

# Český úřad zeměměřický a katastrální

# ANNUAL REPORT 2012

Zápis údajů o právních vztazích a jiných údajů do katastru (1) V listinách, které jsou podkladem pro zápis do katastru, musejí být označeny a) pozemky parcelním číslem s uvedením názvu katastrálního území, ve kterém leží, a v případě, že jsou v katastrálním území pozemky vedeny ve dvou číselných řadách, též údajem, zda se jedná o pozemkovou nebo stavební parcelu, b) pozemky, které jsou evidovány zjednodušeným způsobem (§ 29 odst. 3), parcelním číslem podle dřívější pozemkové evidence s uvedením, zda se jedná o parcelní číslo podle pozemkového katastru, přidělového operátu nebo scelovacího operátu, a s uvedením názvu katastrálního území, ve kterém leží, c) budovy označením pozemku, na němž jsou postaveny, číslem popisným nebo evidenčním, případně, pokud se číslo popisné ani evidenční budově nepřiděluje, způsobem jejího využití a v případě budov s číslem popisným či evidenčním též příslušností budovy k části obce, pokud je název části obce odlišný od názvu katastrálního území, v němž se nachází pozemek, na kterém je budova postavena, d) rozestavěné budovy označením pozemku, na němž jsou rozestavěny, a označením, že se jedná o rozestavěnou budovu, e) byty a nebytové prostory označením budovy, 2) v níž jsou vymezeny, číslem bytu nebo nebytového prostoru a pojmenováním nebytového prostoru, popřípadě popisem umístění v budově, pokud nejsou byty a nebytové prostory očíslovány, f) rozestavěný byt a nebytový prostor označením pozemku, na němž je dům s byty a nebytovými prostory rozestavěn, číslem bytu nebo nebytového prostoru a pojmenováním nebytového prostoru, popřípadě popisem umístění v rozestavěném domě s byty a nebytovými prostory, pokud nejsou byty a nebytové prostory očíslovány, a označením, že se jedná o rozestavěný byt nebo nebytový prostor, g) vodní dílo 4) označením pozemku, na němž je postaveno, a způsobem využití vodního díla. (2) Má-li být část pozemku sloučena do pozemku sousedícího nebo má-li z více částí vzniknout nový pozemek, je přípustné též označení převáděné části pozemku v listině písmenem malé abecedy s odkazem na geometrický plán, kterým je vymezena, pokud z listin předložených pro zápis do katastru vyplývá realizace všech nezbytných změn právních vztahů podle takového geometrického plánu. (3) Katastrální úřad provede a) vklad 5) údajů o právních vztazích do katastru na základě pravomocného rozhodnutí o povolení vkladu ke dni, kdy mu byl tento návrh doručen, b) záznam 6) údajů o právních vztazích do katastru do 30 dnů po doručení rozhodnutí státního orgánu nebo jiné listiny potvrzující nebo osvědčující právní vztahy, c) poznámku 7) v katastru do 30 dnů po doručení listiny způsobilé k vyznačení poznámky v katastru; tuto poznámku katastrální úřad zruší do 30 dnů po doručení listiny, na základě které důvody pro její vyznačení pominuly. (4) Vznik, změna nebo zánik právního vztahu na základě právní skutečnosti nebo jednostranného právního úkonu, 8) které nelze doložit a jsou-li nesporné, mohou být do katastru zapsány pouze na základě osvědčení ve formě notářského zápisu nebo na základě soudního smíru. 9) (5) Pro zápis nových staveb, reálně oddělovaných částí nemovitostí, jakož i věcného břemene k části pozemku do katastru, musí být předložen též geometrický plán, u nových staveb též doklad o přidělení čísla popisného nebo evidenčního, 10) pokud se jim přiděluje, a u rozestavěných budov, bytů a nebytových prostor čestné prohlášení vlastníka nebo jiného oprávněného s jeho úředně ověřeným podpisem, že se jedná o rozestavěnou budovu, byt a nebytový prostor. (6) Jako vlastník nově evidované stavby se do katastru zapisuje vlastník pozemku, na kterém je stavba postavena, pokud není listinou prokázáno, že vlastníkem stavby je jiná osoba. Jako způsob využití nově evidované stavby



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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 2012 cadastral offices have received 655 201 proposals for registration of rights representing yearly decrease of 5 %. All cadastral workplaces in the Czech Republic were carrying out the registrations of rights in the statutory time in 2012, and that are 2 weeks from the submission of the application on average. The number of completed registrations based on record and notation reached nearly 1 244 thousands in 2012, which represents yearly increase of 6%, being caused by development in the number of notations on writ of executions.

Yearly increase in the number of requests for outputs from the cadastre was solely realized by eServices of the Remote access, which satisfied even 93 % of nearly 11 million by customers requested information from the cadastre of real estate. On the other hand the number of requests at desks in cadastral offices decreased on 16 %. It is the result of long-term conceptual steps regarding the electronization of this administration boosting the direct access of public administration to the information from the cadastre of real estate, decreasing the time and costs of participants of proceedings with involvement of administrative bodies. The number of outputs provided by the verifiers (CzechPOINT) decreased yearly on 2%.

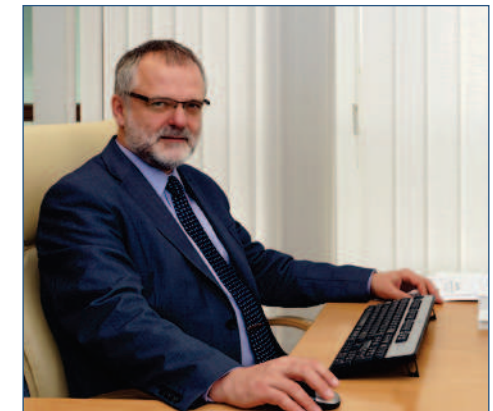
Digitalization of cadastral maps went on successfully in 2012. The number of cadastral districts with digitized cadastral maps for disposal increased yearly on 1 127 cadastral districts with the result of completed 9 064 cadastral districts which means 69.6 % of the total number of the cadastral districts in the Czech Republic. With regard to the economy measures it is impossible to speed up the pace of digitization, more likely the reduction in number of employees of cadastral offices results in limitation of capacities designated for the digitization.

In the frame of fulfilment of the long-term program of constructing the national geoinformation infrastructure the modernization of the Czech network of GNSS permanent stations (CZEPOS) has been completed, which enables fast and precise positioning in the whole territory of the state with cm accuracy thanks to permanent reception of signals from satellites of global navigation system. Modernization of the network enables using the signal from satellites GLONASS and after launch of Galileo satellites also from Galileo system. Map products updated in three-year cycle are provided via Geoportal of the ČÚZK in the form of web services, so that users can connect the updated data to their applications in the necessary amount - they are not forced to copy the updated data. Due to the aircraft failure in 2012 it was impossible to realize the last third of the project of acquisition of new terrain model of the Czech Republic with help of airborne laser scanning data of the earth surface, which is underway in cooperation with the Ministry of Agriculture and Ministry of Defence. This part will be realized in 2013.

More detailed information on results of work of land surveying and cadastral offices in 2012 brings this annual report for the year 2012.



Karel Večeře  
President of the ČÚZK



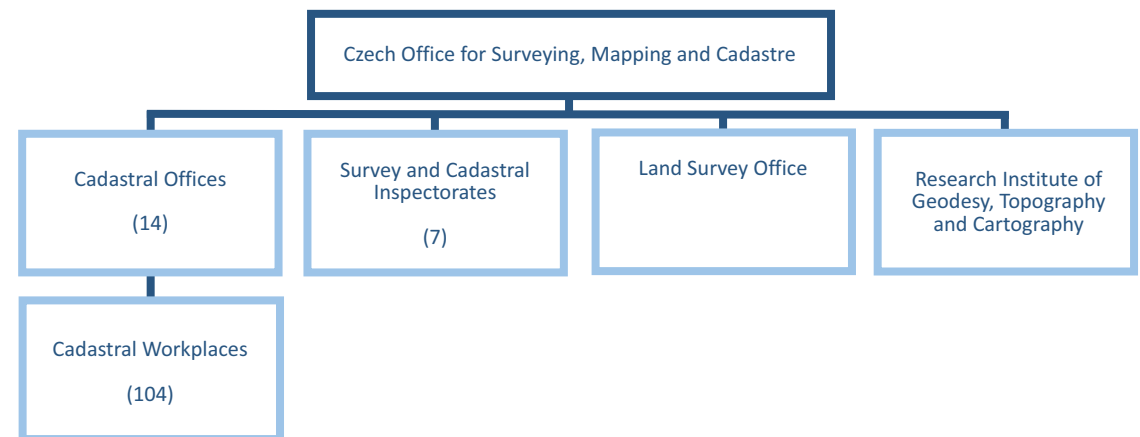
# Surveying, Mapping and Cadastre Sector in the Czech Republic

The cadastre of real estate of the Czech Republic is a set of data about real estates 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 these real estates. The cadastre of real estate continues to a long tradition and inventories of ownership and land registrations in the territory of the Czech Republic, with roots going back to the 14th century.

The main goal of land surveying activities in the public interest provided by the surveying, mapping and cadastre sector is to provide both professional users and wide public with requested geographical products, data and services from the geodetic control, Fundamental base of geographical data, state map series, orthophotographic representation of the Czech Republic and hypsometry and the Central Archives of Land Surveying and Cadastre.

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 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 2012 there were no changes in the organizational structure, but due to financial cuts the cancellation of 5 small local cadastral workplaces has been prepared with realization in the first quarter of 2013. The cadastral workplaces in question are Jilemnice, Havířov, Kaplice, Nepomuk and Sušice.

Administration authorities for the cadastre of real estate and land surveying were set up by Act No 359/1992 Coll. on land surveying and cadastral bodies, which also specifies their material and territorial competence.



# 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.

In 2012 ISKN was 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 2012. 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 increase of the transfer tax from 1.1.2013. The year 2012 was the transitional one during which the application for registration of right to real estate could be presented without the prescribed form. To enable problem-free transition to the form-based applications the electronic versions of forms have been prepared and tested together with the instructions for their completing. A special IT application cooperating with the cadastral database has been tested as well, which significantly facilitates the creation of the form-based applications for the registration of rights.

The year 2012 was affected by preparation of the new cadastral legislation following the new civil code, which brings extensive changes into the area of 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 will be the part of the parcel. The new civil code is also introducing many other material rights not existing yet, which should be registered into the cadastre of real estate. Apart from these mentioned changes special attention is 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 bill of cadastral law was approved by the government of the Czech Republic on 15.8.2012 and has been passed on to the chamber of deputies of the parliament of the Czech Republic for further review.

In the end of 2012 the law on property settlement with the church and religious associations was approved. To practically realize its intention a lot of documentation from historical land registries so as from existing cadastre of real estate is to be for disposal. That is why cadastral offices prepared in the end of 2012 the materials for first proceeding steps based on this law, in particular, digitization of some basic documentation and its publication in a special application of Viewing the cadastre of real estate for the property settlement with the church. Nevertheless the main load following the process of property settlement with the church will affect the cadastral offices just in 2013.

## 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 are completed by the constitutional entry of right into the cadastre of real estate, whilst the records or deletions of material rights arising or extinct by the decision of the public authority organ, by law a. o. are performed in a simpler procedural way, by means of so called registration. Similar procedure is 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.

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

Entry in the cadastre of real estate records of 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. In administrative proceedings the cadastral office assesses deeds and other documents, decides on permitting entry and, based on these decisions, records the rights in the cadastre of real estate. Property rights to real estate are created by registering in the cadastre of real estate with legal effect on the date of application for entry.

In 2012 the number of accepted proposals for entries of rights by cadastral offices was 655 201 which means decrease of 5 % in comparison to 2011. Number of completed proposals for entry of proprietary right was 659 471, which means decrease of 1 % in comparison to 2011.

