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#### INTRODUCTION

State administrative bodies of the cadastre of real estate managed by the Czech Office for Surveying, Mapping and Cadastre (ČÚZK) provide state administration of the cadastre of real estate in the Czech Republic and ensure performance of surveying activities in the public interest given by the law.

In 2013 cadastral offices have received 669 393 proposals for registration of ownership and other rights to real estate, representing yearly increase of 2 %. Cadastral workplaces in the Czech Republic were carrying out the registrations of rights in 2013 in 11 days from the submission of the application on average. In the end of the year 2013 the enormous increase in the number of proposals for the registration of rights occurred caused mainly by the concern about the changes connected with the new Civil Code and Cadastral Law. The number of completed registrations or deletions based on record and notation reached nearly 1 106 575, which represents yearly decrease of 10 %. The number of requests regarding the verification of the survey sketches increased about 1 % for 137 332 in comparison to 2012.

Data provision from the cadastre was solely realized by eServices of the Remote access to the cadastre of real estate, whilst the data provision at desks in cadastral offices decreased on 10 % compare to 2012. In total 8 262 thousand requests for information was solved representing yearly increase of 6 %. Data provision for purposes of property settlement with the church and other religious associations was running smoothly, cadastral offices satisfied more than 17 thousand requests for documents from the Land book and set of documents of the cadastre of real estate. Necessary map documents have been made accessible both to authorized and obliged persons via special web application. Digitization of cadastral maps went on continuously in 2013. The number of cadastral districts with digitized cadastral maps for disposal increased yearly on 1 074 and so the digital form of the cadastral map was available in 78 % of all cadastral districts by 31. 12. 2013.

State administration of land surveying and cadastre of real estate is responsible beside the cadastre for important land surveying products and services which co-create the national geoinformation infrastructure necessary for task fulfilment of the state and local administration. In 2013 operation and modernization of the Czech network of GNSS permanent stations (CZEPOS) was ensured providing services for fast and precise positioning at the whole territory of the state with cm accuracy thanks to permanent reception of signals from satellites of global navigation system as well as the care for classic ground and gravimetric control points was realized together with all planned land surveying works on the state borders. Both continuous and periodical update of the Fundamental base of geographical data (ZABAGED®), which has been provided both to the public administration and commercial use serving also as a data source for state map series, went on. In cooperation with the Ministry of Agriculture and Ministry of Defence the acquisition of new terrain model of the Czech Republic with help of airborne laser scanning was completed, which should serve not only for the state map series and geographical databases included the military ones but is fully usable for planning of anti-flood measures, for preparation of transport and other important constructions as well. Most products are being provided via Geoportal ČÚZK remote access.

More detailed information on results of work of land surveying and cadastral offices in 2013 brings this annual report.

# 1. Surveying, Mapping and Cadastre Sector in the Czech Republic

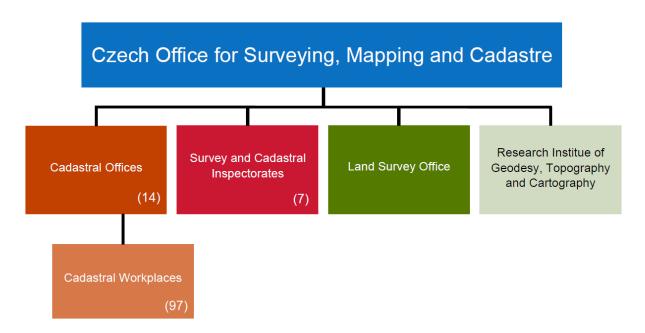
The cadastre of real estate of the Czech Republic is a set of data about real estate in the Czech Republic, including their inventory and description and their geometric specification and position. Parts of it are records of property and other material rights and other legally stipulated rights to real estate.

State administration of land surveying ensures chosen land surveying products and connecting services from the whole territory of the state as stipulated by the Act No. 359/1992 Coll., on land surveying and cadastral bodies and by the Act No. 200/1994 Coll., on land surveying.

ČÚZK governs 14 regional cadastral offices, which have 104 workplaces in larger towns and execute state administration of the cadastre of real estate, it further manages the 7 survey and cadastral inspectorates that control cadastral offices and supervise some commercial activities, whose results are applied to the cadastre of real estate and state documentation funds, and finally the Land Survey Office, which focuses on other land survey activities that are provided in the public interest. ČÚZK is also the founder of the Research Institute of Geodesy, Topography and Cartography, p.r.i. In 2013 together 7 small local cadastral workplaces were dissolved due to financial cuts. The cadastral workplaces in question are Jilemnice, Havířov, Kaplice, Nepomuk, Mikulov, Třeboň and Sušice.

Administration authorities in the branch of land surveying and cadastre have been set up by the Act No. 359/1992 Coll., on land surveying and cadastral bodies, which also specifies their subject-matter and territorial competence.

### Organizational Structure of the Branch of Land Surveying and Cadastre



# 2. Administration of the Cadastre of Real Estate

Current Czech cadastre of real estate was established in 1993 and integrates the function of Land Registry Book (registration of rights) and former Cadastre of Lands (records of real estate) into one tool.

Cadastre of real estate in the Czech Republic is administered with help of the information system. The Information system of the cadastre of real estate - ISKN - is an integrated information support system for state administration of the cadastre of real estate and for providing user services of the cadastre.

Since 2012 ISKN has been interconnected to the Information system of territorial identification – ISÚI – together representing the key agenda information systems serving for editing of the Registry of territorial identification, addresses and real estate – RÚIAN, which is one of the four basic registries of state administration. Launch of the system of basic registries has brought tangible results into the administration of cadastre of real estate particularly in the area of checking up data on physical and legal persons compared to the registries of inhabitants and persons so as in the possibility of taking over the data changes from these registries (changes of addresses, surnames etc.).

No significant changes occurred in the administrative proceedings of cadastral offices in 2013. The below mentioned tasks were fulfilled fluently except for the end of December, when the number of applications for registration of rights increased rapidly due to the announced recodification of private law from 1.1.2014.

In the year 2013 were the cadastral offices preparing the changes in realization of records into the cadastre of real estate in coincidence with coming into force of the new civil code and following it new cadastral legislation. New civil code brings extensive changes into the area of the cadastre of real estate. The principal change is the brand new definition of the term "real estate" and application of the principle "superficies solo cedit", according to which the building is a part of the parcel. The new civil code also introduces many other material rights not existing yet, which have to be registered into the cadastre of real estate from 1.1.2014. Special attention had to be given to procedural methods within registration of rights into the cadastre of real estate, which are important for renewal of the material publicity principle of registration of rights to real estate. The Act No. 256/2013 Coll., cadastral law was published on 23.8.2013, with effect from 1.1.2014. On the same day the implementing rules of the cadastral law came into force.

# 2.1. Main Tasks of Cadastral Offices and Their Statistics

The main task of cadastral offices is recording of proprietary and other rights to real estate and other data by means of entry or registration and record of notations and other data. Contractual transactions or setting up of material rights to real estate have been completed by the constitutional entry of right into the cadastre of real estate till the end of 2013, whilst the records or deletions of material rights arising or extinct by the decision of the public authority organ, by law a. o. were performed in a simpler procedural way, by means of so called registration. Similar procedure was used for record of some other data, in particular for record of notations, which should inform the users of cadastral data on important facts regarding the real estate. Recodification of the civil law and connecting cadastral legislation has brought significant changes to this part of cadastral offices' agenda since 2014.

# **Entries of Proprietary Rights into the Cadastre of Real Estate**

Property rights to real estate (right of ownership, right of lien, right of easement, pre-emptive right with material effect) and other rights stipulated by the cadastral act were registered by entry. In administrative proceedings the cadastral office assessed deeds and other documents, decided on permitting entry and, based on these decisions, registered the rights into the cadastre of real estate. Property right to real estate was created by registering into the cadastre of real estate with legal effect on the date of application for entry.

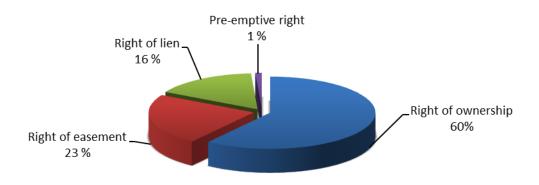


Fig 1: Share of Different Types of Rights Recorded by Entry into the cadastre of real estate

In 2013 the number of accepted proposals for entries of rights by cadastral offices was 669 393 which means increase of 2 % in comparison to 2012. Number of completed proposals for entry of proprietary right was 639 856, which means decrease of 3 % in comparison to 2012. In December 2013 more than 102 thousand proposals for entry of right were submitted, which meant increase by the factor of two in comparison to monthly average of the period January-November 2013. Proceeding of significant part of these proposals had to be postponed up to January 2014.

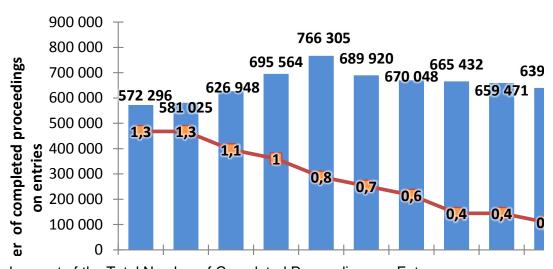


Fig 2: Development of the Total Number of Completed Proceedings on Entry

From the total number of yearly requests for entry, 95 % entries of rights are approved, the rest of administrative proceedings are refused or interrupted. In 2013 the total number of refused entries mildly decreased, as you can see in Fig 2, so as decreased the percentage of incorrect requests at the total number of received requests for entries. Despite it the share of incorrect requests for entry, which has to be corrected during the proceeding and which means prolongation for the proceeding, is still high in the long term.

