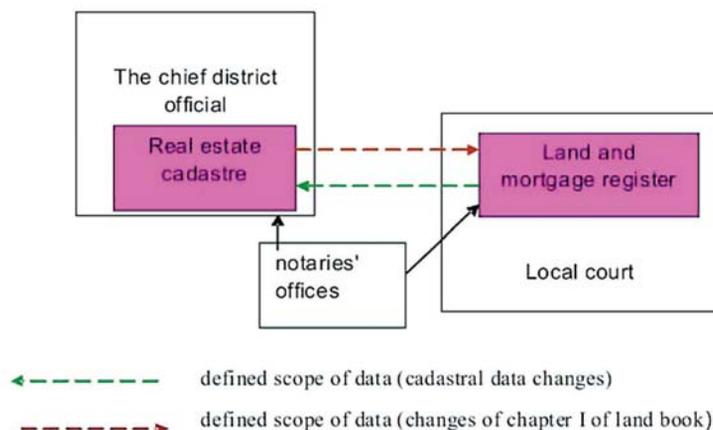
Cadastral data have reference character for real estate designations in chapter I of land book, and entries in chapter II of land book related to real estate's owner are binding for authority running real estate cadastre.

Guaranteed by legal regulations mutual data exchange between two basic public real estate registers in Poland has been legally initiated since 1983 (entering the act on land book and mortgage into force). Currently the data exchange exists and is realized according to legal regulations. However nearly fifty years of autonomous functioning of these public registers do not allow to talk about the full consistency of common data.

Land book structure – table below

ORGANIZATIONAL STRUCTURE OF LAND BOOK			
DIVISION	CHAPTERS	ENTRIES ON:	CHARACTERISTICS OF ENTRY
I	I-O	REAL ESTATE DESIGNATION	Entries on real estate geodetic designation based on data from land and building register
	I-Sp	LIST OF RIGHTS CONNECTED WITH OWNERSHIP	Entries of rights connected with real estate ownership
II		OWNERSHIPS AND PERPETUAL USUFRUCT	Entries on real estate ownership and perpetual usufruct
III		RIGHTS, CLAIMS, ENCUMBRANCES AND RESTRICTIONS	Entries of restricted real rights as regards all encumbrances on real estate or perpetual usufruct, except for mortgages, Entries of restrictions in possession of real estate or perpetual usufruct Entries of personal rights and claims except claims on mortgage
IV		MORTGAGE	Entries on mortgages and claims on them

General scheme of mutual data exchange between real estate cadastre and Land and mortgage register



7 LINKS BETWEEN CADASTRE AND REAL ESTATE EVALUATION SYSTEM/REAL ESTATE TAXES

Article 7 of the Act of 12 January 1991 on Local Taxes and Fees constitutes that the tax organs maintain the real estate tax register in an IT system for needs of assessment and collection of real estate tax, agricultural and forest tax.

The real estate tax register includes data on taxpayers and objects of taxation, which come particularly from information and declarations submitted by taxpayers on the basis of the Act and regulations on agricultural and forest tax, data contained in the land books, real estate cadastre and other records and registers including these which are maintained by the public administration.

Real estate in Poland, depending on their types, are taxed with: real estate tax, agriculture tax or forest tax, with exclusion of:

- real properties owned by other countries or international organizations or conveyed in perpetual leasehold, designated for residences of diplomatic representations, consular offices and other missions which enjoy privileges and immunities by virtue of Acts, agreements and international customs, under the condition of mutuality,

- lands under flowing waters and navigable channels, excluding lakes and land under water retention basins or water power stations,
- real properties or their parts occupied for needs of units of territorial self-governmental bodies including municipalities, county offices and marshal offices,
- land under roadways of public roads in sense of regulations on public roads and under structures – excluding structures connected with business activities other than exploiting of payable highways.

According to the art. 2 clause 1 of the act dated 12 January 1991 on local taxes and fees (Journal of Laws of 2006 No 121, pos. 844 with further amendments), the following real estates or space structures are subject to property tax:

- grounds,
- buildings or its parts,
- space structures connected with running an economic activity.

The taxable base for real estate tax is:

- for lands – area of land,
- for buildings or their parts – area of usable space of building,
- for structures or their parts used for running business activities - value which is defined in the regulations relating to income taxes assessed for the 1st of January of the tax year.

Agricultural land are taxed with the agricultural tax.

According the article 1 of the Act of 15 November 1984 the lands, which are registered in real estate cadastre as agricultural land use, or wooded lands and lands under bushes excluding lands occupied for running business activities other than agriculture.

The taxable base for agricultural tax, according to the article 4 clause of the aforementioned Act, is constituted:

1. for lands of farms – number of weighted hectares determined on the basis of the area, types and classes of land uses taken from the real estate cadastre and on the basis for rating to a taxation district,
2. for other land – number of hectares taken from the real estate cadastre.

According to the article 1 clause 1 of the Act of 30 October 2002 on Forest Tax (Journal of Laws No. 200 position 1682 with further amendments) the forests defined in the Act are taxed with the forest tax except forests designated for the other activities than forest activities. The forests in sense of the Act are adopted from the real estate cadastre (Article 1 clause 2).

The taxable base for forest tax is the area of forest in hectares stemming from real estate cadastre (article 3).

The aforementioned regulations prove that the data contained in real estate cadastre are:

1. the basic criterion for determining the way of taxation for land (real estate tax, agricultural tax or forest tax),
2. basis for taxation.

Real estate mass appraisal, which will result in determination of cadastral value for real estate has not been conducted. The rules of mass appraisal are defined in the Act of 21 August 1997 on Real Estate Management (Journal of Laws of 2004 no. 261 position 2603 with further amendments). The commencement of works with regard to conducting mass appraisal depends on issuing a proper separate Act.

8 PRINCIPLES OF REALIZATION OF OTHER GOALS WITHIN THE FORMULA OF MULTITASK REGISTER OF LANDS AND BUILDINGS

8.1 Information from the lands and buildings register, utilisation for planning and spatial management:

Information contained in the register databases are used by the municipalities for the means of shaping and maintaining of their spatial Policy, including:

- a) Preparing and enacting of studies on determination and directions of local spatial development,
- b) Drawing up and enacting of local spatial development plans,
- c) Determining local methods and conditions of construction development and building by an administrative decision (whenever local plan of construction development was not adopted).