Fig. 1: Share of Different Types of Rights Recorded by Entry in the Cadastre of Real Estate

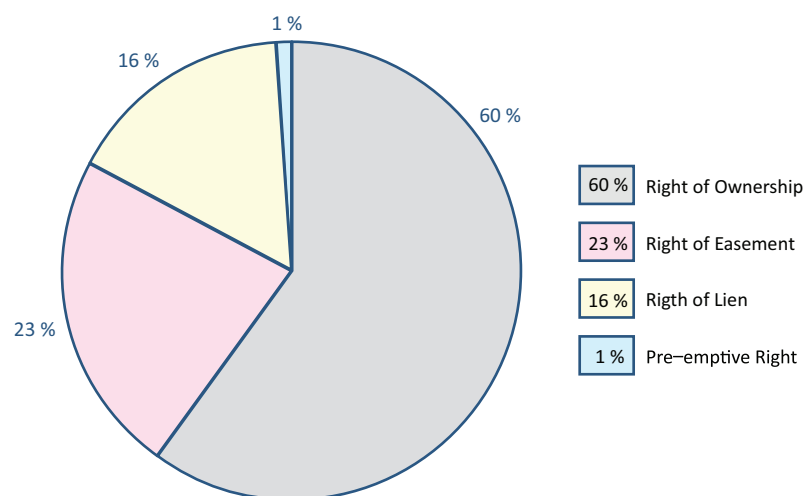
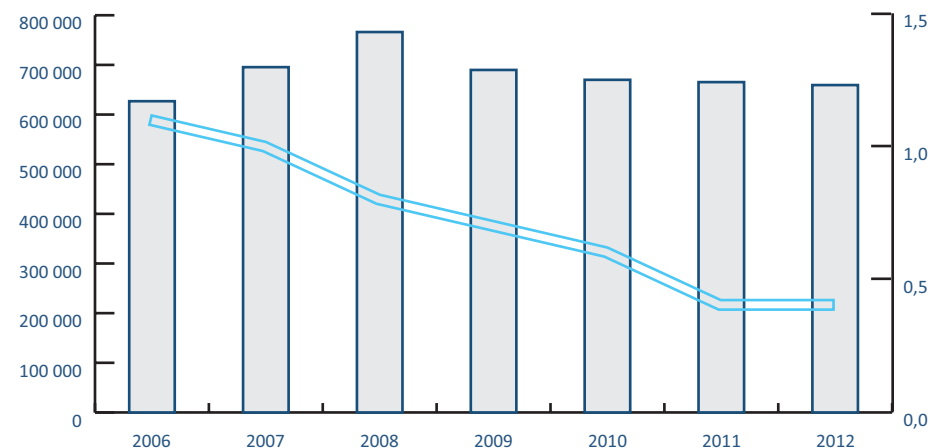


Fig. 2: Development of the Total Number of Completed Proceedings on Entry

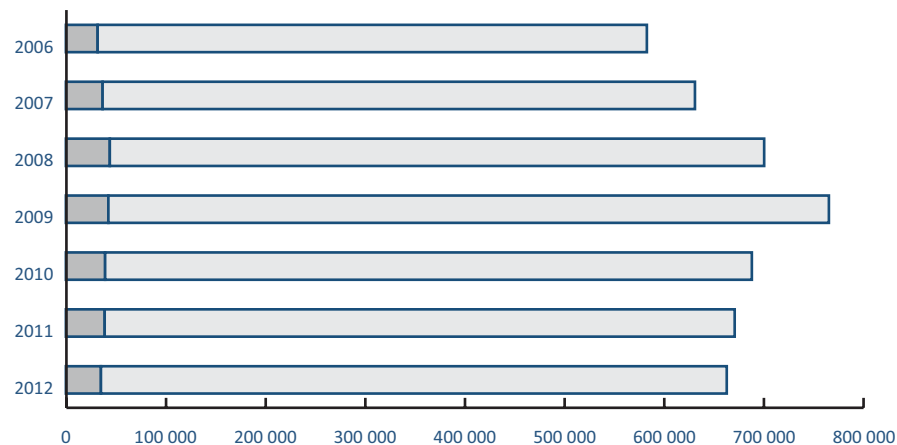


YEAR	2006	2007	2008	2009	2010	2011	2012
Number of completed proceedings on entries	626 948	695 564	766 305	689 920	670 048	665 432	659 471
Average time for settlement (in months)	1,1	1,0	0,8	0,7	0,6	0,4	0,4

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 2012 the total number of refused entries mildly decreased, as you can see in chart 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.

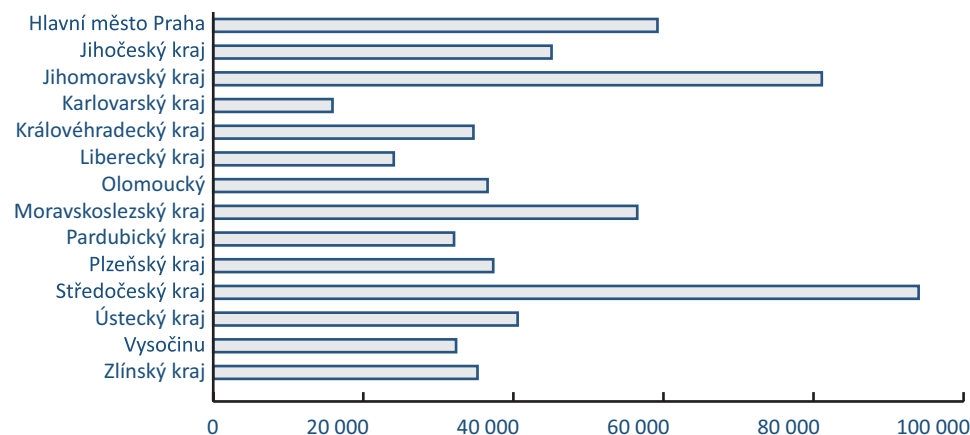
Dispersion of period for entry agenda was being monitored and evaluated in 2012 based on the statistical data from the Information system of cadastre of real estate (ISKN). Legal stated time 30 days for decision on proposal and 30 days for realization of the change into the cadastral documentation, were not exceeded by any cadastral office yet. The chart 5 shows the dispersion of period for entries delivered and completed in 2012 by the Cadastral Office for Prague-City. The highest number of applicants was satisfied within 14 days from the delivery of the proposal for entry and the submitters of error-free proposals can expect completing of their submission practically in 3 weeks, even in Prague.

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



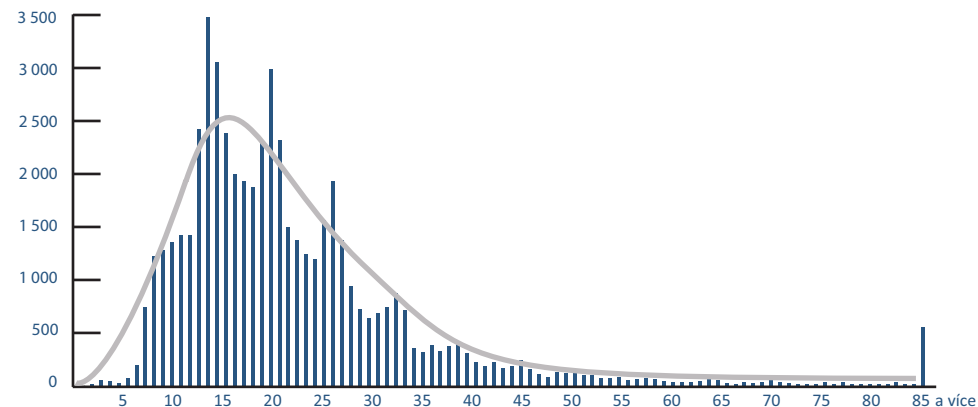
YEAR	2006	2007	2008	2009	2010	2011	2012
Number of approved entries	593 672	655 818	722 123	648 167	631 412	627 210	624 183
Number of refused entries	31 829	36 799	44 020	42 584	39 328	38 878	35 131

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



Region	Number of proceedings in the year	Region	Number of proceedings in the year
Hl. m. Praha	59 208	Olomoucký	36 565
Jihočeský	45 090	Pardubický	32 095
Jihomoravský	81 112	Plzeňský	37 317
Karlovarský	15 894	Středočeský	94 017
Královéhradecký	34 680	Ústecký	40 570
Liberecký	24 058	Vysočina	32 366
Moravskoslezský	56 514	Zlínský	35 221

Fig. 5: Dispersion of Periods for Entry Proceedings between 1.1.2011 and 31.12.2012 in the Cadastral Office Prague-City.





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

Cadastral offices perform 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 of 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 1 186 thousand submissions for registration by record and by notation were delivered to cadastral offices in, in 2012 the number of these submissions increased again on 1 231 thousand, which represents an annual increase of nearly 4 %. This increase was caused mainly by higher number of records of notations on writs of executions and annulments of the rights of lien in consequence with the refinancing of mortgage credits. The number of

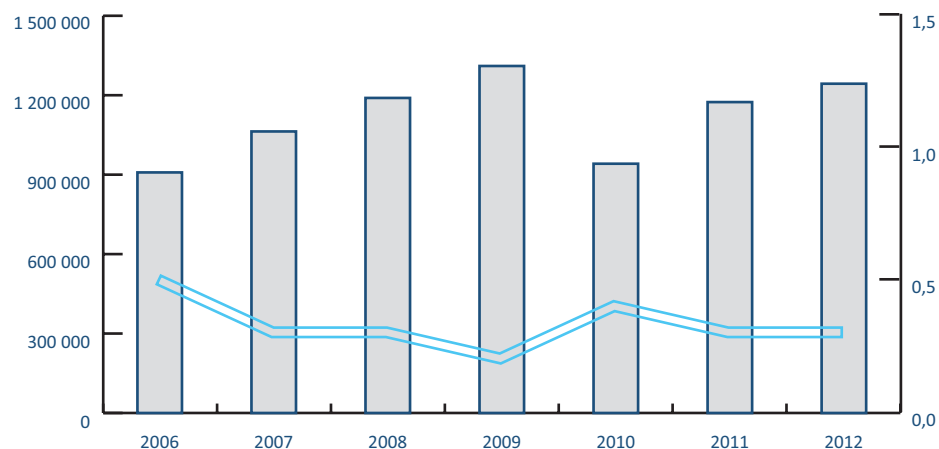
completed submissions was 1 244 thousand in 2012, which means increase of 6 % in comparison to 2011, when the completed submissions reached 1 175 thousand.

## 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.

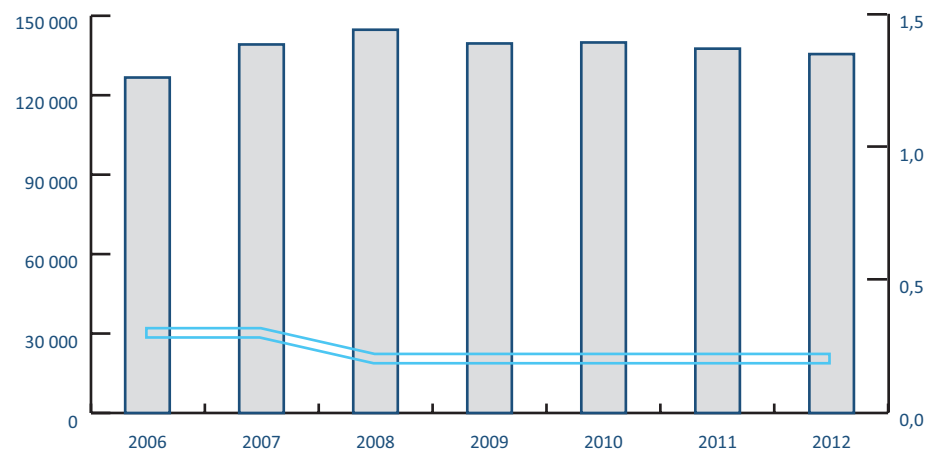
The number of surveying sketches has been very high in the Czech Republic for a long time in comparison f.i. to neighbouring Austria. The number of requests for certification of survey sketches by the cadastral offices did not change significantly in 2012 in comparison to 2011. The average time for checking and certification of survey sketches by the cadastral offices remained on 6 days on average.

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



YEAR	2006	2007	2008	2009	2010	2011	2012
Number of Completed Proceedings	910 038	1 064 336	1 190 566	1 310 883	942 806	1 174 943	1 244 141
Period for Settlement in Months	0,5	0,3	0,3	0,2	0,4	0,3	0,3

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



YEAR	2006	2007	2008	2009	2010	2011	2012
Number of Requests for Certif. of Survey Sketch	126 746	139 198	144 744	139 576	139 949	137 617	135 573
Average Period for Settlement in Months	0,3	0,3	0,2	0,2	0,2	0,2	0,2

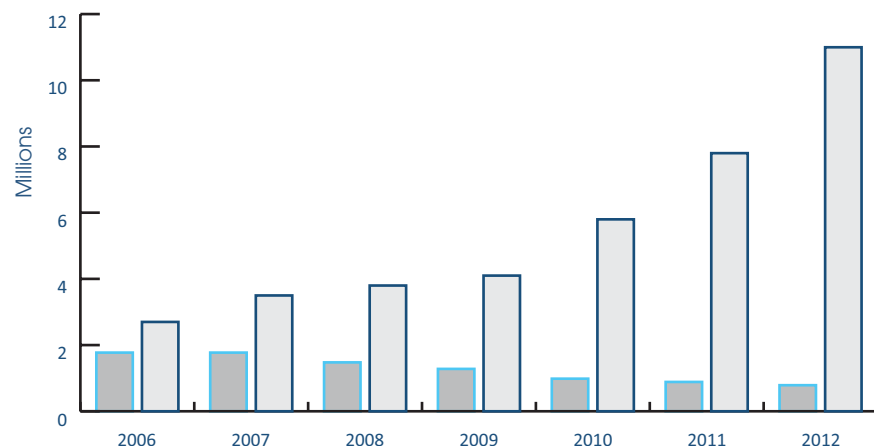


## Provision of Information from the Cadastre

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 estates 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 2012 decreased yearly on 16 %, while the total increase of completed requests for information from the cadastre of real estate including remote access was nearly 29 %. Therefore in 2012 93 % of applicants for information from the cadastre

Fig. 8: Development in Number of Provided Information: Over the Counter (Number of Requests), Electronically (Number of External Outputs-reports)



YEAR	2006	2007	2008	2009	2010	2011	2012
Included Information Provided Electronically	1 756 365	1 780 972	1 530 412	1 308 748	1 042 700	7 832 021	10 199 534
Information Provided in Cadastral Offices	2 669 419	3 486 033	3 760 788	4 055 402	5 761 856	925 496	774 474

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) 407 thousand outputs from the cadastre of real estate were issued in 2012, which means 23 % of all outputs provided there. 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.