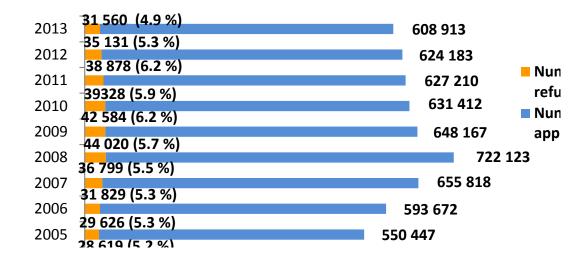


Fig 3: Development in the Number of Approved and Refused Entries

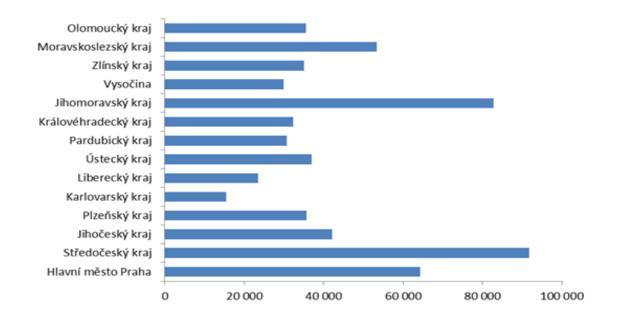


Fig 4: Number of Entries in Single Regions of the Czech Republic

Dispersion of period for entry agenda was being monitored and evaluated in 2013 based on the statistical data from the Information system of cadastre of real estate (ISKN). Legal stated time 30 days for decision on proposal and 30 days for realization of the change into the cadastral documentation, were not exceeded by any cadastral office yet. The Fig 5 shows the dispersion of period for entries delivered and completed in 2013 by the Cadastral Office for Prague-City. The highest number of applicants was satisfied within 21 days from the delivery of the proposal for entry; in longer time than 30 days only proposals containing insufficiencies were solved which had to be negotiated with the participants of the legal proceeding.

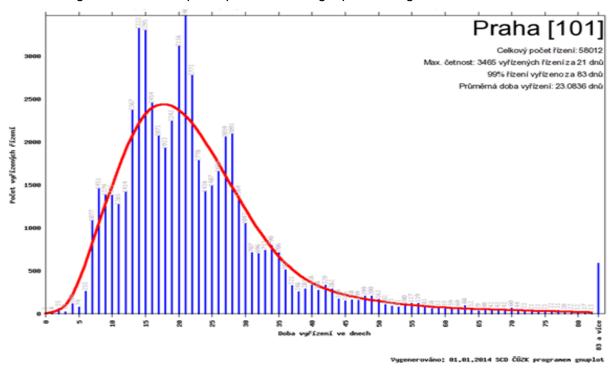


Fig 5: Dispersion of Periods for Entry Proceedings between 1.1.2013 and 31.12.2013 in the Cadastral Office Prague-City.

#### Registering of Rights by Record, Notation and Registering of Other Data

Cadastral offices performed also other registrations into the cadastre of real estate. Registering by record means registration of the rights to real estate established by law, by decision of other organizations of state administration, by knocking down of the auctioneer in the public auction, by prescription, by acquisition and processing and by annulment of extinct rights of lien and easements. Further types of registrations are the registrations by notation. Notations serve to denotation of facts or relations relating to the real estate or a person, which are solely informative. Following data are recorded into the cadastre of real estate regarding e.g. change of land type, real estate protection etc.

Whilst 1 231 thousand submissions for registration by record and by notation were delivered to cadastral offices in 2012 the number of these submissions decreased to 1 107 thousand in 2013, which represents an annual decrease of nearly 10 %. This decrease was caused mainly by lower number of records of notations on writs of executions. The number of completed submissions was 1 094 thousand in 2013. Similar as it was with entries of rights the number of records increased rapidly in the end of 2013.

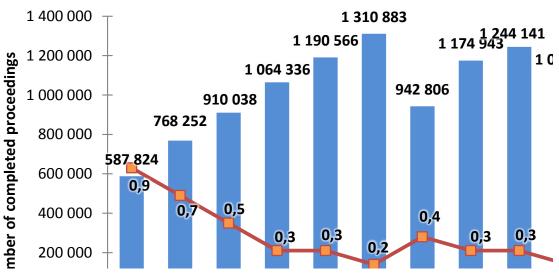


Fig 6: Number of Completed Submissions for Registering of Rights by Record and Notations.

# **Certification of Survey Sketches**

Survey sketches represent land parcel division, position of a building or change of its external outline in the cadastre of real estates and some other changes shown in cadastral maps. They are made solely by private geodetic companies. They are important documentation for maintaining of cadastral maps, thus every survey sketch must be legalised by an authorised surveyor who is officially authorised to certify the results of surveying activities by the ČÚZK under Section 14 of Act No 200/1994 Coll. on surveying and mapping.

The number of survey sketches has been very high in the Czech Republic for a long time in comparison f.i. to neighbouring Austria. The number of requests for certification of survey sketches by the cadastral offices did not change significantly in 2013. The average time for checking and certification of survey sketches by the cadastral offices was 5 days on average.

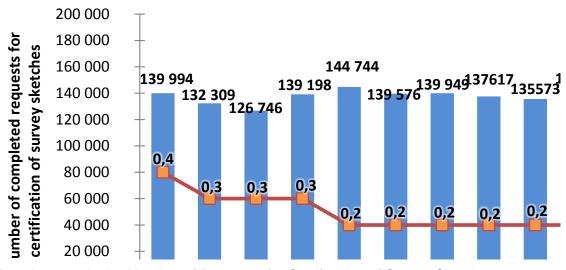


Fig 7: Development in the Number of Requests for Certification of Survey Sketches

#### Provision of Information from the Cadastre of Real Estate

Individual workplaces of cadastral offices provide clients with information from the cadastre over the counter during office hours. Outputs from the cadastre contain both technical data on real estate and data on legal relations. In addition, copies of cadastral maps, copies of documents stored in document funds, copies from historical registries (Land Registry Book, Cadastre of Lands) and some other outputs are provided. Since 2001 internet services have been available allowing outputs from the cadastre by remote access, without visit to the cadastral office. These services satisfy today most of continually growing demands for information from the cadastre of real estate.

The number of completed requests for provision of information at the counters of cadastral offices in 2013 decreased yearly on nearly 10 %, while the total increase of completed requests for information from the cadastre of real estate including remote access was about 6.5 %. Therefore in 2013 91.5 % of applicants for information from the cadastre of real estate were satisfied by electronic services. Big share on this high number of electronically provided services permanently have municipalities, regions and governmental bodies because of free of charge remote access to the data from the cadastre of real estate. On contact points of public administration (Czech POINT) 400 thousand outputs from the cadastre of real estate were issued in 2013. Professional users, such as banks and real estate agencies have been more and more oriented towards acquiring information by means of remote access via internet services, and so the trend of continuous decrease of information provided at the desks of cadastral offices goes on. The electronic statements from the cadastre of real estate are since 2006 marked with an electronic mark and are considered as public documents. More in the chapter Electronic services of the cadastre of real estate – Remote access.

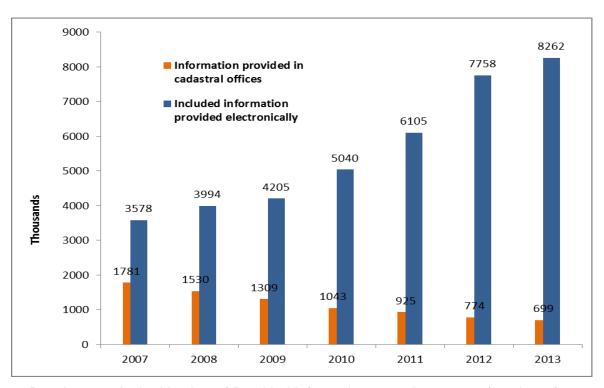


Fig 8: Development in the Number of Provided Information: over the counter (number of requests), electronically (number of external outputs-reports)

# 2.2. Digitization of the Cadastre of Real Estate

Digitization of the real estate registry is a vital step for effective operation and administration of the cadastre of real estate and for operative satisfaction of the users of the cadastral information. Cadastral maps in digital form are fundamental databases for administration and decision-making about the area. They serve not only for overview on the territorial range of material rights, but they are important as a reference basis for creation of further maps, information systems and applications relating to the territory as f.i. digital technical maps, spatial plans, price maps etc.

Digitization of the file of descriptive information of the cadastre of real estate was realized in years 1993 – 1998, having created basic conditions for the transition to a higher version of the information system equipped with remote access to data in the central database of the cadastre.

Digitization of cadastral maps started in connection with the completion of digitization of descriptive information of the cadastre. The capacities that cadastral offices could give to map digitization were very limited in view of the growth of volume of other activities. Therefore only 2 to 3 % of the total cadastral territories in the Czech Republic were transformed into digital form yearly by the end of 2008.

	D	Development of Digitization of the File of Geodetic Information of the Cadastre (FGI): 2002-2013										
Year	till 2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Digitization Completed	2 881	543	383	314	279	263	313	763	1 106	1 094	1 127	1 074
Total in Digital Form	2 881	3 424	3 807	4 121	4 400	4 663	4 976	5 739	6 845	7 939	9064	10 166
Yearly Growth from the Total of 13 027 c.u.(%)		4,2	2,9	2,4	2,1	2,0	2,4	5,9	8,5	8,5	8,7	8,4
% from the Total Number	22	26	29	32	34	36	38	44	52,5	61	69,6	77,9

In 2009 the reversal occurred thanks to the provisions for acceleration of the digitization, accepted by the government in 2007. That is why the number of cadastre units covered by the digital form of map exceeded 8 % of the territory yearly in previous years. In 2013 the increase of the number of cadastre units covered by the digitized cadastral map reached 8.4 % from the total number of them.

#### **Results of Digitization in 2013**

Cadastral office have started the year 2013 with the goal of increasing the number of cadastral units with cadastral map in digital form by 1 049; in fact it was 1 074 cadastral units. Digitization of cadastral maps did use 200 results of land consolidation. Positively also the contribution of public tenders to chosen activities during digitization can be evaluated, covering part of the capacities needed for the field surveying.

In 2013 revision of cadastral documentation was completed based on the results of land consolidation and based on new mapping (particularly in the territories out of the realized land consolidation) in 228 cadastral units. Renewal of the cadastral documentation by adaptation of the set of geodetic information in the S-JTSK (System of Unified Czech /Slovak Trigonometric Cadastral Net) coordinate system to DCM was realized in another 152 cadastre units. Renewal

by adaptation of maps originating from the system of Stable cadastre to the digital form (CMD) was completed in 919 cadastral units. By the end of 2013 was the cadastral map in digital form in 10 166 cadastral units, which means 77.9 % from the total number in the CR by the end of 2013 (13 054 cadastral units – 28 newly established cadastral units in connection with prepared optimization of military estate).