Local plan, in absence of the base map, is being prepared by using register maps in scales of 1:1000, 1:2000 and in rare cases 1:5000. Registry data described in the registry of lands and buildings are used for editing of a text part of the local plan.

THE CADASTRAL SYSTEM IN SLOVENIA



www.gu.gov.si/en

February 2009

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1 INTRODUCTION

1.1 History and purposes of the cadastre

The official dictionary of the Slovenian language defines cadastre as the official inventory of the land in a particular area in terms of its shape, extent, quality and ownership. Essentially, it is an inventory of land implemented by the state in order to obtain criteria for determining a common tax assessment, i.e. land tax.

With respect to their origin three main types of cadastre arose in the territory of the present day Slovenia in the period between the mid-18th century to the first half of the 19th century. They are named after the Austrian emperors and empresses. They are the Theresian, Josephine and Franciscan cadastres.

Theresian cadastre was primarily characterized by the fact that the land was not surveyed, but rather its value was merely estimated. In 1747 Maria Theresia issued a patent which created an inventory of land in terms of the type of ownership, differentiating between the noble or dominical and peasant or rustic holdings.

Josephine cadastre was created approximately 30 years later. Its main characteristic was that the land was surveyed using the prescribed surveying tools (a wooden surveyor's rod, a surveyor's chain, two wooden stakes and 6 to 8 wooden poles). The Josephine cadastre was the first one to determine and mark the municipal boundaries, the newly determined place names and the added field names. The land yield estimate was implemented using uniform criteria with respect to the land fertility.

The patent by the emperor Franz Joseph I on 23 December 1817 played a key role in introducing a stable cadastre in Austrian lands. The land survey was based on the latest surveying achievements. The surveys done with surveyor's tools (a surveyor's table, a diometer with a ruler, a plumb bob, a level, a field compass, a set of pairs of compasses, a linked chain, marking flags and targets) were performed by trained surveyors. All measurements had to be linked to the mathematically and graphically determined points of the trigonometric network. In the territory of the modern-day Slovenia the graphic method surveys were implemented in the period between 1818 and 1827. The basis for the survey of our territory was provided by three coordinate systems. For the Styria region the point of origin was in Schöckel, for Carniola, Karinthia and the Littoral region the point of origin was on Krim and for the Prekmurje region the point of origin was on the Gellert hill.

The first land cadastre maps for the Slovenian territory were created mainly at a scale of 1:2,880. As they were not updated, in time they became outdated. The revision, carried out between 1865 and 1882,

systematically discovered all the discrepancies between the situation on the map and in the field.

Necessary surveys were carried out and cadastral maps updated and re-printed. Since 1883 the Land Cadastre, representing the technical section, and Land Registry, representing the legal section, have been regularly updated. The cadastral maps created on the basis of this survey are still in use for the majority of Slovenia.

The attribute part of the Land Cadastre started being administered in digital form in different coordinate systems in 1979, while the uniform administration for the entire country started in 1988. The first topologically accurate digital maps were created in 1991 when the modernization and updating of the Land Cadastre began. It comprised:

- the adoption of the uniform standards for attribute and graphic data,
- data geolocation,
- adoption of uniform standards for administering, updating and issuing data,
- determination of the quality of individual types of data,
- linkage to other registers.

The project took place between 1991 and 2002. It was implemented in several phases – from the preparation of data, data acquisition (scanning and vectorisation) and elimination of discrepancies after the acquisition, to the transformation and the adjustment of the boundaries of the acquisition areas.

Concurrently, new survey methods appeared. They were implemented by the Surveying and Mapping Authority of the Republic of Slovenia through implementers selected through public tenders. The surveys were co-financed by local communities. Since 2006 we have stopped implementing surveys of such scope as they are not financially feasible. We are, however, searching for other methods of improving the positional accuracy of the graphic part of the Land Cadastre.

The Surveying and Mapping Authority of the Republic of Slovenia has been striving for some time to establish a quality record of the building and parts of buildings data (apartments, business premises, etc.). Using the aerial survey data, the 2000-2002 real estate registration modernization project produced digital data of the outlines and positions of all the buildings in the country. All the buildings were designated with identification numbers, the buildings were linked to parcels and house numbers, if the latter were designated. In this manner one of the prerequisites for the linking of land and building (parts of buildings) data into a real property, as stipulated by the Law of Property Code, was fulfilled.

In the continuation of the same project thus acquired buildings were amended with the attribute data on the buildings and parts of buildings using existing records. The data used were obtained from the Land Cadastre, the Register of Spatial Units, the data for determining the ground rent, the Central Population Register, the Business Register, the infrastructural cadastres and the data from the major property administrators. The quality of the thus acquired data depends on the sources used in the establishment of the record, which resulted in varied data qualities. An important result of this project was the first identification of all the buildings and parts of buildings in the Republic of Slovenia – 1.2 million buildings and 1.6 million parts of buildings.

In its transitional provisions the Real Property Registration Act – ZEN (Official Gazette of RS, No. 47/2006, 65/2007 – decision of the Constitutional Court) stipulates the disclosure of the data for the registration of data on buildings and parts of buildings into the Real Estate Register and the Building Cadastre as well as for the registration of apartment numbers into the Population Register. For the sake of clarity and recognizability the project was named the Real Property Census.

The primary motivation for the Census was to review the existing data and obtain the missing data on buildings and parts of buildings in the Republic of Slovenia.

During the survey, whose implementation began on 1 December 2006 and lasted until 7 September 2007, 1,070,381 buildings and 1,517,386 parts of buildings were inventoried.

At the instigation of the Ministry of the Public Administration measures were adopted to ensure equal conditions for property registration for all owners who for various reasons were not contacted by the census implementers during the period of the disclosure. Active assistance for property registration was provided to all the owners until 21 December 2007. By 21 December 2007 an additional 102,389 parts of buildings were registered under the same conditions as in the Real Property Census.

Contemporaneously individual data registrations into the Building Cadastre were being implemented on the basis of the existing legislation. These registrations were implemented on the basis of the applications filed by clients.

In 1999 the Act Determining Special Conditions for Registering the Ownership of Individual Parts of Buildings with the Land Register - official consolidated text – ZPPLPS (Official Gazette of RS, No. 47/2003) was adopted on an expedited basis. It enabled a simplified registration of condominium ownership. Either the owners themselves or the surveying/planning companies produced studies for the registration of individual apartments into the Building Cadastre.