## Digitalization of the Cadastre of Real Estate

Digitalization 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.

Digitalization 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.

Development of Digitalization of the File of Geodetic Information of the Cadastre (FGI): 2002-2012

	YEAR	till 2006	2007	2008	2009	2010	2011	2012
Digitalization Completed	k.ú.		263	313	763	1 106	1 094	1127
Total in Digital Form	k.ú.	4 400	4 663	4 976	5 739	6 845	7 941	9 064
Yearly Growth from the Total of 13 026 c.u.			2,0 %	2,4 %	5,9 %	8,5 %	8,5 %	8,7 %
% from the Total Number		33,8 %	35,8 %	38,2 %	44,1 %	52,5 %	61,0 %	69,6 %

Digitalization of cadastral maps started in connection with the completion of digitalization of descriptive information of the cadastre. The capacities that cadastral offices could give to map digitalization 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.

In 2009 the reversal occurred thanks to the provisions for acceleration of the digitalization, 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 2012 the increase of the number of cadastre units covered by the digitized cadastral map reached 8.7 % from the total number of them.

## Results of Digitalization in 2012

At 31.12.2012 the cadastral map was available in digital form in 9 064 cadastre units, which represents 69.6 % of the total number of 13 026 cadastre units of the Czech Republic. Revision of cadastral documentation was completed based on the results of land consolidation projects, by new mapping and by adaptation of the set of geodetic information, which means digitalization of existing cadastral maps included transformation into the S-JTSK (System of Unified Czech /Slovak Trigonometric Cadastral Net) coordinate system to DCM in another 1 127 cadastre units.

The real target of keeping the present rate of digitalization in the approximate amount of 8.5 % of the territory yearly with existing capacity and financial resources was fulfilled in 2012. According to the frame schedule of the digitalization of cadastral maps the completion of the digitalization is expected in the first half of 2017.

Schedule of Digitalization of FGI in the following years

YEAR	1997-2012	2013	2014	2015	2016	2017
Proposal of the number of cadastre units for map digitalization		1 049	998	879	760	276
Total number of cadastre units with cadastral map in digital form	9 064	10 113	11 111	11 990	12 750	13 026
Yearly growth in % out of total number		8,1 %	7,8 %	6,8 %	5,8 %	1,9 %
% out of total number	69,6 %	77,7 %	85,5 %	92,3 %	98,1 %	100 %

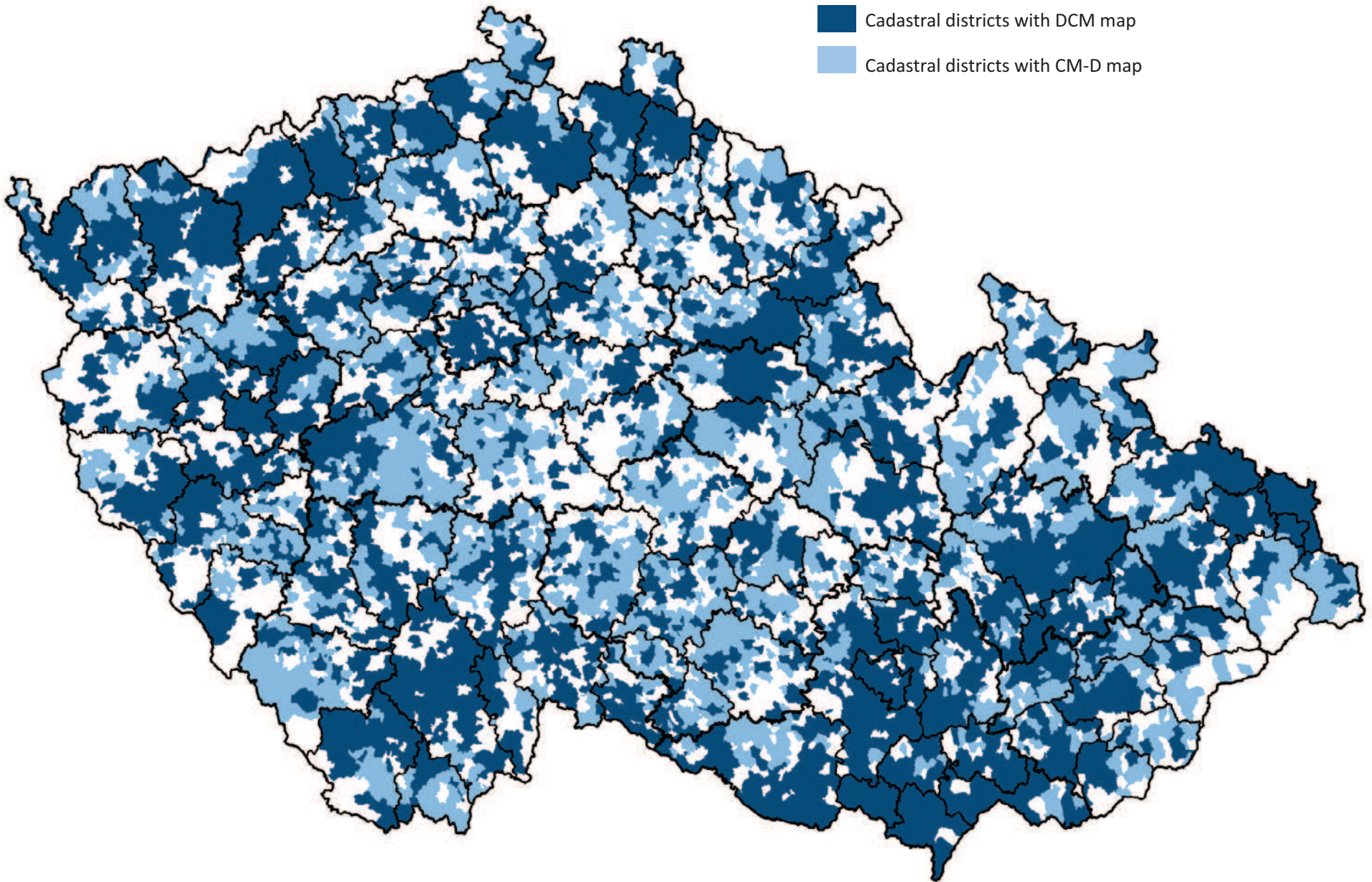
## Plan of Digitalization of Cadastral Maps in Further Years

In 2013 the approved state budget enables carrying on the digitalization of cadastral maps in the approximate amount of 8 % cadastre unit from the total number of cadastre units in the CR. That is why the increase in the number of cadastre units covered by cadastral map should be 1 049. Approximate same increase of 8 % should be reached even in 2014. In further years the number of completed cadastre units should be wound down step by step and the redundant work capacities should be used for necessary tasks connected with changes based on the new Civil Code coming into force.

The actual course of adaptation of cadastral maps into digital form is negatively affected on the one hand by the necessity of completing cadastral maps of parcels consolidated in the course of collectivisation into large land blocks, today registered in a simplified manner using the historical map fund of former registrations, and on the other hand by the very urgent need of resolving the consequences of unfinished allotment and consolidation proceedings arisen after the second world war. Whilst the removal of parcels registered in a simplified manner is a technical problem, resolution of the consequences of unfinished allotment and consolidation proceedings is a problem with serious legal aspects. Land consolidation, which is the most effective tool for the solution of relations in the area as a whole, because it provides digital cadastral map together with resolution of ownership relations i.a., proceeds, however, very slowly.

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 digitalization of cadastral maps and to postponing of the deadline for completing the digitalization at the whole state territory.

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. Raster data of cadastral maps with current content are being collected continuously upon the stated requests. Currently these maps are for disposal on the whole territory of the Czech Republic via applications Remote access into the cadastre of real estate, Viewing the CRE and Web map services of the CRE.





# Electronic Services of the Cadastre of Real Estate

# 3

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 have been improved or developed having facilitated the access to cadastral data and communication of inhabitants with cadastral offices.

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 quarter of all CzechPOINT outputs. In 2012 it was more than 407 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.

## 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 4 %. The number of accounts for users was 19 757 by 31.12.2012, 4 093 out of which were free of charge and 6 253 accounts were for verifiers, particularly in the frame of CzechPOINT project.

Fig. 9: Development of the Number of Users as for the Type of an Account

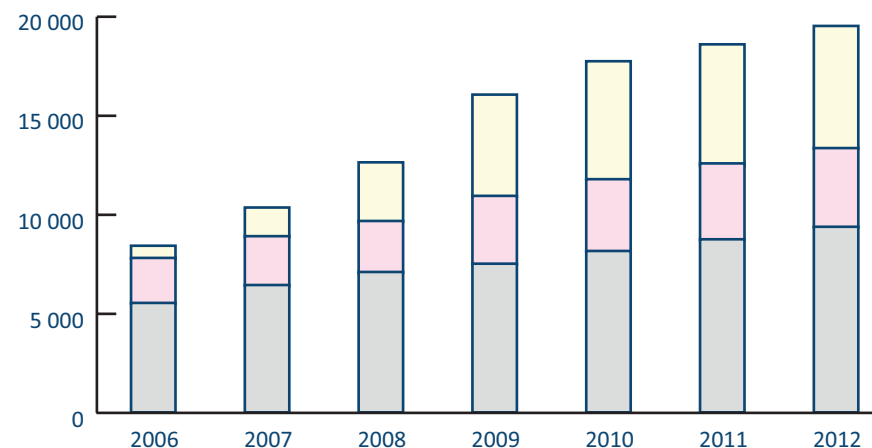
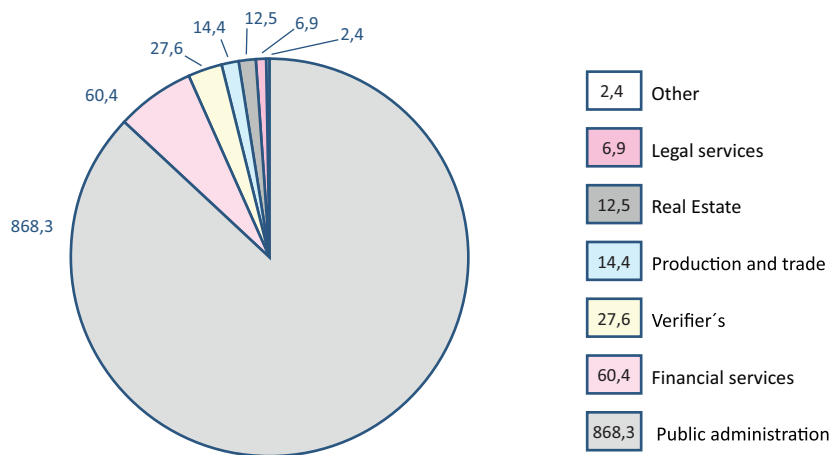
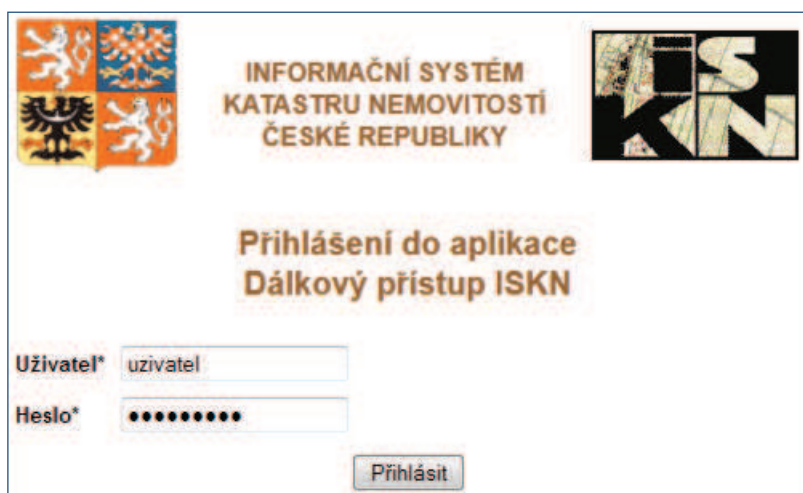