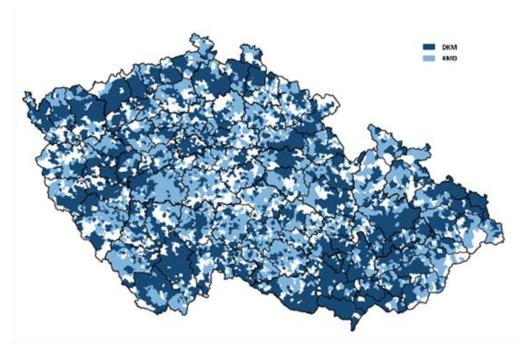
The fulfilment of the tasks of digitization of cadastral maps was running in 2013 in accordance with the long-term frame schedule and was successful.

Plan of Digitization of Cadastral Maps in Further Years

Year	1997-2013	2014	2015	2016	2017
Proposal of the number of cadastre units for map digitization		898	879	760	351
Total number of cadastre units with cadastral map in digital form	10 166	11 064	11 943	12 703	13 054
Yearly growth in % out of total number		6,9	6,7	5,8	2,7
% out of total number	77,9	84,8	91,5	97,3	100

To fulfil the above stated plan it is necessary to receive reasonable financing of this task. Economic measures of the state budget could lead to significantly unwanted decrease of the rate of digitization of cadastral maps and to postponing the deadline for completing the digitization at the whole state territory. In cadastral units with unfinished allotment and consolidation proceedings it is necessary to carry on the land consolidation; otherwise the digitization of cadastral maps cannot be completed there.

Until the digital cadastral map is for disposal in all cadastre units, users' needs are covered by the raster data obtained by precise scanning of cadastral maps and maps of former land registries.



State of Digitization of Cadastral Maps on 31. 12. 2013

# 3. Electronic Services of the Cadastre of Real Estate

Some eServices have been launched in the area of the cadastre of real estate, which enable to get a wide range of information from the cadastre for our customers. There are both free of charge services enabling to get some chosen data without any restrictions, as well as paid services providing verified documents serving as public documents, that is from the whole territory of the Czech Republic. Except for this, some other applications are for disposal facilitating the access to cadastral data and communication of inhabitants with cadastral offices.

## 3.1. Remote Access to the Cadastre of Real Estate

http://katastr.cuzk.cz/

Remote access (DP) enables to get the data from the cadastre of real estate from the whole territory of the Czech Republic via internet. Outputs from the cadastre of real estate, such as extract from the cadastre of real estate and other compositions provided in this way, are formally and materially identical to the documents issued with the same timestamp by the cadastral office and are considered public documents.

The application enables provision of outputs not only based on input of basic parameters but it also supports the visual search based on digital cadastral map or on raster picture of cadastral map in areas, which have not been digitized yet, so as with help of orthophotomaps and topographic maps as navigation tools.

DP outputs are charged, but numerous groups of users from public and local administrations have the information from the cadastre of real estate provided in this way free of charge. DP has been in operation since 2001 and since that the number of customers actively using it has been constantly growing. The yearly increase of users was 6 %. The number of accounts for users was 20 948 by 31.12.2013, 4 537 out of which were free of charge and 6 298 accounts were for verifiers, particularly in the frame of CzechPOINT project.

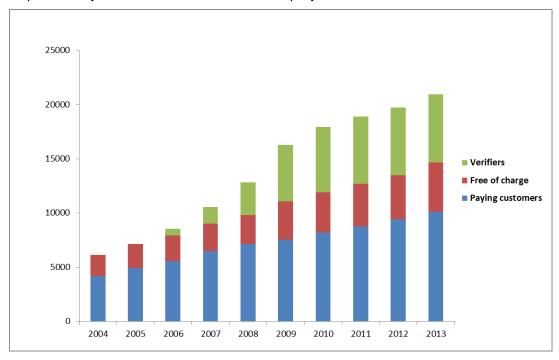


Fig 9: Development of the number of users as for the type of account

In the frame of CzechPOINT project it is possible to acquire the verified extract from the cadastre of real estate, from the trade and commercial registries and from criminal record. The verified extracts from the cadastre of real estate create in the long term approximately one guarter of all



CzechPOINT outputs. In 2013 it was more than 400 thousand outputs. At present it is possible to issue the extract from the cadastre of real estate at CzechPOINTs and the provision of digital cadastre map there is in preparation.

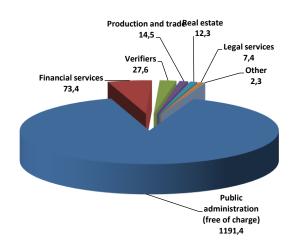


Fig10: The biggest DP users – as for the data value in million CZ

The number of DP users has been growing constantly, so as the income for data provision via DP service in 2013 even if 90 % of data are provided free of charge to the public administration. DP is provided free of charge not only to municipalities and regions for performing of their competency but also to governmental bodies, notaries and distrainers. Despite it the income from charged customers reached 136.8 million CZK in total. The biggest charged user of DP service is the bank sector, which uses it for acquiring of necessary documentation for mortgage provision.

# 3.2. Viewing the Cadastre of Real Estate

http://nahlizenidokn.cuzk.cz/

Probably the best-known eGovernment service, operated in the ČÚZK branch, is Viewing the cadastre. This internet service allows provision of selected technical data and data concerning ownership of parcels, buildings and building units (flats or non-residential spaces). By means of viewing it is possible to find information on the state of proceedings from the moment of submission to the cadastral office for the purposes of registering property and other rights to real estate or other data recorded in the cadastre of real estate of the Czech Republic. The viewing application is very intensively used by a wide range of users and has contributed in a significant way to increasing the transparency of the course of individual administrative proceedings. In 2012 the modification of the application was realized enabling better accessibility according to recent standards. Afterwards the application has been successfully tested and certified. Furthermore it was interconnected to the new Registry of territorial identification, addresses and real estate (RÚIAN) and in the end of 2013 large modification of the application was prepared implementing the changes brought by the new civil code and cadastral law.

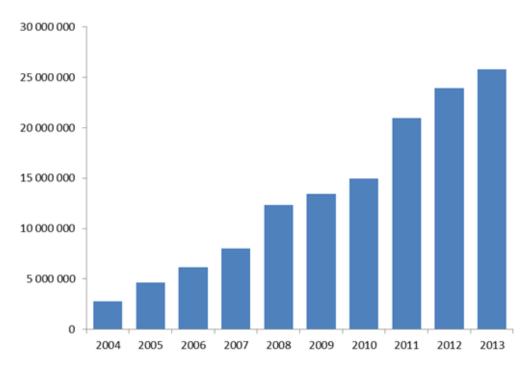


Fig11: Development of the number of accesses via Viewing the cadastre

Viewing the cadastre is one of the most visited websites of Czech state administration. In the nine years of its existence the application has registered a constant growth in the number of users; in 2013 it had nearly 26 million visits. Yearly growth in the number of visits reached 8 %. In localities not covered by the digital cadastral map, the raster pictures of cadastral maps are for disposal, which are regularly updated with depiction of changes based on survey sketches solving for better orientation. That is the way the users have access to currently updated complex information from the cadastre of real estate direct from their worktable.

# **Viewing for Property Settlement with the Church**

#### http://cirkevni-restituce.cuzk.cz/

In December 2012 the sub application of the Viewing of the cadastre has been put into operation for support of the process of the property settlement with the church and other religious associations. It is possible to find there not only historical and current cadastral maps together with information on owners of existing parcels and buildings, but also some information from land books necessary for proper formulation of appeals for property delivery and its checking, such as name lists or names and numbers of some chosen parts of land books, electronic form of copies from land book already issued and sets of documents for church restitutions, comparative sets from the renewal of the cadastral documentation and some other documents.

This application has been intensively used in 2013 not only by authorized persons in the process of preparation of appeals for property delivery but also by obligatory persons for inspection of delivered appeals. Making available the cadastral and former land registrations' documentation for huge number of users is crucial in the process of property settlement with the church and other religious associations.



## **Web Map Services for Cadastral Maps**

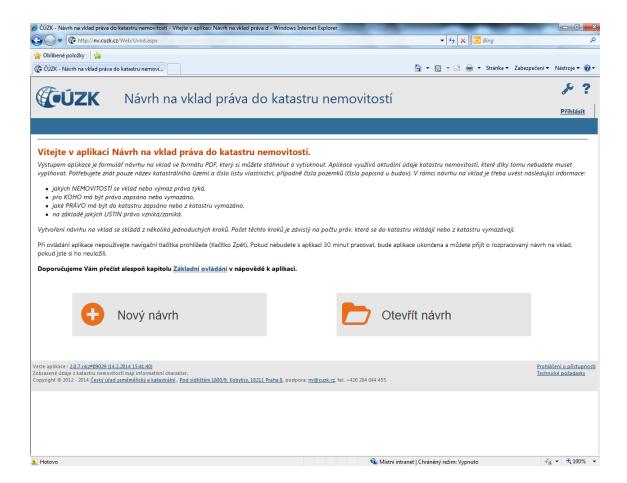
#### http://wms.cuzk.cz

Web map services for cadastral maps enable further possibility of work with cadastral maps; the user can combine the cadastral maps layer in his computer with other datasets. In that way he gets access to brand updated data via internet and has to take care neither about the storage of map copies in his data storage nor about their updating. This service is also free of charge. Yearly growth in the volume of provided data is 34 %.

# Proposal for Entry of Right in the Electronic Form

### http://nv.cuzk.cz

Since 2013 it is necessary to apply for the entry of right solely on the form. The goal of this measure is to reduce the number of mistakes, which have occurred in proposals for entry recently, and to get clearly defined requests of rights which have to be registered to the cadastre of real estate based on the enclosed documents. To facilitate filling it in for public a web application has been launched enabling interactive creation of proposal for entry of right. This application is interconnected with the database of the cadastre of real estate and serves as the source of some data which enables to fill in the proposal form for entry of right very simply. The application guides the user through the whole process and moreover some simplified scenarios for most often situations have been prepared. The biggest advantage of this solution is the fact, that possible errors and imperfections are minimized just during preparations. The application is very popular; more than 412 thousand proposals for entry of right were created via this application in 2013.