In 2000 the Recording of Real Estate, State Border and Spatial Units Act – ZENDMPE (Official Gazette of RS, No. 52/2000, 87/2002-SPZ, 47/2006 – ZEN) was adopted, which established the Building Cadastre as one of the fundamental real property records and defined the content and the procedures for the establishment, administration and updating of the Building Cadastre. In 2002 the first registrations into the Building Cadastre under ZENDMPE began to be implemented in practice as a consequence of the adoption of the Rules on Entries into the Building Cadastre (Official Gazette of RS, No. 15/2002). Thus registered data represented and still represent a prerequisite for the registration of ownership into the Land Register.

The Surveying and Mapping Authority acquired data from the Land Register about the buildings already entered in the Land Register under the old Land Register Act. The Authority transformed these data into the data for the Building Cadastre being created.

In 2006 the Real Property Registration Act – ZEN (Official Gazette of RS, No. 47/2006 and 65/2007 – Decision of the Constitutional Court) was adopted, which allows the registration of buildings into the Building Cadastre, the procedure for which is laid down in more detail by the Rules on Building Cadastre Registration (Official Gazette of RS, No. 22/2007). Under certain conditions the Real Property Registration Act also allows the registration of buildings into the Building Cadastre on the basis of the Real Property Census data. Currently all the registrations into the Building Cadastre are implemented in accordance with the Real Property Registration Act.

In the recent years, all individual registrations based on the client applications and representing quality data registration into the Building Cadastre have been implemented for multi-apartment objects. Family houses, business and business-residential objects as well as industrial objects have remained unreviewed. The reason lies in the fact that practice has revealed that it is the owners of buildings or parts of buildings who want to secure their title in the multi-apartment or business buildings where there are multiple owners of the building or its common parts, who are motivated to register their property. Before a property constructed for the market can be sold, it is required that it be registered into the Building Cadastre and the Land Register. A considerable portion of family houses and other buildings under the same ownership will be registered into the Building Cadastre on the basis of the Real Property Census. Registration into the Building Cadastre has received a boost also because we have linked the procedure of registering the land under a building into the Land Cadastre with the registration of that building into the Building Cadastre as well as with the designation of the house number and address for that building. In multi-apartment buildings the apartment number is a part of the address.

A registration of the permanent or temporary residence requires a prior designation of the apartment number, which is administered in the Building Cadastre. This also results in a prior registration in the Building Cadastre. Such uses and the linkage between building and parts of buildings registration and life events improve the quality and increase of the registration of buildings and parts of buildings.

1.2 Development of the institutional and organizational structure

The Surveying and Mapping Authority of the Republic of Slovenia is a body within the Ministry of Environment and Spatial Planning. The competence of the Surveying and Mapping Authority of the Republic of Slovenia comprises the duties of the national land survey service, which include the creation, administration and updating of databases pertaining to the basic geodetic system, registration of real estate, state border, spatial units and house numbers, and to the topographic and cartographic system.

The Land Survey Activities Act – ZgeoD (Official Gazette of RS, No. 8/2000, 110/2002 – ZGO-1 and 47/2006 –ZEN) defines land survey activities and lays down the conditions for implementing the service, defines the land survey service as a part of the land survey activities, which are implemented in the public interest, regulates the organization and implementation of the land survey service assignments, the issuing and use of geodetic data and supervision by inspection.

The Surveying and Mapping Authority of the Republic of Slovenia and the Supreme Court are involved in the Project to establish information cohesion between real estate records – the Land Cadastre, the Building Cadastre and the Land Register. The project has already produced a protocol for the exchange of data between these records. The protocol contains the list of procedures for individual records, identification markings, the method of data exchange, more detailed protocols and methods of data alteration, registration of data into the basic real property records and their harmonization.

1.3 Financial and organizational issues

The Surveying and Mapping Authority of the Republic of Slovenia comprises: the Main Office, the Real Property Office, the Mass Real Property Valuation Office, the Geodesy Office and the twelve Regional Surveying and Mapping Authorities. These have been set up to facilitate streamlined operation and the improvement of the accessibility of administrative and professional assignments and services implemented by the Surveying and Mapping Authority of the Republic of Slovenia.

The Offices, in cooperation with the Regional Surveying and Mapping Authorities, implement the following common assignments:

- prepare the national land survey service annual program and report on its implementation;
- organize the operations of the Regional Surveying and Mapping Authorities, monitor their work, and provide uniform implementation of the national land survey service duties;
- direct the implementation of developmental tasks pertaining to the surveying and mapping activities;
- draft regulations pertaining to the surveying and mapping activities;
- provide for the implementation of the international obligations of the national land survey service.

Main Office

The Main Office implements administrative, professional, technical and supervisory assignments in connection with the linking of the spatial databases, issuing certificates and data in analog and digital form, electronic data transactions, spatial data infrastructure, informatisation of the land survey service, administration of the information and telecommunication infrastructure, provision of the systemic support, application-related support and user support as well as IT education and training. The Main Office also implements assignments pertaining to providing assistance in dealing with legal matters of all the Offices and Regional Surveying and Mapping Authorities, to financial operations, public call for tenders, human resources, education and training, office operations, health and safety at work and other assignments important for the operation of the Surveying and Mapping Authority of the Republic of Slovenia.

Real Property Office

The Real Property Office implements administrative, professional, technical, coordinating and supervisory assignments in connection with the administration of the Land Cadastre, the Building Cadastre, the Real Property Register and other real property records, the administration of the National Border Record and the assignments pertaining to the marking, restoration and maintenance of the national border. The Real Property Office also implements the assignments of administering the Register of Spatial Units and the Record of House Numbers, it participates in an interagency capacity in the work of international committees and in other assignments and projects, it is responsible for the education and training of the Surveying and Mapping Authority employees and the employees of surveying companies which have the license to implement surveying services. It is also responsible for the implementation of special proficiency exams for implementing surveying services, it issues licenses for the implementation of surveying services, it administers the register of surveying companies which have the license to implement surveying

services. It is also responsible for the implementation of special proficiency exams for implementing surveying services, it issues licenses for the implementation of surveying services, it administers the register of surveying companies which have the license to implement surveying services and the register of persons who have completed the proficiency exam for implementing surveying services, and supervises their work. The Office is also tasked with the substantive running and coordination of the Regional Surveying and Mapping Authorities work pertaining to real property.