Fig. 10: The Biggest RA Users – as for the Data Value in Million CZK



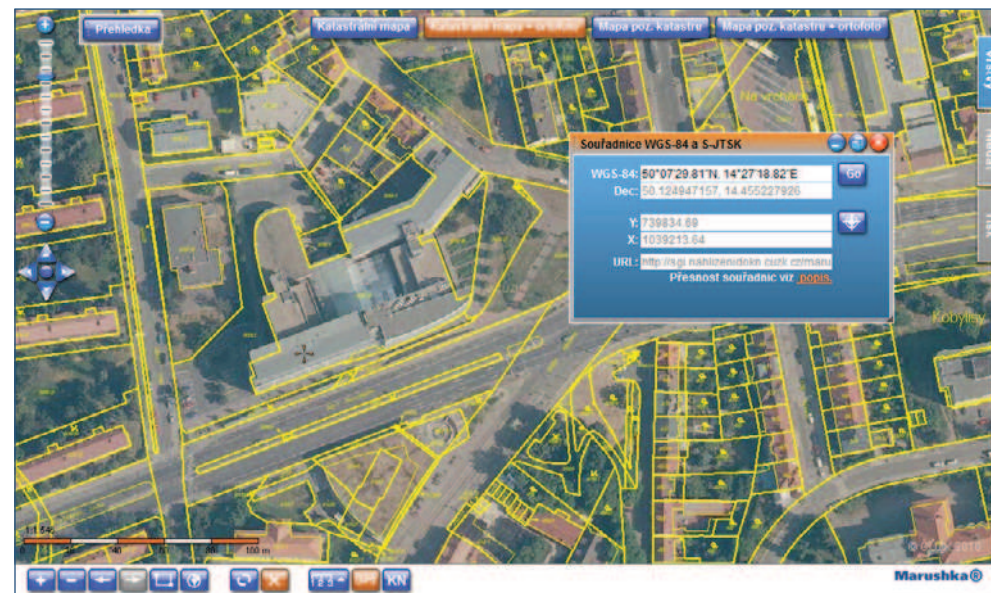
The number of DP users has been growing constantly, so as the income for data provision via DP service in 2012 even if 88 % of data are provided free of charge to the public administration. The income from charged customers reached 124.2 million CZK in total. The biggest charged user of DP service is the bank sector, which uses it for acquiring of necessary documentation for mortgage provision. DP is provided free of charge to municipalities and regions for performing of their competency so as to governmental bodies, notaries and distrainers since 2009.



## 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 increase 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 WCAG 2.0 so as enhancing of WAI-ARIA. 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).



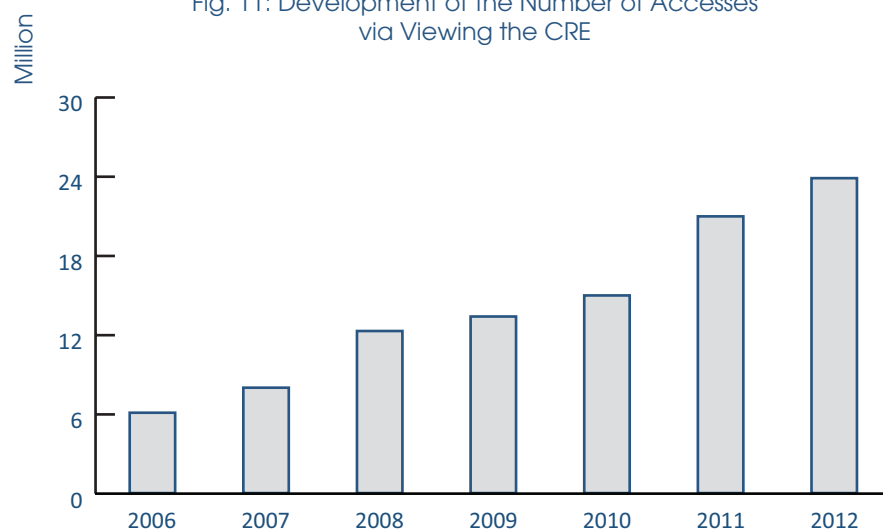
Viewing the cadastre is one of the most visited websites of Czech state administration. In the nine years of its existence the application has registered a constant growth in the number of users; in 2012 it had nearly 24 million visits. Yearly growth in the number of visits reached 12 %. The significant growth in number of users in 2008 was caused by launch of the new version of application, which enabled the access to depicted cadastral maps from the whole territory of the Czech Republic. 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 CRE has been put into operation service 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.

Fig. 11: Development of the Number of Accesses via Viewing the CRE

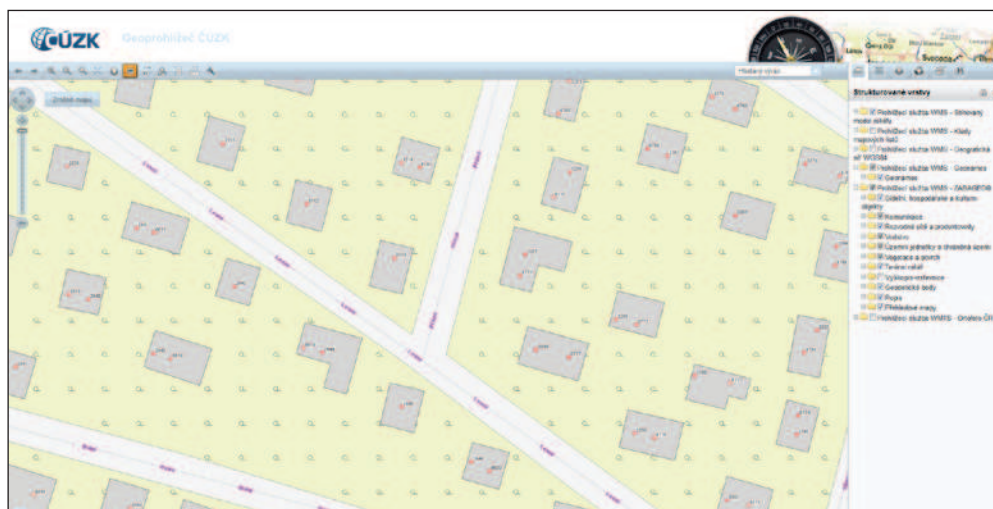


YEAR	2006	2007	2008	2009	2010	2011	2012
Number of accesses in million	6,1	8	12,3	13,4	15	21	23,9

## Web Map Services for Cadastral Maps

>> <http://wms.cuzk.cz>

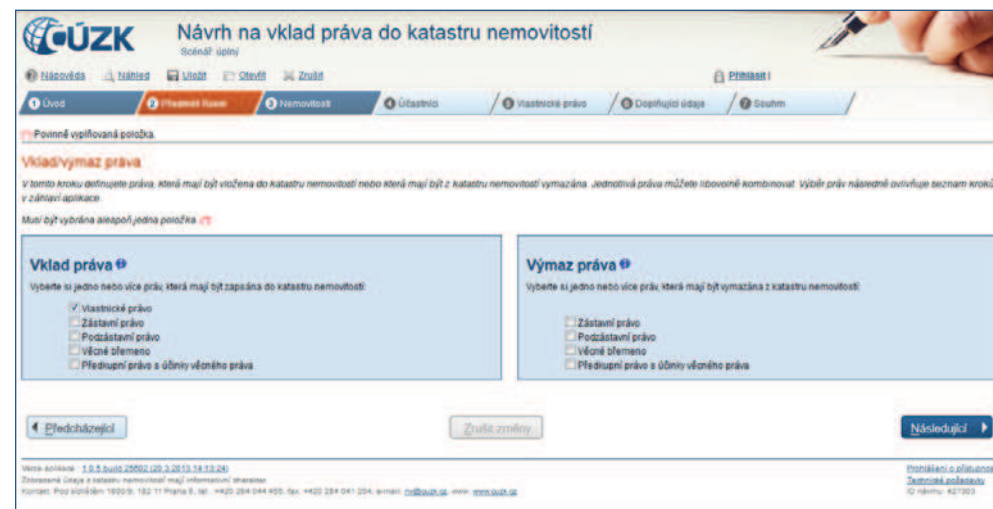
Web map services for cadastral maps enable further possibility of work with cadastral maps; the user can combine the cadastral maps layer in his computer with other data-sets. In that way he gets access to brand updated data via internet and has to take care neither about the storage of map copies in his data storage nor about their updating. This service is also free of charge. Yearly growth in the volume of provided data is 84 %.



## 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 with help of standardized form. To facilitate filling it in for public a new web application has been launched in September 2012 enabling interactive creation of proposal for entry of right. This application enables to fill in the new form of proposal for entry of right very simply; the sample is stated in the Regulation Nr.401/2011 Coll. and its use is obligatory since 1.1.2013 according to the law. 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. In December more than 10 thousand proposals for entry of right were created via this application.



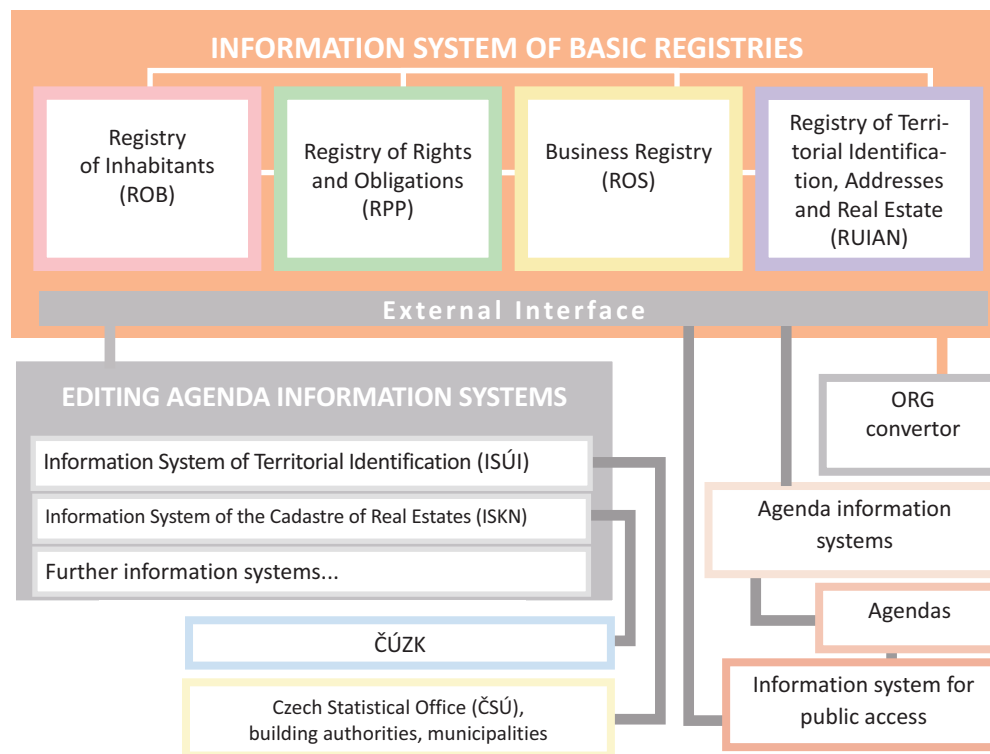


# Registry of Territorial Identification, Addresses and Real Estate (RÚIAN) 4

>> <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

Information System of Basic Registries



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

Interconnection of basic registries of public administration and their connection to other information systems 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.

The branch ČÚZK was assigned the task of building the Registry of territorial identification, addresses and real estate (RÚIAN) based on the Act on the basic registries. RÚIAN is the main source of reference and localization data on territorial items and territorial registered units included parcels, buildings and addresses.