# 4. Registry of Territorial Identification, Addresses and Real Estate (RÚIAN)

http://www.ruian.cz

RÚIAN is one of the four basic registries being created in the frame of the national eGovernment conception. Basic registers contain data on people, companies, real estate and on rights and obligations. These four registries creating the databases of the electronic public administration are depicted in the following picture, where:

ROB is Registry of Inhabitants in the responsibility of the Ministry of Interior

ROS is the Business Registry in the responsibility of the Czech Statistical Office

RPP is the Registry of Rights and Obligations in responsibility of the Ministry of Interior

ORG is the system of identifiers in responsibility of the Office for Personal Data Protection

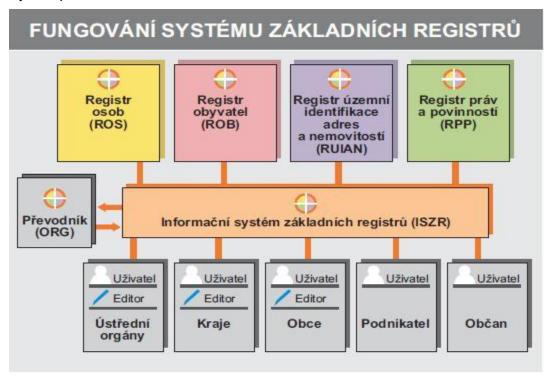
ISZR is the Information System of Basic Registries in Responsibility of the Ministry of Interior, operated by the Administration of Basic Registries (SZR)

AIS is the Agenda Information System

ISKN is the Information System of the Cadastre of Real Estate

ISÚI is the Information System of Territorial Identification

The registries were put into operation on 1.7.2012 and so the year 2013 was the first year of their full year operation.



Information System of Basic Registries – main scheme (more on <a href="http://www.szrcr.cz/">http://www.szrcr.cz/</a>)

Interconnection of basic registries of public administration and their connection to other information systems really ensures homogeneous basic data on natural and legal persons, addresses and territorial identification for all public administration official agendas. After launch of basic registries on 1.7.2012 in accordance with the Act Nr.111/2009 Coll., on basic registries, these data are acquired from one source which saves financial resources and time.

RÚIAN is the main source of reference and localization data on territorial items and territorial registered units included parcels, buildings and addresses. The branch ČÚZK was assigned the task of administration of RÚIAN based on the Act on the basic registries.

The content of RÚIAN at 31.12.2013 for chosen items was following:

Subject	Number
Municipality	6 253
Part of municipality	15 068
Cadastral district	13 054
Building object	4 097 521
Building object with the orientation/registry number	2 848 399
Address point	2 924 152
Parcel	21 032 665
Street	80 641

After launching the whole system of basic registries the expected cleaning process of basic registries data has fully proved. Single users point out the errors and discrepancies in registries and database is being very intensively updated. ČÚZK generates the datasets which are reviewed by the editors (especially from municipalities and construction offices) in accordance with the stated procedures and methodology some times during the year. Nearly all construction offices and many municipalities participated step-by-step in this work with more than 5 000 users. More than 1 000 (17 %) municipalities out of 6 253 have participated actively in the database filling until the end of 2013. The practise has nevertheless shown that these statistics cannot be evaluated without knowing the consequences, because many municipalities entered into the agreement with the particular construction office about overtaking the RÚIAN agenda by the officer from the construction office. From this point of view the number of actively cooperating municipalities is much higher in the reality.

In 2013 the implementation of the whole system was officially completed by final acceptation and the system is now in so called phase of sustainability which has to last at least 5 years to fulfil the conditions of gaining subsidies from the EU funds.

Regarding the factual side the most important change was in 2013 implementing of electoral districts as the special-purpose territorial elements into RÚIAN. Realization of this change following the amendment of electoral laws has been in preparation practically during the whole year 2013. The most demanding part was to implement the data about determination of electoral districts into RÚIAN. The source data provided based on the law from the registry of inhabitants by the Ministry of interior were in many cases insufficiently prepared. Only small percentage of

municipalities and cities were able to provide high quality vector data which simplified creation of electoral districts. Making every effort the electoral districts have been successfully implemented as special-purpose territorial elements into RÚIAN by 31.12.2013. The necessity of data modification by municipalities and construction offices is nevertheless still on-going. At present mainly definition points of address places have to be added because the address place without localization is not assigned to the electoral district with such consequences that inhabitants living on such an address are not listed in the list of electors of the Ministry of interior. ČÚZK provides the editors with continuous methodical help.

In 2013 the update of technic-economic attributes of building objects (TEA) based on the result of census (inhabitants, buildings and flats) has been carried out. Numbers of stories, flats, built-up areas, connection to the water and gas piping, type of heating have been registered among others. The data from February 2011 census were given to the ČÚZK by the Czech statistical office only in May 2013. In spite of many complications TEA has been added to RÚIAN at the turn of 2013/2014. In 2014 completing will be going on.

#### **Public Remote Access to RÚIAN Data**

http://vdp.cuzk.cz



The new service Public remote access to RÚIAN data (VDP) and data providing in the exchange format (VFR) has been launched on 1.7.2012. It enables to acquire and view RÚIAN data and some data from editing agenda information systems (ISÚI, ISKN). The application is free of charge and free accessible. All data are provided in the electronic form. Only data, which are not determined for creation of the territorial analytical documentation and which are provided on portable data devices based on special request, are chargeable.



Fig 12: Number of accesses to the VDP in 2013

# 5. Land Surveying Activities in the Public Interest

Main task of the state land surveying service is administration of national geodetic control and creating basic standardized geographic datasets and map products particularly for support of activities of the state and local administration of the Czech Republic. Land Survey Office ensures land surveying activities regarding administration of geodetic control points and the state border of the Czech Republic, creates many geographic products and provides them to the users not only in analogue form, but particular in the form of digital files of geographical data via remote access of the internet or via web services.

# 5.1. Geodetic Control

The Land Survey Office performs administration of geodetic control of the Czech Republic and decides on the localisation, transfer or removal of survey marks of basic geodetic control. At present the importance is given to the modern part of geodetic control represented by the Czech network of permanent stations GNSS (CZEPOS) apart from classic geodetic control represented by minor control.

In 2013 the new software module for coordinates' transformation between reference coordinate systems according to the implementation rules of the European Directive INSPIRE. After completing of the five-year cycle of periodical maintenance of chosen trigonometric points of the fundamental horizontal geodetic control this was replaced by the maintenance of the geodetic control points reported via internet - mostly by the private surveyors - as damaged or changed .

# **Czech Positioning Network GNSS - CZEPOS**

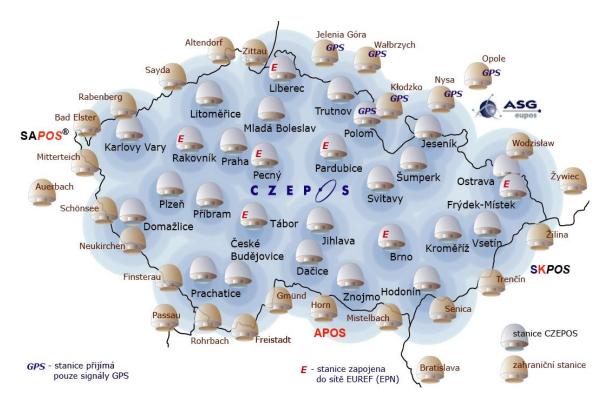
# http://czepos.cuzk.cz/

The CZEPOS is the network of GNSS permanent stations spread on the whole territory of the Czech Republic. CZEPOS stations are installed on roofs of cadastral offices' buildings and record the data from GNSS signals in the interval of 1s for 24 hours a day. Users are provided with them in the form of corrections enabling to specify GNSS measurements. CZEPOS services are provided in continuous operation since 2005. The network solution uses data from together 55 stations, 28 of them located on the territory of the Czech Republic and 27 in the cross-border territories of neighbouring countries.

CZEPOS services are compatible with all accessible satellite systems, i.e. American navigation satellite system (NAVSTAR GPS), Russian global navigation satellite system (GLONASS) so as with European navigation satellite system (GALILEO) being under preparation.

Since 2013 CZEPOS services and products have made accessible web application for free, this ensures the post-processing calculations (calculations after the end of the surveying) of the coordinates of the GNSS survey station based on the processing of the observation sets being delivered by the user. The calculations can be realized without use of post-processing software and without downloading of reference stations' products.

Availability and quality of the provided CZEPOS services and products can be verified on the internet website in on-line regime by the users. CZEPOS gains its wide ground in geodesy, navigation or in the area of intelligent control systems. At 31.12.2013 there were 1 196 registered CZEPOS network users, it means grow of 46 users in comparison to the end of 2012.



Overview CZEPOS map

#### **Database of Geodetic Control Points**

#### http://bodovapole.cuzk.cz/

Database of geodetic control points (DGCP) serves to administration of data on geodetic control points and enables regular public access to these data free of charge. It contains geodetic data on points of fundamental horizontal, vertical and gravimetric control, data on densification and minor vertical control points.

By the end of 2013 the database of geodetic control points included 73 281 centres of trigonometric and densification points and 34 246 associated points, further 1 313 levelling lines of the Czech state levelling network in total 25 144 km long, 119 463 levelling points (82 613 out of them are fundamental vertical control points and 462 gravimetric points).

In the frame of DGCP web applications the new application was launched - Statistics of provided geodetic data, which continuously monitors access of the users to DGCP geodetic data and depicts them in the form of interactive graphs and tables.

By the end of 2013 together 1 654 cooperating users of DGCP were registered, it means users who have filled in the web announcements on defects on geodetic control points in the period 2007 - 2013. During 2013 Land Survey Office received 1 792 announcements and has registered 182 new cooperating users. Cooperation with DBP users helps to improve efficiency in maintenance of geodetic control points, because it is possible to adjust only those points which are requested by the land surveying public.