Mass Real Property Valuation Office

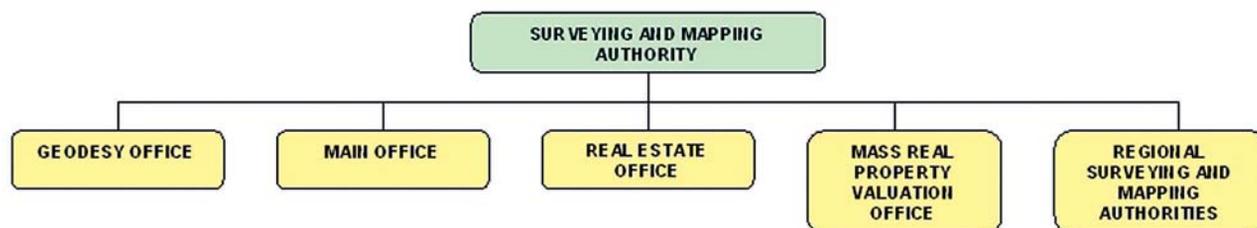
According to the Mass Real Property Valuation Act (Official Gazette of RS, No. 50/2006) the assignments of the mass real property valuation are implemented by the Mass Real Property Valuation Office, which is a part of the Surveying and Mapping Authority of the Republic of Slovenia. The Mass Real Property Valuation Office implements the assignments of general real estate valuation and value attribution assignments. The assignments pertaining to general valuation comprise the preparation of criteria for mass valuation of real properties, the preparation of the draft proposals, proposals and final proposals of valuation models, preparation of the Government draft regulations in the field of general real property valuation, determination of the annual real property price and value indexes, informing real property owners of the test calculations of the real property values, establishment, administration and updating of the real property valuation database, designation of the required knowledge on mass real property valuation, real property market research and analyses, preparation of statistical reports on real properties, real property market and real property values as well as other assignments pertaining to general valuation. The assignments pertaining to attributing value to real properties comprise value attribution to real properties, acquisition of data on real properties for the purpose of value attribution as well as the establishment, administration and updating of the Real Property Market Record.

Geodesy Office

The Geodesy Office is responsible for the fundamental geoinformation infrastructure by implementing administrative, professional, technical, coordinating, implemental and supervisory assignments pertaining to the national geodetic system and the data on the actual situation in physical space. The Office is responsible for the establishment and updating of the national coordinate system as well as for its accessibility through the system of permanent GPS stations and through other geodetic networks. It coordinates assignments in connection with the transition to the European coordinate system and it is responsible for the linking of the national coordinate system with the systems of the neighbouring countries. The Office implements assignments pertaining to the acquisition and administration of the national topographic data, it administers the topographic database and the Consolidated Cadastre of Public Infrastructure, it is responsible for the national cartographic system and it ensures the production

of the national topographic and cartographic products, especially for the state, government bodies and the local self-government. It ensures the conformity of the fundamental geoinformation infrastructure with the European guidelines and it coordinates the linking and conformity of other spatial data with them. It participates in European and international projects pertaining to these fields. The Geodesy Office coordinates the introduction of the European INSPIRE Directive at the Surveying and Mapping Authority of the Republic of Slovenia and it is responsible for the conformity of the infrastructure for access to the geodetic data with the European infrastructure.

Organization chart of the Surveying and Mapping Authority of the Republic of Slovenia



Regional Surveying and Mapping Authorities

- create, administer and update the Land Cadastre, the Building Cadastre, the Register of Spatial Units and other databases as provided by law, issue data from the Land Cadastre, the Building Cadastre and the Register of Spatial Units and other databases;
- implement administrative procedures and make first instance rulings in administrative matters for which they are competent;
- provide expert assistance to customers and information to the users;
- participate in the planning and programming of the land survey activities, primarily in cooperation with local communities;
- coordinate activities in the land survey offices;
- implement individual assignments in the area of financial operation, personnel matters, office operation and other organizational assignments;
- implement other assignments as stipulated by the Director General of the Surveying and Mapping Authority.

Finance

The Surveying and Mapping Authority of the Republic of Slovenia is financed mainly from the national budget, and to a lesser extent from income generated through implementation of its own activities.

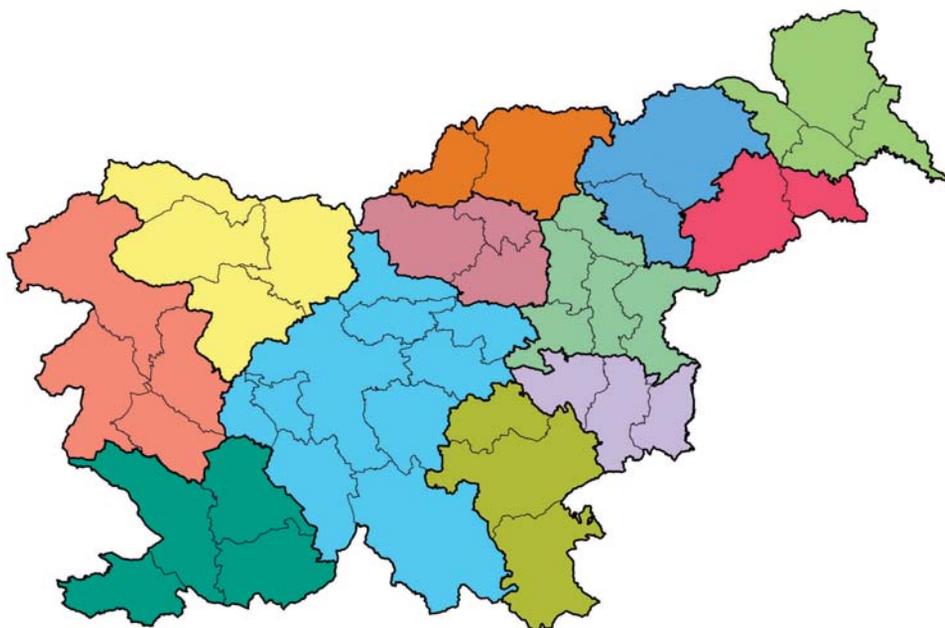
The extent of co-financing on the part of data users (local communities as co-financing parties) is relatively limited and does not play a deciding role in the realization of the planned surveying works. The program of land survey activities is adopted for a period of two years and it is subject to the approval of the Government of the Republic of Slovenia.

1.4 Decentralization, involvement of the private sector

In order to facilitate client access Regional Surveying and Mapping Authorities operate at their seats and at the land survey offices, a total of 46 locations.