The content of RÚIAN at 31.12.2012 was following:

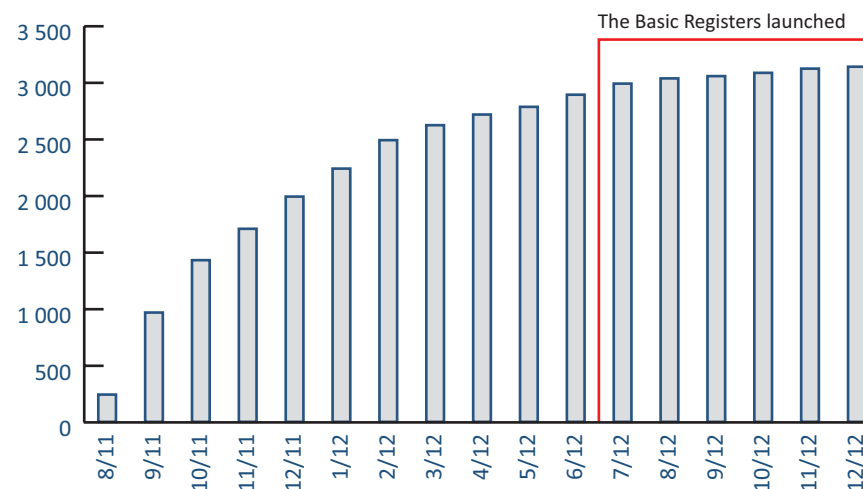
Subject	Number
Municipality	6 251
Parts of municipalities	15 068
Cadastral district	13 026
Building objects	4 091 084
Building objects with the orientation/registry number	2 841 695
Address points	2 919 224
Parcels	20 406 319
ZSJ – Basic settlement units	22 427
Streets	79 500
DCU – Definition street lines	78 243

The most frequent street names and names of public places based on the RÚIAN database are in the following table just as a matter of interest:

The Most Frequent Street Names in the CR		The Most Frequent Square Names in the CR	
Name	Number of occurrences	Name	Number of occurrences
Zahradní	679	Masarykovo náměstí	97
Krátká	573	Náměstí Svobody	94
Nádražní	516	Náměstí Míru	91
Polní	470	Náměstí	88
Školní	469	Husovo náměstí	57
Luční	423	Mírové náměstí	50
Komenského	383	Náměstí T.G.Masaryka	46
Nová	373	Malé náměstí	43
Husova	345	Komenského náměstí	42
Družstevní	344	Náměstí Republiky	41

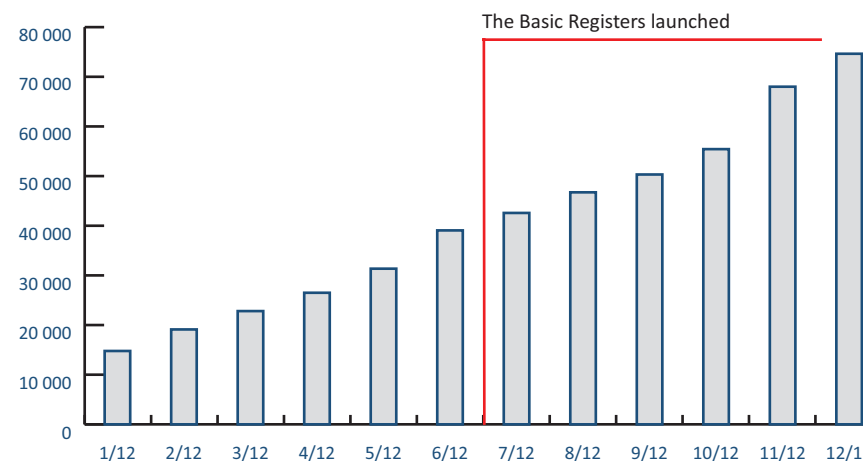
In 2011 the most important phases of RÚIAN project were finalized and the system was filled with data. In September 2011 the data editing has started and on 1.7.2012 the whole system of basic registries has been put into operation. Most RÚIAN data are reference data which are binding for other basic registries (ROB, ROS) and for further following information systems. 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. 679 construction offices out of 699 (97 %) participated step-by-step in this work with nearly 2 400 users. Only 824 (13 %) municipalities out of 6 251 have participated actively in the database filling until the end of 2012.

Fig. 12: Increase of Users in the Testing Phase and After Launching the Basic Registries



Between 1.6.2011 and 31.12.2012 together 74 655 changes were approved via editing system ISÚI, most of them 58 126 belonging to the agenda of construction offices. The rest of them shared municipalities with 12 781 changes and ČÚZK with 3 665 changes. The changes were mostly in the group of address points and building objects. Very few changes concerned streets.

Fig. 13: Development in the Number of Changes in ISÚI

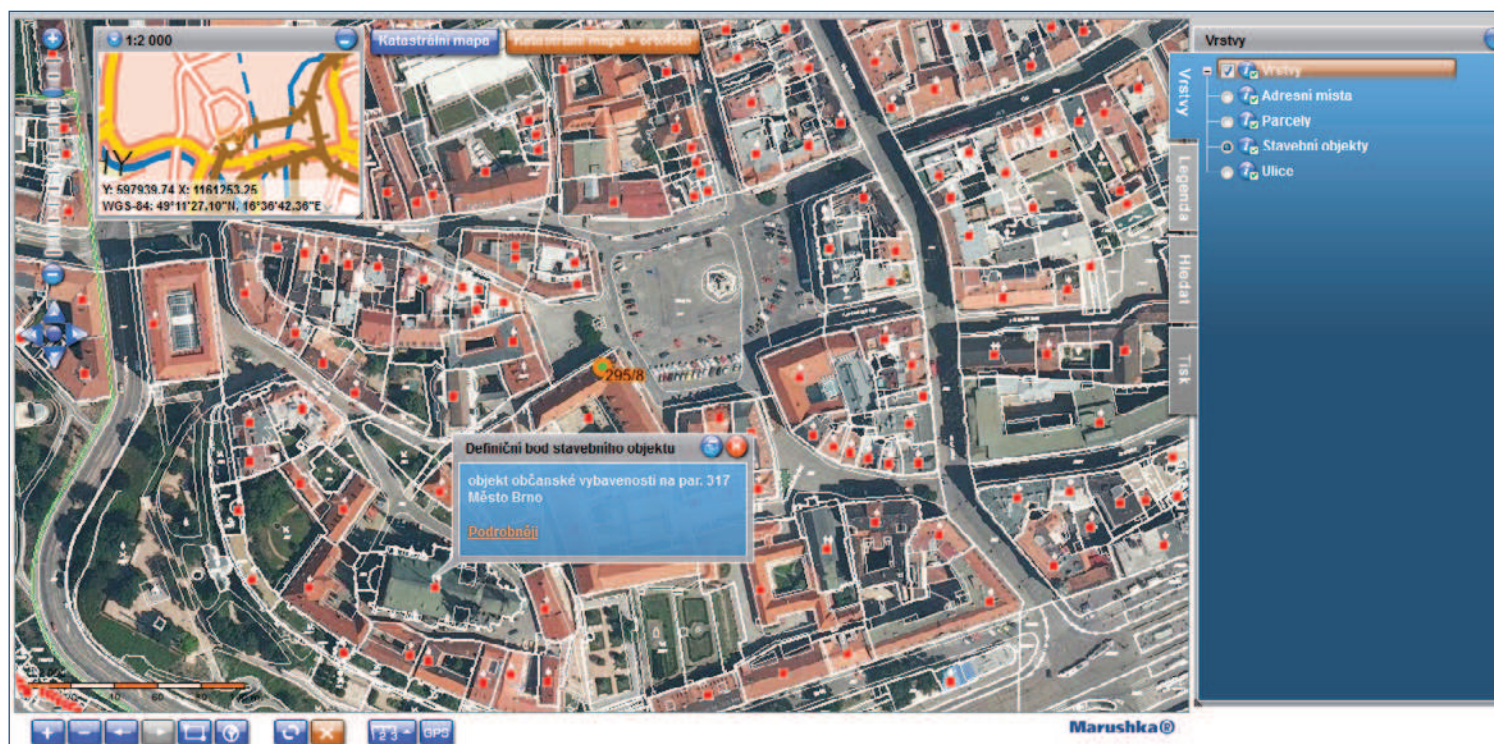


## Public Remote Access to RÚIAN Data

>> <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.

Depiction of the chosen area in the application VDP with highlighted address points



# Land Surveying Activities in the Public Interest

# 5

Main task of the state land surveying service is to provide basic geographic datasets and map products for the wide use not only in the public administration but also in the private sphere including the development of the geodetic control, which is necessary for land surveying activities. At present the main stress is put especially on the improvement of accuracy, details and datasets updating so as their harmonization in the frame of inter-departmental and international cooperation. Together with data quality improvement provided services are being enhanced, in particular the net services being provided by the Geoportal ČÚZK and by the Czech network of permanent GNSS stations (CZEPOS). In 2012 the attention was still paid to implementation of the Directive of the European Parliament and Council 2007/2/ES, on establishing the Infrastructure for spatial information in the European community (INSPIRE).

In the area of geodetic control administration the transition from the classical approach towards the modern one with international connections was realized, in which the binding coordinate systems are maintained via GNSS technologies and data on geodetic points are free accessible via internet. In 2012 CZEPOS stations were upgraded and enhancing of network compatibility with already operating satellite system GLONASS and planned GALILEO has been completed. Since further development of geodetic control is impossible without connection to European terrestrial reference system ETRS89, new realization of its frame in the Czech Republic was launched on 2.1.2011.

Previous geodetic control was maintained only in the necessary amount in cooperation with private companies announcing the errors detection on points during land surveying in the field.

Huge effort was given to keeping the Fundamental base of geographical data of the CR (ZABAGED®) updated. The three-year updating cycle of the whole territory of the state for many significant object types has been replaced by the updating procedure reali-

zed at least once a year in cooperation with the external administrators. The multi-year period has started, in which ZABAGED® should be made more accurate based on data of newly created elevation models of the territory of the Czech Republic, aerial photos, orthophotos and other data sources. The second year of operation of the new system for cartographic production brought further increase in the number of yearly updated titles of state map series in scales of 1:10 000 to 1:100 000.

The implementation phase of the inter-branch project of ČÚZK, Ministry of Agriculture and Ministry of Defence, regarding the laser scanning and processing of elevation data from the territory of the Czech Republic went on resulting in some types of elevation territorial model of the Czech Republic and the model of land cover. Taking digital aerial photography of the CR went on so as the dataset Ortophoto. Orthophotos are provided in the picture quality of the resolution of 0.25 m on the whole territory of the Czech Republic.

Geoportal ČÚZK plays an irreplaceable role in data and service provision for a long time. It has also a significant role in fulfilling the obligations following from the European Directive INSPIRE. Its implementing requirements are met there in the area of metadata proceeding and publication, monitoring and reporting so as newly launched viewing and searching services and the service of coordinate transformation. Viewing service could be used free of charge and without registration since the half of 2011 in all suitable clients.





## 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.

On 1.7.2012 the new global transformation key has been launched for transformation between S-JTSK and ETRS89, unifying the transformation accuracy in the whole Czech Republic. The mentioned key has been at the same time implemented into the Geportal ČÚZK coordinate transformation service. The five-year cycle of periodical maintenance of chosen trigonometric points of the fundamental horizontal geodetic control was completed. The communication with users - mostly private surveyors - who send the reports on damages or changes on points of minor control via internet for maintenance and rectifications of defects on the points of geodetic control and geodetic data updating, went successfully on.

## Czech Positioning Network GNSS – CZEPOS

>> <http://czeapos.cuzk.cz/>

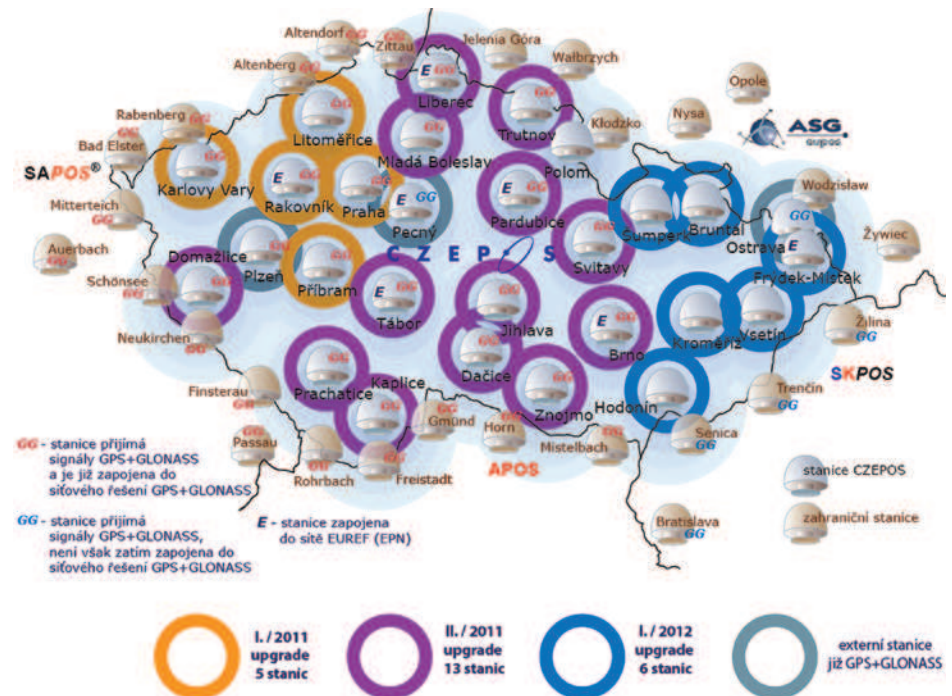
The CZEPOS is the network of GNSS permanent stations spread on the whole territory of the Czech Republic. CZEPOS stations are installed on roofs of cadastral offices' buildings and record the data from GNSS signals in the interval of 1s for 24 hours a day. Users are provided with them in the form of 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.

By 10.5.2012 the upgrade of CZEPOS stations has been completed in Land Survey Office with the goal of reaching compatibility of CZEPOS provided services 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.