# 5.2. Maintenance and Documentation of the State Border

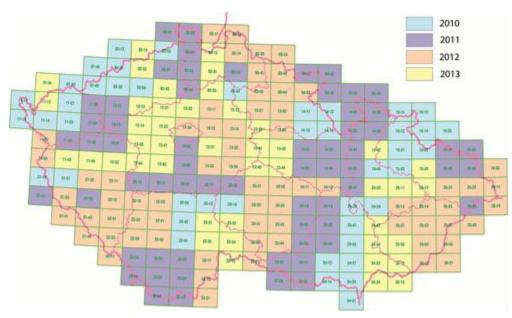
Land survey activities for maintenance and verification of state borders are carried out based on agreement with the state border documentation administrator, which is the Ministry of interior. The actual performance of surveying activities, their scope and specific material content is different for state borders with individual neighbouring states. They are completely subject to tasks arising from international agreements on state borders and their documentation, which is administered in agreement between both partners. The international border commission coordinates processing of documentation for maintenance, signalling and verifying state borders and updating border documentation. New surveying of state borders and specification of positioning coordinates of all break points of the state border is just being realized only on the border with the Federal Republic of Germany.



# 5.3. Fundamental Base of Geographic Data (ZABAGED®)

ZABAGED<sup>®</sup> is a digital geographic model of the territory of the Czech Republic. ZABAGED<sup>®</sup> content represents 114 types of features represented by vector graphic and descriptive part with more than 350 types of descriptive and qualitative attributes. Selected types of features (hydrography, communications) content in its descriptive part the identifiers (integration keys) for the connection to the databases of their expert administrators.

In 2012 the regular updating of ZABAGED® at the whole territory of the state went on with use of orthophotos, aerial photos and field investigation on 809 map sheets of the Base map CR in the scale of 1: 10 000 (ZM 10) but in smaller range than in previous years. Prolongation of the updating cycle of ZABAGED® on six years is compensated by more often update of the 27 significant types of features (roads, administration boundaries, buildings etc.) based on the changes gained from their administrators. Big effort was given to systematic accuracy improvement of the position of roads, highways, railroads, watercourses and further ZABAGED® elements based on the data of a new altimetry model of the Czech Republic. Roads were improved on 968 map sheets of ZM 10 and watercourses and chosen points and lines of the terrain on 472 map sheets of ZM 10. In cooperation with partner office in the Free State Bavaria the intention of ZABAGED® data harmonization with similar German database ATKIS on the borderline was completed following similar already completed project with Saxon partners.

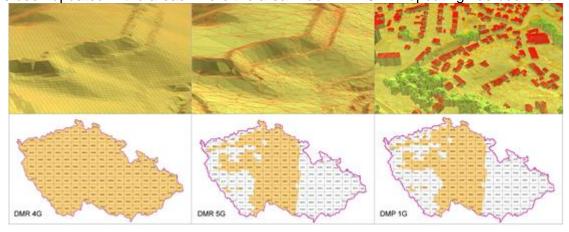


State of aerial updating of ZABAGED® by the end of 2013

# 5.4. Altimetry

Based on the Agreement on cooperation on creation of CR altimetry digital databases between the Czech Office for Surveying, Mapping and Cadastre, the Ministry of Agriculture and the Ministry of Defence from 2008 the airborne laser scanning for the new altimetry of the territory of the Czech Republic went on. In November 2013 laser scanning of the territory of the Czech Republic was successfully completed. Afterwards the digital terrain model in the form of point grid sized 5 x 5 m (DMR 4G) has been completed as well. The manual inspection as well as data classification necessary for creation of the digital terrain model in the irregular triangular network (DMR 5G) and digital surface model (DMP 1G) went on. Nearly from the whole completed zones (west and central) the digital terrain model in the form of point grid sized 5 x 5 m (DMR 5G) is being provided to users as well as DMP 1G.

Altimetry data of the Czech Republic territory administered and provided in the ZABAGED<sup>®</sup> frame in the form of altimetry contour line model and from it delivered regular point net (10 x 10 m), has been updated in the areas where the area-wide ZABAGED<sup>®</sup> updating has been realized.



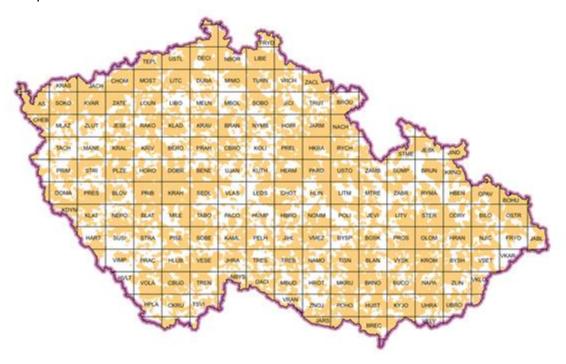
State of play of works on the digital terrain and surface models by the end of 2013

# 5.5. State Map Series

Apart from cadastral maps state map series represent sets of basic and thematic map series. The base state map series is a cartographic work with a widely usable content, coherently showing the territory according to unified principles, created and issued by the state administration body in the public interest. The sources of topographic content of the base state map series are ZABAGED® and Geonames, in particular. Modern technology of database cartography and digital print ensures the quality of map outputs processing and gradual reduction of their updating cycle.

Base maps of the Czech Republic (ZM) at scales 1:10 000 to 1:100 000 have been created since 2010 from two digital databases, Data 10 and Data 50, which are part of the modern information system of state map series. Implementation of the new production system has enabled increasing of the number of ZM cartographic works. In 2013 following map sheets were created: 1 132 map sheets of ZM 10, 273 map sheets of ZM 25, 69 map sheets of ZM 50 and 22 map sheets of ZM 100. In accordance with the publishing plan following map sheets were updated: 20 m.s. Overview of trigonometric and densification points, 20 m.s. Overview of the levelling points and 10 m.s. of the Road map of the CR all in the scale of 1:50 000. Further 39 m.s. of the Map of municipalities with enlarged administrative competencies in scale of 1:50 000 have been covering after six years the whole territory of the CR. Finally 10 m.s. of the Map of Regions of the CR 1:200 000 and the Map of the Czech Republic 1:500 000 were updated particularly for needs of local administration bodies.

In 2013 production of the new edition of the State map 1: 5 000 (SM 5) was going on with the intention of serving especially for the purposes of urban planning. The conception of the new SM 5 is an automate visualisation of chosen object types based on the data from the cadastre of real estate, ZABAGED® and Geonames thus enabling its edition basically upon request. In 2013 it was published in the state of update by 1/2013 and 7/2013 at 61.5 % of the territory of the Czech Republic.



Overview of SM 5 publishing

# 5.6. Orthophotographic Representation of the Czech Republic

Orthophotos created by the orthogonalization of aerial photographs find more and more uses in various fields of activities. Colour aerial photography is being taken on the whole territory of the Czech Republic in cooperation with the Ministry of Agriculture and Ministry of Defence of the Czech Republic. Between 2003 and 2011 one third of the territory of the Czech Republic has been scanned, which means one of three zones ("West", "Central" and "East"). Since 2010 the aerial photographs have been taken by means of digital scanning, which enables simplification of data processing and improvement of their photo interpreting quality. In 2012 the whole east half of the Czech Republic was scanned and in 2013 the first two-year cycle of aerial photographing of the CR territory was completed.

Orthophotos are provided in datasets on map sheets of the State map 1:5 000 (5 sq. km) via viewing services and in print form. Data are in raster format JPEG or TIFF with the resolution of 0.25 m on the ground (from the period 2003 – 2008 only in the resolution of 0.50m) and are georeferenced in the coordinate system S-JTSK with help of the text set JGWTFW. The data sets for coordinate system WGS 84 are also provided. In 2013 the provision of file data of the archival black-and-white orthophotos from years 1998 – 2001 and archival colour orthophphotos from years 2003 – 2009 has started.

### 5.7. Geonames Database

The Geonames database provides a complete set of information on standardized geographical names (in total 165 types of designated objects) and names of settlement units. The Geonames database facilitates the access to terminological data, allows their analysis for the needs of onomastic and historical research. It is increasingly used in map portals, web applications and search services. Alongside with the ZABAGED® data it provides users with an integrated view of the territory of the Czech Republic. It is a source for publishing state map series of different scales.

In 2013 updating of the Geonames database was going on in cooperation with municipalities harmonized with updating of ZABAGED® together with digitization of cadastral maps. In the process of Geonames database updating, which was based on changes discovered by the cadastral offices during renewal of cadastral documentation, the local names in together 1 190 cadastral districts have been approved in 2013. After completing of the data integration in both mentioned applications geographical names have been connected direct to the objects and set into the database only once and not in the number of their occurrence in the map.

# 5.8. Archivní mapy

http://archivnimapy.cuzk.cz

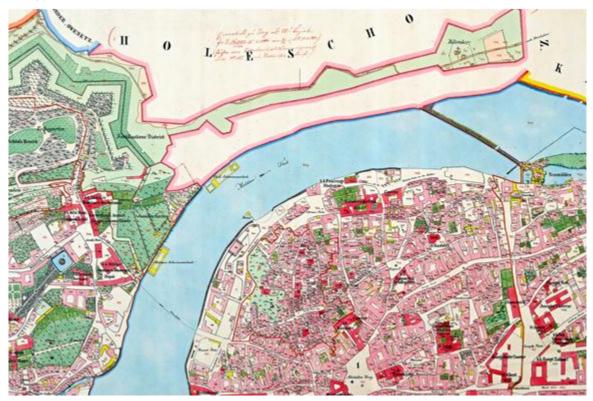
Central archives of land surveying and cadastre (ÚAZK) is a public specialized archive, the main activity of which is taking over and registration of branch archival documents, their proceeding and systematic digitization which enables making them public in the largest range both to the professional and non-professional public.

In 2013 13 194 maps were scanned, particularly from the files Cadastral maps 1 : 2880. Technical maps 1:1 000 and Maps of crops of the Czech Kingdom 1837-1844.