Regional Surveying and Mapping Authorities implement assignments of receiving applications, informing the public, providing information to customers and implementing individual tasks in administrative procedures pertaining to direct contact with a customer at their head offices and all the other land survey offices.

Regional Surveying and Mapping Authorities and Land Survey Offices



Land survey services

Land survey services are provided by private entrepreneurs and enterprises fulfilling the requirements for implementing land survey services, as stipulated by the Land Survey Activities Act – ZgeoD (Official Gazette of RS, No. 8/2000, 110/2002 – ZGO-1 and 47/2006 – ZEN) and by the Real Property Registration Act – ZEN (Official Gazette of RS, No. 47/2006 and 65/2007 – Decision of the Constitutional Court) (hereinafter: surveying companies).

Land survey services pertaining to the registration of buildings and parts of buildings into the Building Cadastre can be also be implemented by the company preparing the project documentation in compliance with the Construction Act – ZGO-1(Official Gazette of RS, No. 102/2004 – official consolidated text, 92/2005 - ZJC-B, 93/2005 - ZVMS, 111/2005 – Decision of the Constitutional Court, 120/2006 - Decision of the Constitutional Court and 126/2007) (hereinafter: project designer).

Land survey services comprise: the implementation of the procedures for the preparation of studies and the production of studies pertaining to boundary settlement, new surveys, parcellation, land consolidation, boundary adjustment, determination of land under a building, production of studies for building registration, change of actual use of land, change of land rating, change of type of use, cultures and classes of land, boundary settlements between self-governing local communities, production of studies for registering buildings and parts of buildings into the Building Cadastre, production of studies for registering the change in data of Building Cadastre and the production of a technical report on boundary marking in the field as well as individual assignments pertaining to real property registration.

The preparation of a study from the previous paragraph also includes its alterations, amendments or corrections. The implementation of the procedures for the production of the study and the production of studies is not an integral part of the administrative procedure implemented by the Surveying and Mapping Authority.

For each land survey service the surveying company must appoint a responsible land surveyor fulfilling the conditions under the law governing the land survey activities and the project designer must appoint a responsible project designer who fulfils the conditions under the law governing construction.

The procedures for the production of studies for boundary settlements, new surveys, boundary adjustments, land consolidations and parcellations as well as studies for marking of the boundary in the field may be conducted only by a person to whom a geodetic card has been issued as stipulated by law governing the land survey activities (hereinafter: the land surveyor). Individual technical tasks within

these procedures may be implemented by another person in accordance with the instructions of the land surveyor.

The digital Land Cadastre data are administered and updated at the local databases; the changes are entered into the central system on a daily basis, where they can be accessed and from where certificates are issued about the data.

The digital data of the Building Cadastre are administered in the central system. The central server with all the data is in Ljubljana. Paper documents (studies and a collection of documents) are stored at the Regional Surveying and Mapping Authorities.

2 CONTENT OF THE CADASTRE

The basic records on land and buildings are the Land Cadastre and the Building Cadastre. They are linked with the Land Register.

The Surveying and Mapping Authority of the Republic of Slovenia administers the data on real properties in the Cadastres and in the Real Property Register. A real property is land with appurtenant buildings. In the Real Property Register a real property comprises a land parcel and the appurtenant buildings and parts of buildings, which are registered in both Cadastres.

The Land Cadastre is an official record of land properties. Land property is a land parcel. The basic unit of the Land Cadastre is a land parcel, which is an undivided land property, located within one cadastral area and registered in the Land Cadastre as a land parcel with its parcel number and its boundary.

The Building Cadastre is a record on buildings and parts of buildings.

A building is a structure one may enter and is designed for one's permanent or temporary residence, conducting a business or any other activity or providing a shelter and cannot be moved without damage to its substance.

A building has one or several parts. An individual part of a building is a space or several spaces in the buildings which can be independently legally managed. The common parts of the buildings are also registered into the Building Cadastre if they have been designated.

2.1 Cadastral maps

Cadastral maps

A digital land cadastral representation of land parcels was produced for the entire territory of the Republic of Slovenia. It is regularly updated and it shows the actual parcel situation.

The data are available to the users in standard formats (shp, dxf and ascii). There is an active online portal where graphic and attribute data can be accessed.

Upon the establishment and entry into force of the digital land cadastre maps, the analog land cadastre maps became a part of the land cadastre archives. The Surveying and Mapping Authority of the Republic of Slovenia together with the Archives of the Republic of Slovenia keeps the cadastral maps for the last 200 years. Cadastral maps were produced for the entire territory of the Republic of Slovenia.

Most of the graphic maps were produced at a scale of 1:2,880; in cities/towns and densely built-up settlement at 1:720 and 1:1,440 and in the mountainous areas at 1:5,760.

The maps created in the last seventy years were produced at 1:1000, 1:2000 in 1:2500.

All the cadastral maps in the archive were scanned and are available in digital form as raster images. The maps which were produced in the 19th century are available to the users in the jpeg format. The maps which were produced in the 20th century are available to the users in the djvu format. Altogether there are 110,000 maps. Currently being prepared is the central database of the archive of the cadastral maps, which will enable the examination of maps through the online portal.

The parcels in digital (vector) form are recorded as topologically accurate polygons. Each polygon has a centroid with a parcel number. The administrative unit is a cadastral area, within which land parcels and land cadastre points are uniquely numbered. Land cadastre points and settled boundaries are shown in the graphic part through tables (dbf). Land cadastre points represent polygon bends. For land cadastre points we administer data on the number, the coordinates, the method of designation, the method of marking the point in the field, the coordinate accuracy, the status, the procedure number and the date of change.

At the central level the data are administered using the Esri application. In addition to the topologically accurate layer of parcel boundaries, we also administer the land cadastre points layer, the settled boundaries layer and the cadastral areas boundaries level.

In the attribute form we administer the data on the actual use of parcels. The land is divided into agricultural, forest, developed, water and infertile land.

In 2008 we established a new national coordinate system, which is divided into two components: the horizontal and the vertical component. It is marked by a D96 suffix. Until all the technical requirements which allow the administration of all spatial data in the ETRS96/TM coordinate system have been fulfilled, we will be presenting the data in the D48/GK system. In mathematical terms, the new national cartographic projection is the same as the current one, with the difference being in the parameters arising from the definition of the new reference ellipsoid. The new name, the Transverse Mercator cartographic projection, was also introduced in order to indicate with the name itself which planar coordinate system it is.