In the end of 2012 CZEPOS services and products have been enhanced on a new computing service, which 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.

By means of provided applications the users get the complementary overview on the availability and quality of the provided CZEPOS services and products and single parameters can be verified on the internet website in on-line regime. CZEPOS gains its wide ground in geodesy, navigation or in the area of intelligent control systems. At 31.12.2012 there were 1 150 registered CZEPOS network users, it means grow by 65 users in comparison to the end of 2011.

Overview CZEPOS map including connected cross-border stations



## 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. The Land Survey Office performs administration of the database; its continuous updating is shared with cadastral offices in the frame of their competency.

By the end of 2012 the database of geodetic control points included 73 281 centres of trigonometric and densification points and 34 245 associated points, further 1 313 levelling lines of the Czech state levelling network in total 25 700 km long, 119 527 levelling points (82 589 out of them are fundamental vertical control points and 460 gravimetric points).

At the end of 2012 together 1 472 cooperating users of DGCP were registered, it means users who fill in the web announcements on defects on geodetic control points. In comparison to 2011 there is increase of further 211 users in 2012. 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.

## 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.

## Fundamental Base of Geographic Data (ZABAGED®)

ZABAGED® is digital geographic model of the territory originally matched by its accuracy and detailed representation of geographic reality to the Base Map of the Czech Republic 1:10 000 (ZM10) based on which it was created. The positional accuracy of most ZABAGED® elements has been improved during some cycles of area-wide updating. The ZABAGED® content represents 123 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 administrators. The vertical component represented by spatial 3D sets of contours is administered in the separate file system.

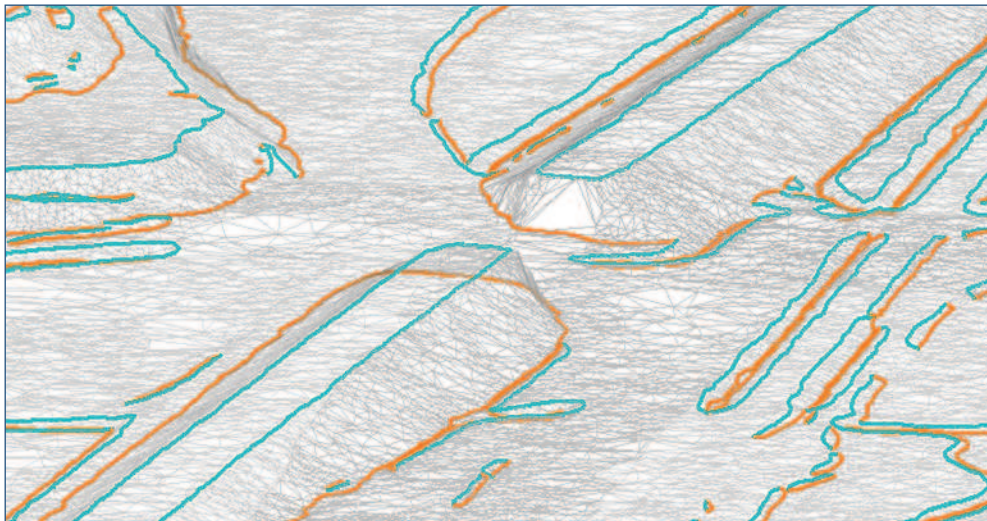
In 2012 the regular updating of ZABAGED® on the whole territory of the state went on with use of orthophotos, aerial photos and field investigation. The updating cycle of ZABAGED® has been three years in this regime in last couple of years. In 2012 together 1357 map sheets of the Base Map of the CR 1:10 000 were updated. 26 significant objects such as roads, administrative boundaries, buildings and others are being updated once a year or even more often based on changes delivered by their administrators. Streets and their names in ZABAGED® have been used for filling the information system of territorial identification (ISÚI) and continuously updated based on data having been sent to ČÚZK by municipalities. Systematic accuracy improvement of the position of roads, highways, railroads, watercourses and further ZABAGED® elements has started based on the data of a new altimetry model of the Czech Republic. 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 negotiated and agreed following similar already completed project with Saxon partners.

## Altimetry

Altimetry data of the Czech Republic territory, administered and provided in the ZABAGED® frame in the form of altimetry contour line model, has been updated in the areas where the area-wide ZABAGED® updating has been realized. To facilitate the application of the altimetry model in geographical information systems this model is being alternatively transformed into the grid sized 10x10 m and as such provided to users.

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 realization of the new altimetry mapping project of the territory of the Czech Republic with use of the technology of airborne laser scanning went on. 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. From both completed zones (west and central) the digital terrain model in the form of point grid sized 5 x 5 m (DMR 4G) is provided to users. DMR 5G has been provided from parts of both central and west zones. Newly provision of DMP 1G has been already prepared from the same area as the previous one. Laser scanning of the remaining east zone had to be postponed to the year 2013 due to the technical problems of the plane realizing it.

Example of the automatic generating of terrain edges from DMR 5G data



## 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.

The base state map series at a scale of 1:5 000 is provided both in digital and printed form and is available in more versions. The former State maps 1:5 000 – derived (SMO-5) are provided only in the form of copies and prints. State map 1:5 000 – raster (SM 5 R) is based on the printing materials SMO-5 and is provided both in raster and printed form. Another version is the State map 1:5 000 (SM 5) created between 2001 and 2007 being provided in digital, raster and printed form for approximately 25 % of the territory of the Czech Republic. Since 2010 the automated technology has been used to prepare data for the new edition of SM 5 on the territory where the vector cadastral map already exists. The new SM 5 is provided via viewing service, as printed copies or file data. Base maps at medium scales represent the most important part of the base state map series. Base maps of the Czech Republic are produced in scale series of 1:10 000, 1:25 000, 1:50 000, 1:100 000 and 1:200 000. An important part of the state map series are maps of territorial units forming the Map of Districts of the Czech Republic 1:100 000, Map of Regions of the CR 1:200 000, Map of the Czech Republic 1:500 000, Czech Republic – Physical-geographical map 1:500 000 and Czech Republic 1:1 000 000. The collection of the base state map series is still being supplemented with a group of maps of the administrative division of the Czech Republic at scales of 1:200 000, 1:500 000, 1:1 000 000 and 1:2 000 000.

The thematic state map series is a cartographic work representing certain thematic phenomena as a rule, on the basis of the basic state map series, which is published in the public interest. The collection of the thematic state map series issued by the Czech Office for Surveying, Mapping and Cadastre includes the Road Map of the Czech Republic 1:50 000, the Regional Road Map of the Czech Republic 1:200 000 and some other maps with thematic land surveying content. In 2011 creation of a new title went on – Map of municipalities with enlarged administrative competencies 1:50 000, where the administrative district of every such a municipality is depicted on one separate map sheet.



In 2009 the offer of map production was enlarged on digital geographical model of the Czech Republic territory Data200. This database was originally created for EuroRegionalMap (ERM) with accuracy and level of generalization corresponding to the scale 1:200 000 and is updated yearly. ZM200 won in 2012 the award of the Cartographic Society of the CR “Map of the Year 2011” in the category Atlases, sets and map editions on the International book fair Book World. Expert committee evaluated the ZM200 as the best one out of 17 registered products.

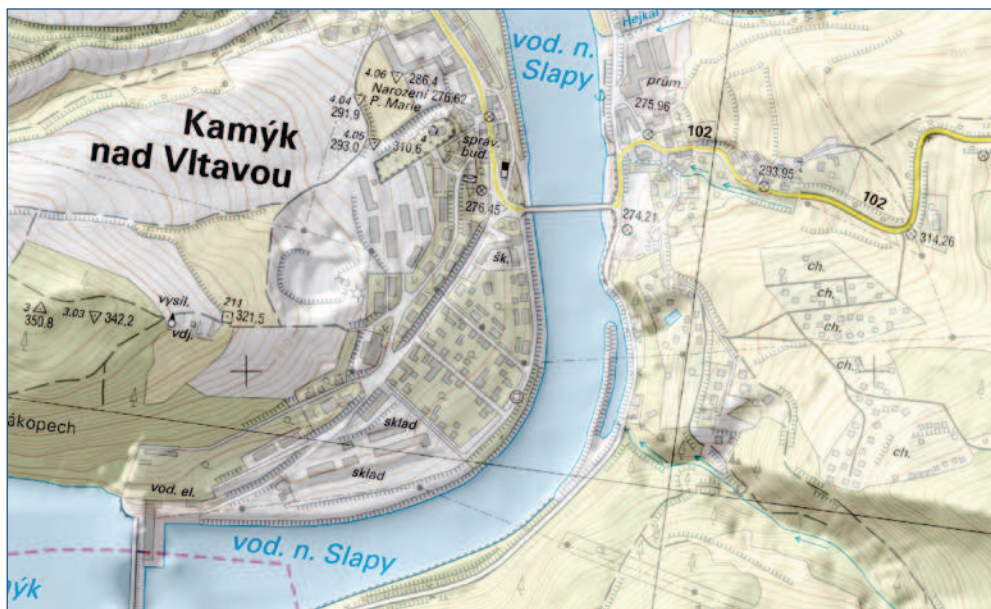
Information system of state map series was awarded the prize „Special Achievement in GIS 2012“ at the International conference of Esri users in San Diego.

## 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 2009 photographs have been taken with parameters enabling to process orthophotos with higher accuracy given by the smaller pixel size of 0.25 m (previously only 0.50 m). Since 2010 the aerial photographs are being taken by the 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 has been scanned.

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 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.

Extract from the new edition of ZM 50 completed with shaded terrain model



Sample of the orthophoto with pixel size 0.25 m



## 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 in the detail of the Base Map of the Czech Republic 1:10 000 complemented with the terminological content of chosen small scale maps. 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.

Updating of the Geonames database is going on in cooperation with municipalities harmonized with updating of ZABAGED® together with digitalization 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 total 1 412 cadastral districts have been approved in 2012. After completing of the data integration in both mentioned applications geographical names are connected direct to the objects and are set into the database only once and not in the number of their occurrence in the map.

## Archive Maps

>> <http://archivnimapy.cuzk.cz>

Since 2006 the application Archival Maps has been in operation within the Geoportal of the ČÚZK. In 2012 the new version of application Archival maps ÚAZK was launched. 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 16th century until 1850. Even so called indication sketches are available there, which are physically stored in other archives. Newly available is the first issue of the State map 1:5 000 – derived. Via Geoportal of the ČÚZK it is possible to order copies of archival documents or digital sets in printing quality.

First Issue of the SMO-5 from 1953 (excerpt)





## 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 CRE, 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 digitalization of the 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 previous years the viewing and searching services have been harmonized in accordance to INSPIRE implementing rules.

In 2012 the service transformation of coordinates has been modified in accordance with INSPIRE implementing rules as well. On 1.7.2012 this service has been adjusted based on launching of the new global transformation key for transformation between S-JTSK and ETRS89. 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).

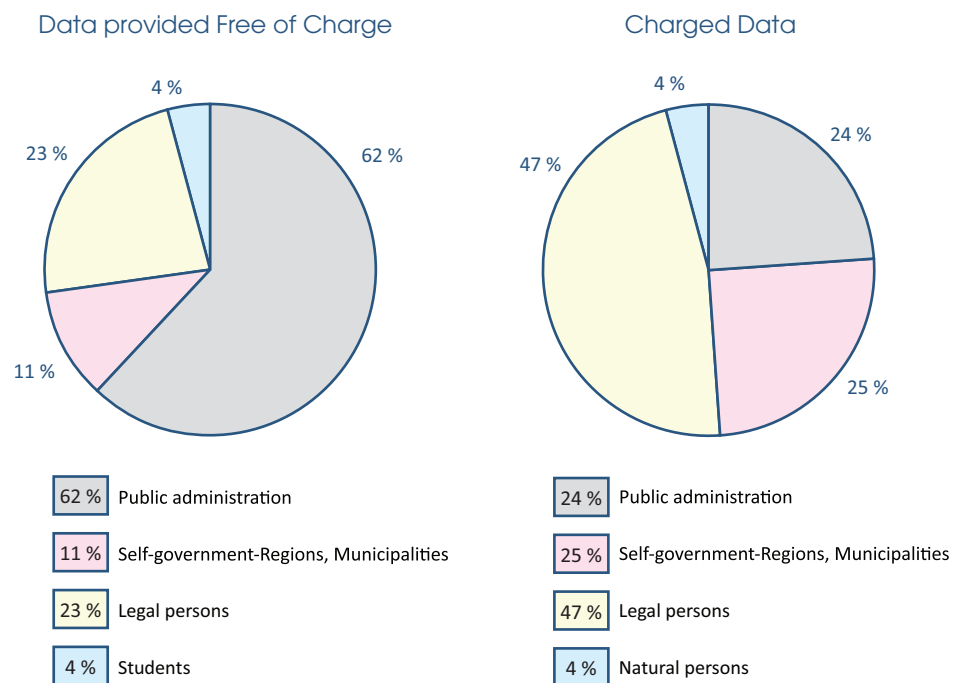
In 2012 the translation of information part of the website, metadata and instruction for use of the application into English has been completed.