The archival documents can be viewed via application Archival maps ÚAZK. The archival documents available via this application are continuously extended. The most used archival documents are among others imperial mandatory prints of the Stable cadastre from 1824 to 1843 in scale of 1: 2880, included the comparison records of areas between 1845 and 1948, prints of topographical sections of the third military mapping between 1872 and 1853 in scale of

1: 25 000, collection of maps and plans from the second half of the 16<sup>th</sup> century until 1850. Even so called indication sketches are available there, which are physically stored in other archives. Newly available are the maps of the Registry of real estate 1: 2 880 – derived. Via Geoportal of the ČÚZK it is possible to order copies of archival documents or digital sets in printing quality.

The important promotion event for the ÚAZK was the exhibition Old and new maps from the territory of the Czech Republic, which was held by the Land Survey Office in cooperation with the CR embassy in Poland together with the company Warszawskie Przedsiebiorstwo Geodezyjne S.A. in Warsaw and afterwards in Lodz as well.



Prague, map of Stable cadastre (19.century)

# 5.9. Geoportal of the ČÚZK

# http://geoportal.cuzk.cz/

The Geoportal of the ČÚZK enables not only finding information (metadata) on spatial data in responsibility of the branch in one place, but also their viewing or ordering in the form of datasets or services. Internet shop serves to ordering of printed maps as well. ČÚZK Geoportal homepage fulfils the role of the link to further applications and services of the branch (Viewing the cadastre, Public Remote Access to RÚIAN data, Archival maps ÚAZK, CZEPOS, Geodetic control points database etc.). The developing service of the ČÚZK Geoportal is providing the network services based on spatial data. Network services are used not only in its own applications, but also in geographic information systems, map portals and web applications of other providers. In accordance with requirements of the Implementation rules of the INSPIRE Directive the meta-information file on provided data and services are completed and regularly updated in line with the branch metadata profile. Beside the metadata on datasets there are even more detailed data on single map sheets for instance on the state of their updating or

digitization of cadastral maps. The branch metadata profile has been adjusted according to the national metadata profile. In connection to this change even the applications Metadata editor and Searching data and services have been modified. In 2013 the metadata about RÚIAN products were made available.

In previous years the viewing and searching services together with the service for transformation of coordinates have been harmonized in accordance to INSPIRE implementing rules.

The service for transformation of coordinates enables more accurate transformation between S-JTSK and ETRS89 based on the global transformation key. In 2013 this service was enlarged by the transformation between further coordinates' reference systems setting by the INSPIRE Directive included the heights transformation. There is free available client on Geoportal ČÚZK website.

Searching service is a public service providing metadata to the searching clients. It enables searching in metadata not only in the frame of ČÚZK Geoportal, but also in other geoportals using this service (f.i. national and European INSPIRE geoportals).



#### **Datasets Provision**

By means of the internet shop it is possible to order data not only in existing vector and raster formats, but also, for example, in GML format (ZABAGED®, Geonames and INSPIRE themes data). The client has the possibility to select required data according to the sheet line system or according to square units for direct files being provided via the internet.

The most demanded data sets still are ZABAGED®, orthophoto and raster form of the Base map of the Czech Republic 1: 10 000. The biggest data amount is provided to users from the public administration. Also other natural and legal persons are important users with 23 % of data sharing.

# **Viewing Services**

Viewing services of the ČÚZK Geoportal enable on-line internet access to spatial data administered by the branch of land surveying and cadastre. Those users who connect their system to such a service need not to administer their own database of fundamental geodata and accessible data are provided to them with the maximum possible relevance.

The range of viewing services has been enhanced in 2013 with harmonized data of some themes from the INSPIRE Annex I (territorial administration units, addresses, transport networks and geographical coordinate systems).

Software change for viewing services brought not only quicker responses during the shift in map window and higher quality of provided data, but also the possibility of Web Map Tile Services (WMTS) format provision. Publication of raster tiles via WMTS was utilized for orthophoto, base maps and since 2013 for ZABAGED<sup>®</sup> data, which significantly speeded up the responses during their viewing.

In 2013 significant increase occurred in requests for network services provided by the programme equipment of the Geoportal ČÚZK. Users were enormously interested particularly in viewing services which provide Orthophoto CR; the increase was 4.5 times higher than in 2013.

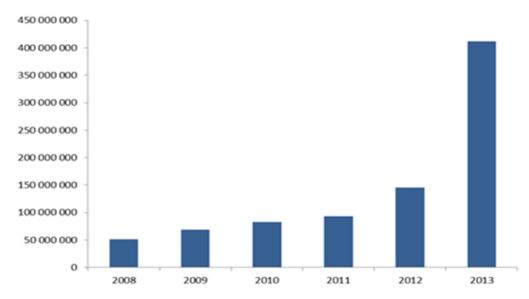


Fig 13: Development in requests for network services provided by Geoportal ČÚZ infrastructure

Wide public can still use viewing services via own ČÚZK Geoportal applications such as Map window and Geoviewer. It is possible to search in a map according to names administered in Geonames as well as according to addresses via them. Geoviewer offers also searching of points in the database of geodetic control points included the geodetic information.

In 2013 the application Maps CR was published for free downloading to smart phones and tablets with the goal of further enlargement and utilization of viewing services. Except for up-to-date ČÚZK spatial data also archival maps from ÚAZK are displayed there. Application provides the users with map documents directly in the field and similar searching and querying functions as in Geoviewer are there for disposal.

# 6. Economics and Human Resources

# 6.1. Employees and Education

By 31.12 2013 together 5 271 person were employed in the ČÚZK branch, 1 450 (27.5 %) out of them were men and 3 821 (72.5 %) were women. Educational structure in the branch is characterized by prevailing share of workers, who reached the secondary school education (60.3 %); nevertheless in last year this share mildly decreased in favour of the workers with University degree. In 2013 the share of graduated workers was 35.4 % from the total number of employees, which means 0.5 % more than in 2012 and 1.8 % more than in 2011. The age structure of branch employees has remained almost unchanged in previous years. The most numerous age groups are the employees aged 41-50 (31.3 % from the total number).

Year	Number of Employees	Women	Graduated		Age Structure			
	Limployees	to 30	31–40	41–50	51–60	61 and more		
2013	5 271	72,5 %	35,4 %	478	1 346	1 649	1 492	306
2012	5280	72.8 %	34.9 %	520	1425	1623	1424	288
2011	5405	72.8 %	33.6 %	576	1461	1650	1417	301

By 31.12 2013 the number of women in managerial positions was 311 (50.5 %) in the ČÚZK branch, the total number of managerial positions being 616. It is the ideal result as of gender equality in managerial positions. The area for possible improvement is to achieve higher number of women on the position of the administration office manager, which is, however, given by the lower women interest on the long-term basis to participate in competitive tendering for these managerial demanding positions.

Managers		Total			
	Administrat ion Office	ffice			
Total Number	24	16	134	442	616
Women Number	3	8	56	243	311
Women Share	12.5 %	50.0 %	41.8 %	55.2 %	50.5 %

During 2013 together 307 employees terminated employment, this was 33 less than in 2012 and 146 less than in 2011. The rate of fluctuation was 7.0 % in 2013.

Year	Terminated Employment	Rate of Fluctuation
2013	370	7.0 %
2012	403	7.6 %
2011	516	9.5 %

Employees' education is one of main priorities of the human resources management in the branch. The branch educational conception is based on the highly-developed training system, which enables particularly increasing and intensification of the qualification of every particular worker in accordance with requested qualification of the employees of administrative bodies and with further demands connected with requirements on activities performance at particular job positions.

Based on the approved plan of education in the Czech Office for Surveying, Mapping and Cadastre a lot of educational activities were realized by the personal departments of individual administrative offices for their employees focused on legal, economic, personnel and cadastre of real estate subject matters in 2013. Moreover the ČÚZK personal department realized some specialized team workshops for chosen workers from all branch offices. The crucial part of educational activities in 2013 was focused on training regarding the new legislation which has come into force since 1. 1. 2014 having capital importance for functioning of the whole ČÚZK branch. The team of 10 lecturers was created from the branch professionals who were able successfully realized very demanding cycle of training lessons devoted to the new cadastral law and cadastral regulation. Most of these lessons were organized directly in single cadastral offices thus enabling to train numerous groups of target employees. Utilization of internal lecturers enabled to save budgetary means and use them afterwards for realization of other beneficial educational events.

# 6.2. Granting Official Authorization for Verification of Results of Land Surveying Activities

In the framework of granting official authorization for certification of the results of surveying activities professional competence exams for authorization were held in five terms in 2013 in accordance with section 14 of the Act No 200/1994 Coll., on surveying and mapping.

In the year 2013 the total number of completed applications was 104 (17 of them from 2012). There was 79 % increase in the number of proceeded requests in comparison to 2012. Based on the professional competence exams new official authorization was granted to 64 applicants and 15 applicants enhanced their existing authorization. In 2013 one official authorization was deleted from the registry.

2 480 persons have been registered on the updated list of officially authorized land surveying engineers administered by the ČÚZK by the end of 2013.

#### 6.3. Economics

Approved state budget of the Czech Republic for 2013 specified revenue of CZK 476 385 thousand and expenditure of CZK 2 689 754 thousand for the chapter 346 ČÚZK.

Revenue collection, coming to the budget from the administrative fees, were prescribed in the amount of CZK 330 000 thousand, their fulfilment reached CZK 503 368.5 thousand, it is 152.5 %. Budget of non-revenue collection of CZK 130 000 thousand was filled in by the amount of CZK 217 332 thousand, it is 167 %, in 2013.

The expenditure in 2013 was used mostly on employees' salaries as usual, other payments for carried out work and associated expenditure, being 69 % of the total expenditure of the branch. It means CZK 1 925 334 thousand. The average monthly income achieved in 2013 reached CZK 23 398 per employee.

The second big expenditure group of the chapter 346 ČÚZK were other material ones in the amount of CZK 552 434 thousand. These were used on services (CZK 198 million), particularly on updating and support of the basic SW, applications support, operation of information systems of land surveying and cadastre of real estate, further on buying of electric power, heating, gas, fuel and water (CZK 80 million) and for postal services (CZK 87 million). The remaining part of other material expenditure covered particularly the expenditure on data and voice telecommunication services, office and PC renting, material supply and travel costs.