2.2 Cadastral register

The Land Cadastre consists of the latest recorded data on land parcels and the collection of documents and data which enable a historical overview of changes.

In the Land Cadastre the following data are administered about individual parcels:

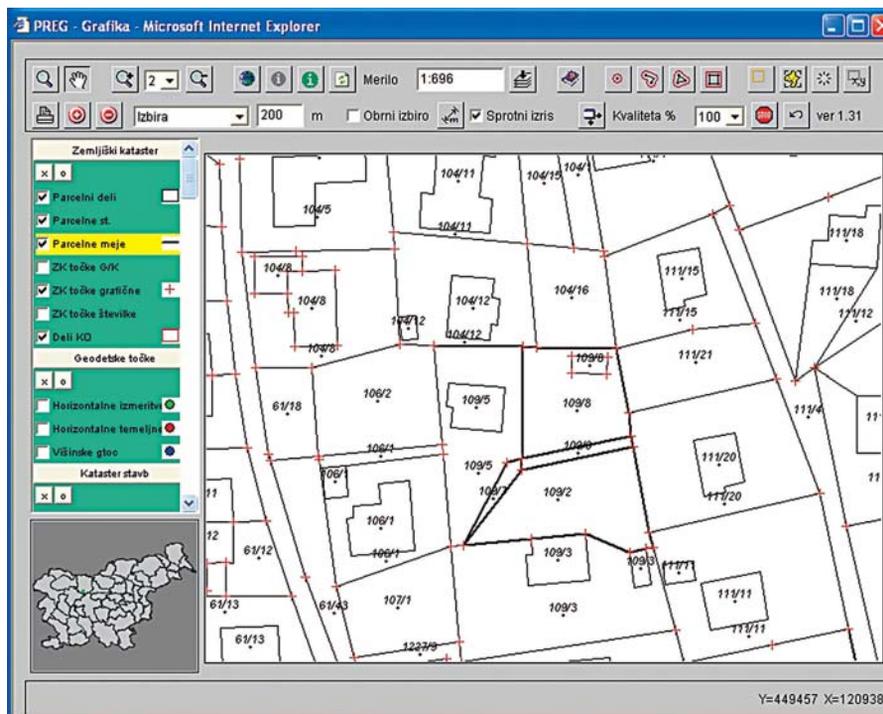
- **the identification marking** comprises the parcel number and the cadastral area code. It is administered within one cadastral area.
- **The land parcel boundary** is defined by several straight lines which connect into a polygon.
- **The parcel surface area** is calculated using the planar coordinates of the land cadastre points which define the boundary in the field.
- The data on **the owner** is information obtained from the Land Registry. For natural persons the following data are administered: the first and last name, permanent address, date of birth, citizenship and personal identification number. For legal persons: the name of company, the registered address and registration number of the legal entity;
- **administrator** is listed when the land is owned either by the Republic of Slovenia or by a self-governing local community or when it represents a public asset;
- **actual use** can be agricultural, forest, water, infertile or developed;
- **land under a building** is a vertical projection of the intersection between the land and the building;
- **land rating** is represented as rating points and designates the production capacity of the land;
- Land Registry unit serves as a link between the Land Cadastre and the Land Registry.

The collection of documents comprises studies and other documents on the basis of which individual changes in the graphic or written form were implemented. The document collection is kept in physical and partially - 30 per cent - in digital form. These data and documents are preserved ad infinitum.

The Land Cadastre is a public document. Consequently, any person may obtain a certificate about the latest recorded data of the Land Cadastre, the Building Cadastre and the Register of Spatial Units as an extract or a plotting. The exception is the certificate of title, which can always be obtained by the owner or some other person with a valid legal basis.

The Building Cadastre comprises the latest recorded data on buildings and parts of buildings as well as the collection of documents and data which allow a historical overview of changes.

A Digital Land Cadastre Data



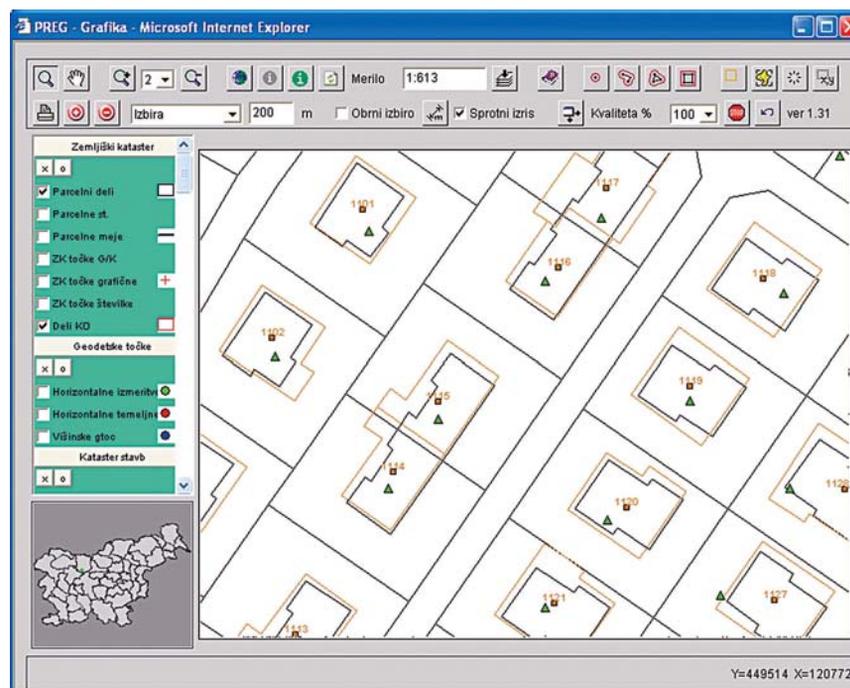
The collection of documents comprises studies and other documents on the basis of which individual entries were made. It also comprises maps and data recorded before the latest data entered. The collection of documents is kept in the physical and electronic form.

The following data are recorded in the Building Cadastre for buildings and parts of buildings:

- | | |
|----------------------------------------------------------------------------------|--------------------------------------------------|
| 1. identifier; | 4. location and shape; |
| 2. owner; | 5. surface area; |
| 3. manager of real estate owned by the Government of Slovenia or municipalities; | 6. actual use; |
| | 7. apartment number or business premises number; |

The Building Cadastre also administers the data on links to the Register of Spatial Units (address), the Land Cadastre (land parcel) and the Land Registry (Land Registry unit and subunit).