## 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<sup>®</sup>, 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<sup>®</sup>, 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. Share of single users' types on the total number of issued units provided in 2012 via internet shop is depicted in following figures.

Fig. 14: Structure of Geoportal Users in 2012 as for the Financial Amount of Issued Data



Students can get the data via commercial module free of charge in the reasonable amount for the purposes of their Master or Bachelor Thesis or semestrial elaboration based on the request signed by the University.

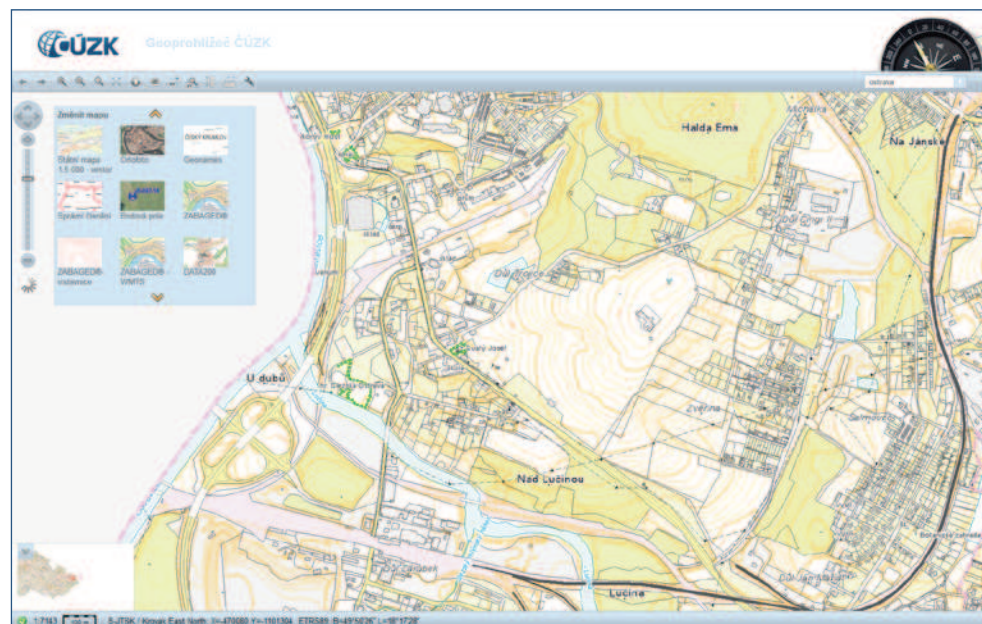
## Viewing Services

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 administer their own database of fundamental geodata and accessible data are provided to them with the maximum possible relevance.

In 2011 the conditions for public viewing services provision occurred and all viewing services are being provided completely free without any registration to be used in viewing in all suitable clients' applications. The range of viewing services has been enhanced on ZM 25, ZM 200, shaded terrain model and harmonized data of three themes from the INSPIRE Annex I (cadastral parcels, geographical names and hydrography). 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 and base maps, which significantly speeded up the responses during their viewing.

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 Map window and Geoviewer. Geoviewer offers also searching of points in the database of geodetic control points included the geodetic information. Brand new version of both applications has been launched in 2012.

Cooperation with other sectors plays important role in provision of map services. Via viewing services the geographical data from the branch ČÚZK are available f.i. in the national INSPIRE Geoportal, map portal of the Centre for regional development as well as in the application Registry of census districts and buildings in responsibility of the Czech Statistical Office.



# Economics and Human Resources



## Employees and Education

By 31.12 2012 together 5 280 person were employed in the ČÚZK branch, 1 437 (27.2 %) out of them were men and 3 843 (72.8 %) were women. Educational structure in the branch is characterized by prevailing share of workers, who reached the secondary school education (60.8 %); nevertheless in last year this share has been mildly decreasing in favour of the workers with University degree. In 2012 the share of graduated workers was 34.9 % from the total number of employees, which means 1.3 % more than in 2011 and 2.9 % more than in 2010. The age structure of branch employees has remained almost unchanged in previous years. The most numerous age groups are the employees aged 41-50 (30.7 % from the total number), the share of employees aged 31-40 and 51-60 is approximately the same (both groups being 27 % from the total number).

Year	Number of Employees	Women	Graduated	Age Structure				
				to 30	31-40	41-50	51-60	61 and more
2012	5 280	72,8 %	34,9 %	520	1 425	1 623	1 424	288
2011	5 405	72,8 %	33,6 %	575	1 461	1 650	1 417	301
2010	5 588	73,2 %	32,0 %	646	1 530	1 655	1 439	318

By 31.12.2012 the number of women in managerial positions was 317 (50 %) in the ČÚZK branch, the total number of managerial positions being 634. 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	Managed Organizational Unit				Total
	Administration Office	Section	Department	Division	
Total Number	24	23	131	456	634
Women Number	3	10	54	250	317
Women Share	12,5 %	43,5 %	41,2 %	54,8 %	50,0 %

During 2012 together 403 employees terminated employment, this was 113 less than in 2011 and 204 less than in 2010. The rate of fluctuation was 7.6 % in 2012.

Year	Terminated Employment	Rate of Fluctuation
2012	403	7,6 %
2011	516	9,5 %
2010	607	10,9 %

Employees' education is one of main priorities of the human sources 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 2012. Moreover the ČÚZK personal department realized some specialized team workshops for chosen workers from all branch offices. In the frame of above mentioned educational activities together 7 072 workers were trained. In accordance with the Anticorruption programme of the ČÚZK

53 workers have been trained in the corruption problems in 2012 under the lead of lecturers from the non-governmental non-profit organization Transparency International – Czech Republic, charitable trust. Together 257 workers from the branch economic departments took part in an extensive training cycle realized in the frame of the project IISSP (State Funds) organized by the Ministry of Finance of the CR.

Except for branch workers ČÚZK realized in 2012 training programmes for external subjects – editors of the new agenda information system ISÚI in connection with the realization of the project “Building of RÚIAN and modernization of ISKN of the ČÚZK”, project number CZ.1.06/1.1.00/03.05893, which is co-financed from the EU resources, European fund for regional development. The team consisting of 27 lecturers, who were employed based on the Contract for work, realized between September 2011 and December 2012 together 333 training courses in the frame of the whole Czech Republic, during which 3 176 workers from municipalities and building offices were trained for the work in ISÚI (out of which 235 trainings and 2 204 trained editors were in 2012). Training courses were realized based on support of regional and cadastral offices in computer training rooms in the whole CR. Thanks to this educational project the majority of ISÚI editors had been trained before the system of base registries was put into full operation. With regard to the number of realized trainings it was very extensive educational project being praised very positively based on the users reactions.

## 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 four terms in 2012 in accordance with section 14 of the Act No 200/1994 Coll., on surveying and mapping.

In the year 2012 the total number of completed applications was 58 (10 of them from 2011). Based on the professional competence exams new official authorization was granted to 30 applicants and 9 applicants enhanced their existing authorization. In 2012 no official authorizations were deleted from the registry.

2 474 persons have been registered on the updated list of officially authorized land surveying engineers administered by the ČÚZK by the end of 2012.

## Economics

Approved state budget of the Czech Republic for 2012 specified revenue of CZK 309 028 thousand and expenditure of CZK 2 768 237 thousand for the chapter 346 ČÚZK. In comparison to approved budget for 2011 the change of financing occurred in 2012 regarding the expenditure for research, development and innovations, which have been transferred to the chapter 333 Ministry of Education, Youth and Sports. In 2012 the branch economy was influenced adversely by the governmental resolution Nr. 178/2012 regarding the proposal of measures for keeping the approved state budget deficit for 2012, which meant binding of the means of ČÚZK branch bodies in the amount of 107 409 thousand.

The budget of revenues did not change within 2012. Revenue collection, coming to the budget from the administrative fees, were prescribed in the amount of CZK 80 000 thousand, their fulfilment reached CZK 348 866 thousand, it is 436 %. The reason of this huge increase is the number of cadastral workplaces, where it is possible to pay the administrative fee in cash instead of using the duty stamps. The incomes from the European Union budget being prescribed in the amount of CZK 49 028 thousand, reached the amount of CZK 18 703 thousand, which means fulfilment of 38 %, included expenditure for the projects of the Integrated operational programme (RÚIAN, DMS, Document service) in the amount of CZK 13476, operational programme Human resources and employment in the amount of CZK 1 284 thousand, operational programme Environment in the amount of CZK 3 838 thousand and the programme supporting the cross-boundary cooperation between the Czech Republic and the Free State of Saxony in the amount of CZK 105 thousand. Budget of non-revenue collection of CZK 180 000 thousand was filled in by the amount of CZK 231 609 thousand, it is 129 %. In comparison to previous years the other non-revenue incomes remained on the same level, the share of cadastral offices on the total amount of incomes from their own activities has further decreased in comparison to the central database section, the commission from the duty stamps sale went down at cadastral offices.

The expenditure budget has been changed by the budgetary measures of the Ministry of Finance (MF). The increase in the amount of CZK 96 thousand occurred in the expenditure of the chapter ensuring the operation of the building in Bruntal, being transferred from the chapter 312 MF, in the amount of CZK 1690 thousand for the processing of



the statement Auxiliary analytical overview transferred from the chapter 398 General administration of the State Funds and in the amount of 1 422 thousand for ensuring the aerial photography transferred from the chapter 307 Ministry of Defence. Except for these budgetary measures the administration offices realized together 9 budgetary measures in the competence of the branch. The claimed expenditures remaining from the year 2011 were used in 2012 in the amount of CZK 161 324 thousand, CZK 128 220 thousand out of them covered the EU projects. The expenditure in 2012 were used mostly on employees' salaries as usual, other payments for work carried out and associated expenditure, being 69 % of the total expenditure of the branch. It means CZK 1 891 million. The average monthly income achieved in 2012 reached CZK 22 864 per employee thanks to using of previous years savings' from EU co-funded projects and not reaching the full amount of the systemized job positions in administration offices in the branch. In comparison to 2011, when the average salary reached CZK 22 565, the increase was on 1.3 %. The reason for the mild increase was except for binding the salaries in 2012 in the amount of CZK 21 215 also the transfer of the sources from the employees' salaries towards the non-budgetary expenditure necessary for the compensation payments, in the amount of CZK 2 984 thousand. The second big expenditure group 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 of the branch and for its operation. It was 25 % share of the total expenditure in 2012. Significant part of the programmed expenditure was those used on realization of projects co-financed by the EU budget, in particular building of RÚIAN and modernization of the Information system of cadastre of real estate ČÚZK (CZK of 121 million). Further important item is the programme noninvestment expenditure (CZK 421 million), serving for securing the operation, maintenance and repair of state assets and for the lease of computer technology and administrative buildings and investment expenditure (CZK 140 million) for acquiring of SW and HW, for buildings' reconstructions so as for renewal of the means of transport, surveying and reproduction technique. Other material expenditure was used in the amount of CZK 176 million, CZK 71 million out of it for postal services, CZK 25 million on digitalization of cadastral maps and CZK 18 million on employees' meals allowances. The remaining part of other material expenditure covered particularly the expenditure on material, travel costs, training and educational expenditure and on the compensation for the loss of salary during the illness.

Summary of Obligatory Indexes  
of Chapter 346 of the State Budget for the Years 2006 – 2012

Financial Indexes in CZK '000s

Index/ Year	2007	2008	2009	2010	2011	2012
Income of the chapter <sup>1)</sup>	175 459	214 158	271 592	276 942	439 481	599 126
Out of it: revenues for administration fees			30 016	62 770	67 239	348 866
Income from EU budget				3 423	135 802	18 703
Total expenditure of chapter <sup>2)</sup>	2 815 730	2 806 480	3 170 650	3 336 483	2 785 290	2 753 079
Out of it: projects co-financed from EU budget			26 778	400 226	59 518	130 494
Current expenses without non-investment	2 109 573	2 197 182	2 460 125	2 351 702	2 145 791	2 082 017
Including: wage resources <sup>3)</sup>	1 424 864	1 456 806	1 597 945	1 536 985	1 427 387	1 412 214
Insurance and FKSP	527 530	539 126	575 343	549 632	498 865	493 133
Other material expenditure	157 179	201 250	286 837	252 145	219 539	176 670
Program expenditure	677 493	580 634	679 225	984 781	617 428	682 196
Including: non-investment	414 244	402 841	437 128	396 053	444 627	433 124
Investment	263 249	177 793	242 097	588 728	172 801	249 072
Research and development expenditure	28 664	28 664	31 300	22 159	34 391	0
Including: operational	28 164	28 664	31 300	22 159	34 391	0
Investment	500	0	0	0	0	0
Number of employees in Sector <sup>4)</sup>	5 430	5 412	5 596	5 532	5 258	5 130
ČÚZK	159	153	151	159	155	150
Cadastral Offices	4 755	4 738	4 935	4 864	4 618	4 498
Land Survey Office	430	427	417	416	394	392
Survey and Cadastral Inspectorates	91	94	93	93	91	90

1) revenues are adjusted for resources from revenue accounts of the CNB with prefixes 4714 and 2110, used for increasing expenditure (resources of RF, FKSP, donations)

2) the given expenditure does not include state budget resources transferred to reserve funds, which will be used in following years

3) employee wages + other payments for work performed

4) average corrected calculation



# Inspection and Supervision Activity



## 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). SCI carried out a total of 1 537 documented inspections at cadastral offices in 2012.