Significant part of the expenditure were those used on financing of programmes administered in the information system of programmed financing EDS/SMVS, it means the expenditure allotted for procuring and modernisation of sector tangible and non-tangible property. In 2013 there was mild decrease in share of these expenditures of the total chapter expenditure only on 11 %. Other important part of the programme expenditure was created by financing of projects cofinanced by the EU budget; particularly Building of RÚIAN and modernization of the Information system of the cadastre of real estate of the ČÚZK (CZK 64 million), DMS (CZK 27.6 million) and documentation management (CZK 5.3. million). Further items are the programme investments for SW and HW procurement, for building and transport renewal.

Summa	ary of Ob	ligatory	Indexe		Financial I	ndexes in	CZK '000s
	2007	2008	2009	2010	2011	2012	2013
Index/ Year							
Income of the chapter	175 459	214 158	271 592	276 942	439 481	599 126	721 424
Out of it: revenues for administration fees			30 016	62 770	67 239	348 866	503 369
Income from EU budget				3 423	135 802	18 703	723
Total expenditure of chapter	2 815 730	2 806 480	3 170 650	3 336 483	2 785 290	2 753 079	2 787 362
Out of it: projects co-financed from EU budget			26 778	400 226	59 518	130 494	97 518
Current expenses without non-investment	2 109 573	2 197 182	2 460 125	2 351 702	2 145 791	2 082 017	2 477 766
Including: wage resources <sup>1)</sup>	1 424 864	1 456 806	1 597 945	1 536 985	1 427 387	1 412 214	1 426 590
Insurance and FKSP	527 530	539 126	575 343	549 632	498 865	493 133	498 743
Other material expenditure	157 179	201 250	286 837	252 145	219 539	176 670	552 434
Program expenditure	677 493	580 634	679 225	984 781	617 428	682 196	314 192
Including: non-investment	414 244	402 841	437 128	396 053	444 627	433 124	56 455
Investment	263 249	177 793	242 097	588 728	172 801	249 072	257 737
Research and development expenditure	28 664	28 664	31 300	22 159	34 391	0	C
Including: operational	28 164	28 664	31 300	22 159	34 391	0	C
Investment	500	O	0	0	0	0	C
Number of employees in Sector 2)	5 430	5 412	5 596	5 532	5 258	5 130	5 070
ČÚZK	159	153	151	159	155	150	147
Cadastral Offices	4 750	4 738	4 935	4 864	4 618	4 498	4 450
Land Survey Office	430	427	417	416	394	392	384
Survey and Cadastral Inspectorates	91	94	93	93	91	90	89

average corrected calculation

# 7. Inspection and Supervision Activity

# 7.1. Professional inspection and Supervision

Inspection of state administration of the cadastre of real estate, supervision over the certification of results of land survey activities used for the cadastre of real estate and state map series, and decision-making on appeals against first instance decisions of cadastral offices (CO) are delegated by law to the 7 surveying and cadastral inspectorates (SCIs).

In 2013 SCI's accepted 12 requests for applying of the measures against inactivity of CO (54.58 % in comparison to 2012). The extent of decision-making agenda of SCI on appeals against decisions of CO decreased in 2013 on 11.8 % (503 appeals delivered in 2013 as opposed to 570 appeals delivered in 2012). The quality of decision making activities of cadastral offices as first step organs worsened mildly in comparison to 2012 (43.2 % of decisions of cadastral offices were found illegal in the appeal proceedings in 2013, whilst in 2012 it was 40.8 %). The number of appeals in matters regarding correction in cadastral documentation decreased on 7.4 % in comparison to 2012 (289 appeals delivered in 2013 as opposed to 312 delivered in 2012), the number of appeals in matters regarding objections against the content of renewed cadastral documentation increased on 1.0 % (158 in 2013 as opposed to 153 in 2012) and the number of delivered appeals against procedural decisions of CO decreased by 47.4 % in 2013 in comparison to 2012 (50 in 2013 as opposed to 95 in 2012).

Systematic inspection activity of SCI's was in 2013 focused mainly on the inspection of prescribed technological proceedings during the renewal of the cadastral documentation and on acquiring information about possible problems connected with their follow-up utilization and with maintenance of digitized cadastral maps. SCI performed in 2013 in total 1 404 documented inspection actions in the workplaces of cadastral offices. Particular cases of discovered insufficiencies were specified and commented in half year SCI analyses which are systematically organized according to unified concept and regularly handed over to other ČÚZK departments for further utilization. Internal branch publicity has been ensured via branch intranet. In the framework of supervisory activity (supervision of certification of the results of land survey activities) SCI performed a total of 372 documented supervisory actions in 2013. In 32 cases in the subsequently conducted administrative proceedings SCI decided that the verifier of the result of land surveying activities had committed an administrative offence of infringement of order in the sphere of surveying and imposed fines at a total of CZK 771 000.

# Complaints in 2013

Inspectorates	Not resolved at 1.1.	Received after 1.1.	In total	Forwarded	Legitimate	Not legitimate	Still being resolved
in Brno	-	4	4	2	-	1	1
in Č. Budějovice	-	7	7	4	-	3	-
in Liberec	-	4	4	-	-	4	-
in Opava	-	5	5	3	-	2	-
in Pardubice	-	3	3	1	-	1	1
in Plzeň	-	1	1	-	2	1	-
in Praha	-	24	24	15	2	7	-
In total	-	48	46	25	4	19	2

# **SCI Decisions on Appeals against CO Decisions**

Matters	Not resolved at 1.1.		In total	Forwarded		Decision amended	Decision repealed	Decision annulled and returned to CO	Still being resolved	Faulty proceedings
Correction of errors in the cadastre	37	289	326	5	172	30	3	78	36	2
Objections to revised cadastral documentation	18	158	176	1	70	13	-	73	16	3
Infringements of order in the sphere of the cadastre	-	-	-	-	-	-	-	-	-	-
Procedural	4	50	54	-	19	1	-	27	5	2
Changes in the boundaries of cadastral districts	-	1	1	-	1	-	-	-	-	-
Administrative fees	-	5	5	-	3	-	2	-	-	-
Rejection of applications for submission of information	-	-	-	-	-	-	-	-	-	-
Other	1	-	1	-	-	-	1	-	-	-
In total	60	503	563	6	265	44	6	178	57	7

# 7.2. Financial Inspection

ČÚZK as the administrator of budget chapter performed financial inspections according to the Act No 320/1990 Coll. on financial inspection, in its subordinated bodies in 2013.

According to the approved plan of public administration inspections for the year 2013 the inspection group of ČÚZK carried out public administration inspections together at following 12 inspected bodies:

CO for the Region Karlovy vary, CO for the Region Zlín, CO for the Region Olomouc, CO for the Region Vysočina, CO for the Ústecký Region, and all seven SCI's, in which performing of internal audit is substituted by performing of public administration inspection in compliance with the section 29, art.5 of the Act No 320/1990 Coll., on financial inspection. Main goal of realized inspections was not only to verify the financial management of inspected persons, following the binding legislation, economic and internal rules, functioning of internal managing systems, but also creation of the conditions for economical and efficient performance of the public administration.

Inspection of accounting documents verified not only their requirements as of material and formal point of view, but in particular realisation of the previous, continuous and ex-post check. All inspected organizations were proved as of observance of the efficiency, economy and usefulness of public resources utilization for fulfilment of given goals. Part of the inspection was checking of the call for public tenders and their realization, the right range of administration fees, payments and prices for provision of data from the cadastre of real estate. In case some losses and damages had been solved in some offices and the damage compensation has been set down, the control group inspected the way of damage settlement as well.

Among others the inspections focused in 2013 on fulfilment of provisions, being adopted to eliminate insufficiencies from previous inspections and inspections performed in the ČÚZK branch by external audit organizations particularly financial offices and financial directorates. Special attention was given to measures being imposed to eliminate insufficiencies discovered by the inspection of the Supreme Inspection Body following the inspections realized between August 2012 and April 2013 in inspected cadastral offices for Olomouc, Vysočina and Ústecký regions. Public administration inspections of some inspected persons in 2013 found less serious formal and objective shortcomings emerging from the inconsistent compliance with some provisions of ČÚZK economic rules, some partial shortcomings in records of assets and in provision of information from the cadastre of real estate. No serious shortcomings were discovered by public inspections in 2013 that would unfavourably affect the activities of

inspected persons. All documents from carried out inspections were delivered to the president of the ČÚZK together with proposed measures who then imposed measures to inspected persons to eliminate existing insufficiencies and prevent them to be repeated in accordance with the section 18 art. 2 of the Act No 320/1990 Coll., on financial inspection.

# 7.3. Internal Audit

Internal audit is a part of the system of financial inspection in the branch ČÚZK. It is carried out by internal auditors. Systemized job positions are established in ČÚZK, LSO and in every KÚ. Organizational rules ensure full independence of the auditors and their separation from managerial and executive structures. The function of internal audit has not been set up in cadastral inspectorates, because it was substituted there by yearly public administration inspection. The internal auditors are directly subordinated to heads of particular offices. The main task of performed internal audits is independent inspection and evaluation of appropriateness and efficiency of the managerial inspection, including verification of accuracy of chosen operations.

The activity of internal auditors results from the medium-term and yearly plans. Planning of audits is based on the risk evaluation and is focused on priority processes in conditions of particular offices. The part of the plans of internal audits is also performing further tasks in compliance with Standards for the professional practice of internal auditors. Internal auditors carry out methodical and consultation activities and take part in the creation and amending of internal regulations. Integral part of auditors' activities is their professional development. 13 out of 16 internal auditors in the branch hold the certificate on passing the basic training class of the unified system of professional training of public administration employees in the area of financial inspection and internal audit.

In accordance with approved plans for 2013 internal auditors performed together 85 internal audits. From this total number of internal audits 26 were financial ones focused on the proof of the economy of particular offices, 34 were audits of systems proving the administration of public resources, 9 were audits of operation dealing with the functioning of the internal inspection system and 16 were other audits.