The Digital Building Cadastre Data



2.3 Plans of the urban units (flats, houses, apartments)

When registering a building into the Building Cadastre a building ground plan is created. A ground plan of a building is a vertical projection of the outer building outline onto a horizontal plane. Characteristic cross-sections of the building are also created. In case of more complex constructions the three-dimensional building plans substitute for these. Ground plans of parts of the building lying within the building are also created and when necessary, a detailed plan of the parts of the building is also created (e.g. apartments), where individual sections in this part of the building are represented (apartment). Thus created plans are a part of the study for registering buildings into the Building Cadastre and they are kept both in physical and digital form.

3 TECHNOLOGICAL INFRASTRUCTURE

The Building Cadastre data are administered and updated in the central database of graphic and attribute data on buildings in Oracle+SDE environment.

A special intranet application CB STAVBE was established for data administering and updating. This application can be accessed by the employees of the 34 surveying offices, the 12 Regional Surveying and Mapping Authorities and the Real Property Office of the Surveying and Mapping Authority of the Republic of Slovenia.

Under special conditions access can also be allowed to third persons who are allowed such access under law. The software package was created in Java 1.2 (client, some servers) and Delphi 4 (servers) IDEs.

The application is used to administer and update attribute and graphical data. The application enables mass data acquisition as well as carrying out of individual requests, allowed by law, by holders of a title to a building or part of a building. The application enables the browsing, printing, querying, plotting and issuing of data and certificates.

In the creation of the application, which serves as information support for the Building Cadastre, common standards for the Building Cadastre updating procedures were defined as well as uniform data standards. A unique identifier for buildings and parts of buildings was introduced.

The Land Cadastre data are administered centrally at the Surveying and Mapping Authority of the Republic of Slovenia. Attribute data are administered in the Oracle environment and the graphic data

using the Esri software. The data are updated through daily transmissions of changes, which are implemented at the local databases at individual surveying offices and at the Regional Surveying and Mapping Authorities.

In order to enable electronic access to data the Surveying and Mapping Authority of the Republic of Slovenia established an IT-supported distribution system, which is a part of the national information system at the Ministry of Public Administration and which is updated with a one-day delay from the central database.

4 UPDATING PROCEDURES

4.1 Existing types

A building and parts of a building may be registered into the Building Cadastre when the building has reached such a stage of construction as to allow the determination of the respective surface areas (in accordance with ZEN).

The data on the building and parts of building shall be submitted to the Surveying and Mapping Authority no more than 30 days after the implementation of all the finishing works or after the beginning of its use if the use begins before the conclusion of the construction works. The data on the implemented changes shall be submitted by the owner, the holder of the superficies right or the administrator in 30 days following the implementation of changes.

Should the Surveying and Mapping Authority determine that a building or a part of a building is not registered in the Building Cadastre and if the conditions for their registration are fulfilled, it shall call on the developer to submit within three months an application for the registration of the building into the Building Cadastre. If the developer fails to do so in the prescribed period, the Surveying and Mapping Authority shall propose to the offence body to penalize the developer for failing to register the building or the part of a building into the Building Cadastre. In such a case the Surveying and Mapping Authority may ensure that the study for registering the building into the Building Cadastre is produced and that the building is registered at the developer's expense. The same applies in the event that the Surveying and Mapping Authority of the Republic of Slovenia discovers that alterations have occurred to a building or a part of a building for which the owner of a building or part of a building, the holder of the superficies right or the building manager should have submitted the application for the alteration of the Building Cadastre data but has not done so.

Data on buildings and parts of buildings in the Building Cadastre change daily either following the application for the registration of a building or the application for the change of data or on the basis of the changes ex officio.

The change of data in the Land Cadastre is implemented either at the request of the owner or another person stipulated by law (ZEN) or it is implemented ex officio by the Surveying and Mapping Authority. The submission of the application for a change in the Land Cadastre is a right and not an obligation. Consequently, a certain portion of the changes in the field is never recorded.

4.2 Organizations and persons involved (also involvement of the private sector)

The data the Surveying and Mapping Authority obtains from the other records are:

Data on the owner of a building, a part of a building or land parcel are acquired from the Land Registry and are updated with respect to the data from the Central Population Register, court register and other registers which show changes in the owner data.

The data on the actual use of land are obtained from the record of actual use administered at the Ministry of Agriculture, Forestry and Food, the Environmental Agency of the Republic of Slovenia and the Ministry of the Environment and Spatial Planning. These data can be changed either ex officio or at the request of the land owner.

The data on the linkage with the Register of Spatial Units and the Land Cadastre as well as the Central Population Register are updated daily.

The administrative procedures of registering a building or a part of a building into the Building Cadastre and registering the changes of the Building Cadastre data are implemented by the Surveying and Mapping Authority. The implementation of the procedures for the production of a study and the actual production of the study are implemented by surveying companies and project designers. The production of a study also includes also its alterations, amendments or corrections.

Land survey services are implemented by private entrepreneurs and enterprises. Their assignment is to implement procedures for the production of studies and the production of the boundary settlement studies, new surveys, parcellation, land consolidation, boundary adjustment, determination of the land under a building, change of the actual use of land, change of the type of use, cultures and class

of land as well as the production of a technical report on the marking of a boundary in the field. The administrative procedure of registering changes is implemented by the Surveying and Mapping Authority.

4.3 Processes' automation

The study for registering a building into the Building Cadastre or recording data changes is produced on the forms and as laid down by the Rules on Entries into the Building Cadastre (Official Gazette of RS, No. 22/2007). The study is produced on paper and in digital form. The digital study format is prescribed by the Surveying and Mapping Authority and published at its web site.

The Rules on Boundary Settlement and Changing and Recording Data in the Land Cadastre lay down the form and the content of the study for the registration into the Land Cadastre. The study is produced in the analog form and a predominant part is also produced in digital form. The Surveying and Mapping Authority of the Republic of Slovenia will shortly prepare instructions for the production of a study, which will be completely in digital form. The types of digital data and their formatting will be prescribed by the Surveying and Mapping Authority and published at its website.

5 PROVIDED SERVICES

In order to access data the users may avail themselves of various e-service and data issuing at the Authority's offices. Through e-services the users may access and transfer digital data. The following e-services are available to the users:

- access to data,
- data retrieval.

Data access is possible through online application at three levels.