Inspection activity of SCI's in 2012 focused mainly on the inspection of the application practice of the utilization of the cadastral Act Nr. 349/2011 Coll., inspection of prescribed technological proceedings during the renewal of the cadastral documentation, inspection of the systematic elimination of incomplete or incorrectly structured data of the cadastral database, inspection of technological correctness of records warning on the under way proceeding on error correction in the cadastre or on the proceeding on objections against the content of the renewed cadastral documentation so as inspection of prescribed procedures during realization of partial cadastral data revision during the documentation renewal.

In the framework of supervisory activity (supervision of certification of the results of land survey activities) SCI performed a total of 371 documented supervisory actions in 2012. In 25 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 713 000. The extent of decision-making agenda of SCI on appeals against decisions of CO decreased in 2012 on 7.2 % (570 appeals delivered in 2012 as opposed to 614 appeals delivered in 2011). The number of appeals in matters regarding correction in cadastral documentation decreased on 4.3 % in comparison to 2011 (312 appeals delivered in 2012 as opposed to 326 delivered in 2011), the number of appeals in

matters regarding objections against the content of renewed cadastral documentation increased on 1.3 % (153 in 2012 as opposed to 151 in 2011) and the number of delivered appeals against procedural decisions of CO decreased by 26.9 % in 2012 in comparison to 2011 (95 in 2012 as opposed to 130 in 2011). The quality of decision making activities of cadastral offices as first step organs improved significantly in comparison to 2011 (40.8 % of decisions of cadastral offices were found illegal in the appeal proceedings in 2012, whilst in 2011 it was 41.1 %).

SCI Decisions on Appeals Against CO Decisions

Matters	Not resolved at 1. I.	Received after 1. I.	In total	Forwarded	Appeal rejected	Decision amended	Decision repealed	Decision annulled and returned to CO	Still being resolved	Faulty proceedings
Correction of errors in the cadastre	37	312	349	7	177	34	-	88	37	6
Objections to revised cadastral documentation	17	153	170	-	79	12	1	59	18	1
Infringements of order in the sphere of the cadastre	-	-	-	-	-	-	-	-	-	-
Procedural	7	95	102	-	63	2	-	25	4	8
Changes in the boundaries of cadastral districts	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	2	2	-	2	-	-	-	-	-
Rejection of applications for submission of information	-	-	-	-	-	-	-	-	-	-
Other	1	8	9	2	3	-	1	-	-	1
<b>In total</b>	<b>62</b>	<b>570</b>	<b>632</b>	<b>9</b>	<b>324</b>	<b>48</b>	<b>2</b>	<b>173</b>	<b>60</b>	<b>16</b>

## Total Number of Complaints in 2012

Inspectorates	Not resolved at 1.1.	Received after 1.1.	In total	Forwarded	Legitimate	Not legitimate	Still being resolved
In Brno	-	4	4	3	-	1	-
In Č. Budějovice	-	1	1	-	-	1	-
In Liberec	-	1	1	-	1	-	-
In Opava	2	8	8	5	1	4	-
In Pardubice	-	1	1	-	-	1	-
In Plzeň	-	8	8	3	2	3	-
In Praha	1	20	21	11	-	10	-
<b>In total</b>	<b>3</b>	<b>43</b>	<b>46</b>	<b>22</b>	<b>4</b>	<b>20</b>	<b>-</b>

## Financial Inspection

ČÚZK as administrator of budget chapter performed financial inspections according to the Act No 320/1990 Coll. on financial inspection, at its subordinated bodies in 2012.

According to the approved plan of public administration inspections for the year 2012 the inspection group of ČÚZK carried out public administration inspections together at following 12 inspected bodies:

CO for the Region Central Bohemia, CO for the Region South Moravia, CO for the Region Moravia-Silesia, CO for the Region Pardubice, CO for the Region Prague-city, 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 the creation of 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. On the spot the ČÚZK inspection groups verified particular cases of utilization of public

resources not only before, but also during and after their use. 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 and results of land survey activities.

Among others the inspections focused in 2012 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. In case the damage compensation has been set down, the control group inspected the way of damage settlement as well. Public administration inspections of some inspected persons in 2012 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 2012 that would unfavourably affect the activities of inspected persons. All documents from carried out inspections were delivered to the president of the ČÚZK, who then imposed measures to eliminate existing insufficiencies. After the information on provisions accepted to elimination of existing insufficiencies all inspections were completed in due course. Summary report on results of the financial inspections for the year 2012, including both the results of the public inspections and the results of the managerial inspections and internal audit activities, was submitted to the Ministry of Finance via information system of the financial control in the public administration.



## Internal Audit

Internal audit is part of the system of financial inspection in the branch ČÚZK. It is carried out by special mandated employees - internal auditors. Systemized job positions are established in state administration bodies (further only SAB) in ČÚZK, LSO and in every CO. 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 SAB.

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 in conditions of particular SAB. The function of internal audit is not established in SCI and is substituted there by the regular yearly public administration inspection.

The activity of internal auditors results from the medium-term plans and on yearly plans based on them. Planning of audits is based on the risk evaluation and is focused on priority processes in conditions of particular SABs. 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 on the creation and amending of internal regulations.

Integral part of auditors' activities is their professional development. 12 out of 15 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 2012 internal auditors performed together 88 internal audits. From this total number of internal audits 19 were financial ones focused on the proof of the economy of SABs, 38 were audits of systems proving the administration of public resources, 14 were audits of operation dealing with the functioning of the internal inspection system and 17 were other audits.

Performed audits were addressed in particular to prove the functionality and efficiency of the internal inspection system of particular SABs, 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 2012 despite incorporating the budget cuts and the budget was balanced without bigger deviations and problems. 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 2012 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.

# 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.

In the year 2012 the Czech Office for Surveying, Mapping and Cadastre 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.

The bilateral cooperation with land surveying services of neighbouring countries - Slovakia, Germany, Austria and Poland developed even in 2012 not only in the area of documentation of common state borders and establishing of networks of permanent GNSS stations but also in data exchange based on existing bilateral agreements and professional experience in cadastre of real estates and land surveying.

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 and others. 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 2012 EG utilized this experience in the preparation of the project European Location Framework to be realized in years 2013 -2015 in the frame of the programme CIP PSP of the European Commission. The results and specific branch benefit has been presented at international conferences, f.i. INSPIRE 2012 (Istanbul), GeioSpatialWordForum 2012 (Amsterdam).

ČÚZK regularly participates in 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 October 2012 two representatives from the ČÚZK took part in the WPLA in conference „Supporting global economy recovery: The role of land registration authorities“ London, co-organized to celebrate 150th anniversary of founding of HMLR England and Wales.

Furthermore, ČÚZK actively participates in regular meetings of cadastral service providers of succession state of the former Austro-Hungarian Empire, who share with us a common cadastral tradition. In 2012 the 29th meeting was held in Slovenian city Celje in attendance of participants from Croatia, the South Tyrol, Austria, Slovakia, Trentino, Hungary and the Czech Republic with the main theme for discussion being the accuracy improvement of cadastral maps. Following cooperation with the Republic of Cape Verde starting in 2010, a small local project has been realized in the frame of the international developing cooperation of the Ministry of Foreign Affairs of the CR financially co-supported by this Ministry and in cooperation with the Embassy of the Czech Republic in Lisbon. Its goal was evaluation of the possible improvement of the cadastre of real estate and land rights registration together with help of completion of GNSS network of permanent stations on the islands of the Republic of Cape Verde. According to information from the Embassy of the Czech Republic in Lisbon the Czech experts' mission and the follow-up report was accepted very positively and some of its conclusions have already been implemented. Further cooperation is expected.

# Structural Funds of the European Union

9

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 is 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 July 2012 the Public access to RÚIAN data has been launched (more in the chapter 4).

## Complex Electronic Document Service

The subject of the project is creation of the complex document system of ČÚZK included eMail and eDispatched registry of ČÚZK together with ensuring save data storage, which enables administration, circulation, storage of delivered documents so as fully-fledged communication with Information system of data boxes (ISDS) in such a way that the user can effectively communicate with other users of data boxes. The main reason for realization of the project is meeting new requirements stated in the amended acts Nr. 499/2044 Coll., Nr.300/2008 Coll. and particular decrees of the whole ČÚZK branch. The project follows up the strategy of the Czech Republic in the area of eGovernment – Efficient public administration and friendly public services of the Strategy of Smart Administration realization in years 2007-2015.

## Document Management System

The main goal of the project is implementation of unified system of document proceeding in electronic form included archiving of digital documents in the frame of the ČÚZK branch and provision of this function to other information systems. DMS should enhance the functionality of existing systems ISKN and RÚIAN on the access to digital picture of document and its proceeding so as implement the agenda dealing with internal documents of the organization. DMS should ensure save storage and archiving of all administered documents, possibly their shredding as well. The system will include the digitization of entered documents using the data from the input paper documents. One of main benefits of the system is significant speeding up of applications' proceeding in the cadastre of real estate, effective improvement of the documents proceeding, decrease of the corruption risk and the possibility of redistribution of the workload regarding settling the proceedings among particular cadastral workplaces.



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ROZVOJ ČR

# Research and Development

# 10

In 2012 the way of financing of research needs in the ČÚZK branch was changed. The state budget resources have been provided to the Research Institute of Geodesy, Topography and Cartography (VÚGTK) directly from the budget chapter of the Ministry of education, youth and sports and the research parameters have been stated in the agreement on the future agreement on utilization of the results of research and development for the needs of the ČÚZK branch. Solution of further research needs of the branch is realized via the program of public tenders for needs of state administrations BETA of the Technology Agency of the CR.

Together 7 software products were handed over from the area of GIS and cadastre of real estate during 2012. The provided products were some versions of DIKAT ZPMZ which were step by step modified so as to be able to communicate with new VFK versions. The last version is DIKAT ZPMZ 2.4. Further the VÚGTK focused on creation of a new system MicroGEOS UKM for processing of thematic cadastral maps and on other MicroGEOS Nautil versions.

In the area of standardization VÚGTK was continuously ensuring the metrological requirements of the ČÚZK branch given by the metrological set of rules and effective legal regulations. It fulfilled the role of the accredited calibration laboratory ensuring the metrological continuity of gauges according to European standards included the function of authorized metrological centre for verification of given gauges. In the frame of accredited calibration laboratory and authorized metrological centre there were realized together 1 352 calibrations of gauges in 2012.

The works on completing and functionality improvement of the multilingual terminological dictionary went on, which is available on the VÚGTK website. In 2012 further monitoring GNSS techniques were being developed so as the use of collected data from the data centre of the geodetic observatory Pecný. Monitoring and stability testing of

permanent GNSS networks CZEPOS and VESOG were in operation and the works on the building of the reference frame for the new European navigation system GALILEO were finalized. The observation structure installed in the geodetic observatory Pecný in Ondřejov has been further in operation, the core of which consists of the reference GNSS and gravimetric stations. Registered data were regularly provided to international data centres for GNSS data and to CZEPOS centre.

In 2012 the activities have been solved, in particular, financed by the Grant agency of the Czech Republic, by Technological agency of the Czech Republic and projects in the frame of the EPOS (European Plate Observing System) initiative, such as f.i. modelling of satellite orbits, regular measurements with the absolute gravimeter or enhancing the fundamental GNSS station Pecný on a Galileo segment. In the frame of the programme metrology development of the CR the project of the preservation of the state gravity standard has been solved.

In cooperation with the Land survey office further improvement of transformation relations between S-JTSK/05 and S-JTSK was realized in 2012. Further following activities have been performed: the GNSS continual observation on GOPE and in the VESOG network, analyze of the time series of coordinates of GNSS stations', determination of troposphere parameters and precise satellite orbits for international terrestrial reference frame, analyzing of time series of gravity changes measurement for multinational data centres, ensuring the operation of aerial geodetic infrastructure in the frame of international geodetic and geophysical projects, research in the area of theory and numerical methods via modelling of the Earth gravity field, measuring and correction of the temperature influence of the relative gravimeters, evaluation of stationary gravimeters noise and research in the area of the DORIS technology application.



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