Performed audits were addressed in particular to prove the functionality and efficiency of the internal inspection system, verification of existing state of the fulfilment of suggested recommendations stemming from completed audits and inspections in previous year. Internal audits evaluated whether the standards and internal regulations have been issued and whether the anticorruption measures have been implemented and monitored. The activities of the branch were realized fluently in 2013 despite incorporating the budget cuts and the budget was balanced without bigger deviations and problems.

There is continuous monitoring process of public tenders assignment in place in the CUZK, which are registered via electronic tool eGORDION. Measures preventing the property in economical administration of CUZK have been implemented as well. Audits inspected created risk analysis and maps of risks, verification of procedures connected with submission of public tenders, managing of state property, accounting administration and dealing with budgetary resources, check of administration fees and others.

Performed audits were completed in the written reports with recommendations, which are submitted to particular SAB heads. Most of recommendations were accepted. In 2013 performed audits proved that internal inspection system is effective, identifies possible risks and diminished probability of their occurrence in auditing activities of ČÚZK. Internal system of inspection is able to inform about possible insufficiencies at all managerial levels thus meaning limitation of necessity to realize measures for their improvement.

# 8. International Cooperation

ČÚZK actively participates in the work of some international organizations being active in the field of cadastre, land registration and land surveying administration. Beside that it also actively cooperates with all neighbouring countries and exchanges data and information with them based on bilateral agreements.

ČÚZK is an active member of the pan-European organization EuroGeographics, which associates map agencies and cadastral offices of European countries. EuroGeographics enables experience exchange and their mutual cooperation; it systematically develops the cooperation with the European Union bodies at building of the united infrastructure for spatial

data in Europe. EG contributes to it by creating of pan-European products with harmonized parameters for all European countries, f.i. EuroRegionalMap, EuroBoundaryMap, EuroGeoNames, ESDIN, EuroSpec. EG negotiates experts



involvement from member organizations into preparations of harmonization provisions included implementing rules of the Directive of the European Parliament and the Council for establishing of the Infrastructure of Spatial Information (INSPIRE) and helps to implement them on the particular member states level.

In the year 2013 EG followed this experience and has prepared the project European Location framework in which ČÚZK also takes part. Three-year project is realized as a part of CIP-ICT PSP of the European Commission and was launched in March 2013. Its goal is to prepare the unified frame for provision of European reference geoinformation services.

ČÚZK went on in 2013 in implementation of the INSPIRE Directive in the frame of its competencies and participated in two international conferences devoted to this Directive. The first one was held in Florence and the second one in Bratislava.

ČÚZK regularly monitors the activities of the Working Party on Land Administration (WPLA), working under the auspices of UNECE, which is engaged in land and real estate information and related thematic. In 2013 the representatives from the ČÚZK took part in two WPLA workshops. The first one was joined plenary meeting and workshop in Kirgiz Bishkek and the second one focused on cooperation and data sharing for better services security and higher security for real estate owners which was held in Swedish Uppsala.

ČÚZK participated in two meetings of the Permanent Committee for Cadastre in EU (PCC), main goal of which is to represent a privileged link between cadastral institutions and the institutions of the European Union and other entities requiring cadastral information to carry out their activities. Both meetings being held in Irish Dublin and afterwards in Lithuanian Vilnius were amply internationally represented.



In the area of bilateral cooperation the joint activities with the Bavarian Land Surveying and Geoinformation Office (LVG) went on, focused particularly on data exchange of the state borders data and works on data harmonization in the borderline areas. Similar cooperation went on even on the borderline with Saxony, the Saxon State Office for Geoinformation and Surveying (GeoSN) and started preparation for the same activity on the borderline with Slovakia, Geodesy, Cartography and Cadastre Authority of the Slovak Republic. Beside these activities with Slovakia also regular working contacts went on. In Poland very successful exhibition of historical maps of the Central Archives of Land Surveying and Cadastre of the CR was held, being prepared in cooperation with the Embassy of the CR in Warsaw.

Jubilee 31<sup>st</sup> meeting of cadastral service providers of succession state of the former Austro-Hungarian Empire, namely Croatia, the South Tyrol, Austria, Slovakia, Trentino, Hungary and the Czech Republic was held in Austrian Eisenstadt in May 2013. The main theme for this anniversary meeting was the overview of activities in particular participating countries during past 30 years.

Further activity of the CUZK was in 2013 the role of a host for many foreign delegations. The programme of their visits contained practically all branch activities with focus on use of information technologies in the cadastre administration and within the data provision. The first delegation having arrived to the CUZK was a group of experts from the Bulgarian military service who were mostly interested in the work of Land Survey Office, Geoportal CUZK and our experience with the INSPIRE Directive implementation. Further delegation visited our office in April 2013. These were the Romanian experts from the National agency for cadastre and registration (ANCPI), Serbian colleagues from the Ministry of urban development, delegation of Polish representatives of the local government there and finally the colleagues from the Bavarian LVG. All these visitors were mostly interested in ISKN and the new RÚIAN registry as well as in the news and activities of the LSO. Beside these study visits many technically focused workshops with international participation were being held during the whole year 2013.



Plenary meeting of the Permanent committee on cadastre in EU in Vilnius (November 2013)

# 9. Structural Funds of European Union

ČÚZK utilizes the Integrated operational programme of EU to finance some of its projects important for further development of the branch and for realization of its part of its responsibility for creation of basic registries of the state administration.





#### Building of the Registry of the Territorial Identification, Addresses and Real Estate

The subject of the project was building of the Registry of territorial identification, addresses and real estate together with modernization of the Information system of the cadastre of real estate ČÚZK. In 2013 all realization phases were successfully completed and the project was crowned by the final acceptation on 60.6.2013. RÚIAN has been in operation during the whole year 2013 without bigger complications and administered data has been very intensively utilized both by the professional and non-professional public.

#### **Complex Electronic Document Service**

The subject of the project was creation of the complex document system of ČÚZK included eMail and eDispatched registry of ČÚZK together with ensuring save data storage. During the whole year 2013 the step-by-step interconnection of electronic document service system with the ISKN has been in operation, which was successfully completed in the end of the year. The whole project was completed by 31.12.2013.

#### **Document Management System**

The main goal of the project is implementation of unified system of document proceeding in electronic form included long-lasting archiving of digital documents included the electronic set of documents in the frame of the ČÚZK branch and provision their copies to users and to other information systems as well. DMS will ensure save storage and archiving of all administered documents, possibly their shredding as well. The system will include the digitization of entered documents as well. One of main benefits of the system is significant speeding up of applications' proceeding in the cadastre of real estate, decrease of the corruption risk and the possibility of redistribution of the workload among particular cadastral workplaces. After setting the objections regarding the public tenders the scanning machines were delivered and the realization has started in the end of 2013.

# **European Location Framework (ELF)**

ELF is a strategical project of the consortium of 30 European mapping and cadastral offices associated in EuroGeographics being supported by European Union in the frame of the CIP PSP programme. The main goal of the project is to provide step-by-step the seamless, updated data sets and services based on updated reference spatial data of European national mapping and cadastral offices and provide them to users in a sustainable way. Practical use of such European range data is then demonstrated with help of various thematic applications of further providers with participation of private sector. Unified shape of data and services will be ensured using the technical rules of the INSPIRE Directive. Results of European projects ERM, EGM, EGN, ESDIN a.o. which were being solved by EuroGeographics in previous years are to be used. The three-year project was launched on 1.3.2013 and in the first period together 15 European countries included the Czech Republic is participating.

# 10. Research and Development

ČÚZK performs the function of the founder of the Research Institute of Geodesy, Topography and Cartography (VÚGTK), v.v.i. The activity of the VÚGTK is focused on applied and basic research in the land surveying and cadastre branch. Under the roof of the institute work the authorized metrological centre, accredited calibration laboratory, land surveying library and the institute is also the accredited educational body.

The content of the research activities for the needs of the ČÚZK branch was in 2013 stated in the agreement concerning the use of the research and development results. Financing was ensured via the institutional support of research and development and via particular projects which have been assigned by the Technology or Grant agency of the CR. Beside this VÚGTK went on in solution of part of the project from European centre excellence NTIS – New technologies for information society, which is part of the operational program development and research for innovations with the main researcher West-bohemian University in Plzen.

Applied research in geodesy and geodynamics focused mainly on the development of the observation infrastructure, namely in the basic station - geodetic observatory Pecný – and in the experimental research network GNDD – VESOG. The activity of some centres is listed in the system of scientific services of the International geodesy association. The gravimetric laboratory with its superconductive and absolute gravimeter took part in some international projects in the area of geodynamics as well. The theoretical basic research focused both on the theory and numerical methods for gravity field modelling with application outputs in the form of scientific publications and certified methodology, and on testing of the global model of the Earth gravity field.

The research and development activity in the sphere of GIS and cadastre of real estate concentrated mainly on the maintenance and development of programme products for renewal of the cadastral documentation and for administration of digitized cadastral maps. Development of DIKAT system for creation of survey sketches went on as well. Web service for data quality control in the exchange format for the cadastre of real estate based on the methodology created in 2012 has been further solved.

For needs of the ČÚZK branch as well as for the widest public the services of the Land survey library were provided in 2013. Existing library fund contents approximately 45 thousands items. During 2013 digitization of the library fund went on. Digitized documents are available via internet. In the frame of the educational programme the VÚGTK branch information centre organized 13 courses in total.

In the frame of activities of the accredited calibration laboratory and Authorized metrological centre there were realized together 1 292 calibrations of gauges in 2013. In October 2013 the reaccreditation of the laboratory after 5 years was realized and new accreditation certificates acquired for provision of metrological continuity of gauges in the EU frame. Continuous provision of metrological requests stated in the ČÚZK metrological rules and in existing legislation during 2013 has been procured. The administration and maintenance of standards necessary for ČÚZK activities was carried out as well.

Multilingual terminological dictionary has been continuously updated with foreign-language expressions during 2013 having contained 4 000 terms by the end of 2013. The dictionary is available on the internet. VÚGTK has been the active member of the Council of public research institutions for applied research (RAV), the mission of which is to contribute to solution of existing legislation and operational problems of the public research institutions beyond the scope of the Academy of sciences of the CR. The membership in the Association of research organizations was useful as well.

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