- The public access is free of charge and may be used by any internet user without a prior registration. The public access makes it possible to display certain data from the records, e.g. data on land parcels, buildings, addresses, public infrastructure, real property transactions, etc. A search can be implemented using identifiers of land parcels, buildings or addresses. The users can obtain information about an object (land parcel/building/part of a building), the owner, the position and the shape in physical space in combination with raster bases.

- Personal access is intended for the owners of real properties. Using a digital certificate a user may obtain free of charge information about all of his/her properties.
- Access for registered users is available to the public administration, surveying companies, notaries public, lawyers and other legal subjects, who have previously registered for it. This service allows access to all the data administered by the Surveying and Mapping Authority, the transfer of data to certain groups of users and the issuing of the official certificates from the geodetic databases. The use of the application is free for the public administration, whereas other users have to pay a one-time registration fee which is equal for all regardless of the number of users within an individual subject. Within the service different users have different rights with respect to the use of individual modules, records and data.

Data retrieval

All users (natural and legal persons) may obtain data through a standard request at the data issuing department of the Surveying and Mapping Authority, where data are recorded onto portable media (CD/DVD, disks).

On the basis of the concluded agreements for the use of the direct computer access the bodies of the public administration and other legal subjects may access data through online services. Online services are primarily available to state and public institutions and local communities. To a lesser extent they are also available to larger legal subjects.

On the basis of online services special user applications were additionally created for the local communities. These applications allow local communities a simple retrieval of data for the territory of the local community.

Payment for data

Data are issued in accordance with the Access to Public Information Act. For the public administration, local self-governing communities and for non-commercial use the data are free of charge. The users are charged only with the material expenses of individual requests if the expenses exceed 10€.

For the re-use of data for commercial purpose the users are charged for the data in accordance with the publicly available price list and the material expenses are charged in line with their actual amount.

Restrictions on data access

A distribution system (clearinghouse), which is physically separated from the production system, is used

for data dissemination. Access to the system is protected with general technical elements, such as firewalls, digital certificates and systems for identification and authentication of users.

Special restrictions apply to personal information. Access to personal data is possible only on a legal basis or with the individual's (owner's) consent.

In 2008 the number of all queries was as shown in the table below. The majority of the data were transferred through online services.

e-service	Percentage of queries
Public access	63.8%
Personal access	0.5%
Registered access	26.7%
Online service	9.1%

6 LINKS BETWEEN CADASTRE AND LAND REGISTRY

The Land Cadastre, the Building Cadastre and the Land Registry are currently not electronically linked, therefore data exchange takes place through issued documents (decisions, notices, etc.) and direct access to data (through online applications). In 2009 we are going to begin linking to the electronic Land Registry.

7 LINKS BETWEEN CADASTRE AND REAL ESTATE EVALUATION SYSTEM / REAL ESTATE TAXES

Slovenia still does not have a common real property tax. At the local level ground rent is collected unequally, while the introduction of the common real property tax is being planned.

In Slovenia we developed real estate mass valuation system, which will be prepared for the first use latest in 2010. The system values market values for all registered real estates, including all types of land. Assessed market values will be stored in the Real estate register and publicly accessed without restrictions. The main purpose for developing the system was the idea to tax the possession of real estate on a base of their market value.

In a present system possession of real estate is taxed by two different taxes; tax on (real) property and charge of the use of building ground. In a future we would like to substitute both taxes with unified property tax on real estate and connect the taxation system on data on real estate in real estate register.

(Real) Property Tax

Property tax is levied on premises such as buildings and parts of buildings, including apartments, garages and secondary homes.

The taxpayer is an individual who is the actual or beneficial owner of the premises.

The taxable base for premises is the value ascertained according to special criteria (pointing system) issued by the government and local communities.

The tax rate for premises depends of the type of property and its value. The tax rate for dwellings varies from 0.10% to 1% of the value. The tax rates on premises used for rest and recreation are in the range of 0.20% to 1.50%. The tax rate for business premises varies from 0.15% to 1.25%. For business premises that are not used for attendant activities or are not rented, the tax rate is increased by 50%.

Charge for the use of a building ground

Charge for the use of a building ground is levied on vacant and constructed building land, possessed by legal persons and individuals. Charge is set by local communities for vacant building land based on the area of building land planned for building and for constructed building land based on the useful area of the residential house or business premises thereon.

Inheritance and Gift Tax

Inheritance and gift tax applies to transfers of property. The tax is paid by individuals or legal persons of private law who received property in the form of inheritance or gifts. Taxpayers are divided into four categories according to their relationship with the deceased or donor as follows. First class (all direct descendants and spouses) is tax exempt.

The tax base of inherited or given property is the value after deduction of debts and other liabilities. For real estate this value is set at 80% of appraised market value; for movable property, except money, this value is set as market value. Since the mass valuation of real estate is not fully established yet, for the present tax base for real estate is market selling price, which can be checked by individual valuation.

The tax is levied progressively (5 – 39 %) depending on the value of the property and the category under which the relation to the deceased or donor is classified.

Tax on transfer of immoveable property

The taxable person is the seller of the real property. In establishing the right of superficies, the taxable person is the owner who first acquired the right of superficies, while in transferring the right of superficies, the taxable person is the owner who transfers the right of superficies.

The tax is payable at a rate of 2% of the tax base. The tax base is the selling price of the real property. If the selling price of real estate is less than 80 % of the assessed market value, the tax base is 80 % of assessed market value. In establishing or transferring the right of superficies, the tax base is the realized payment equaling the market value of the right of superficies.

Transfer of title on property or establishment or transfer of the right of superficies, for which value added tax has already been paid, is not subject to tax.

In order to obtain data to establish the Real Property Register a Real Property Census was implemented in 2006 and 2007. The Census reviewed the existing data in the Building Cadastre and collected additional data about all the buildings and parts of buildings, the data which are not administered in the Building Cadastre.

At the beginning of June, 2008 the Real Property Register was established on the basis of the Census data, the Building Cadastre data, the Land Cadastre data as well as the data from other records and databases. The Real Property Register is a technical attribute data record on real properties (e.g. property components, use, size, location, data on maintenance, building fixtures, etc.), which also comprises data on real property owners and users (tenants, renters, administrators, etc.).

The Register allows the attribution of the appropriate characteristics to the new entity – a real property – primarily its estimated value using the methods of real property valuation, which use the Register's data for determining that value. In this manner the Cadastre data are indirectly, through the Real Property Register, used in the mass real property procedures.

The data on the real property values administered in the Real Property Register are foreseen as public data.

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