



**ANNUAL PROGRAM FOR THE REALIZATION OF A STRATEGIC PLAN  
FOR THE AGENCY FOR REAL ESTATE CADASTRE  
FOR 2014**

December 2013

### List of acronyms

AREC - Agency for Real Estate Cadastre
LOREC - Local offices for Real Estate Cadastre
REC - Real Estate Cadastre
DCM - Digital Cadastral Maps
WO - Working originals
AO - Archive originals
GI - Geo-information System
ERP - Enterprise Resource Planning
GIS - Geodetic Information System
NSDI - National Infrastructure of Spatial Data
GNSS - Global Navigation Satellite System
MAKPOS - Macedonian Positioning System
GRI - Geodetic Reference Infrastructure
ETRS 89 - European Terrestrial Reference System
EUROGEOGRAPHICS – European Association of National Mapping, Cadastral and Land Registry Authorities
FIG - International Federation of Surveyors
EUREF – European Reference Framework
EUPOS - European positioning system
EULIS - European Land Information Service

On the basis of article 11, paragraph (1), line 4 from the Law on Real Estate Cadastre („Official Gazette of Republic of Macedonia“ no. 55/2013), the Steering Board of the Agency for Real Estate Cadastre, at the session held on \_\_\_\_\_, has enacted the following:

**ANNUAL PROGRAM FOR THE REALIZATION OF A STRATEGIC PLAN  
FOR THE AGENCY FOR REAL ESTATE CADASTRE**

## FOR 2014

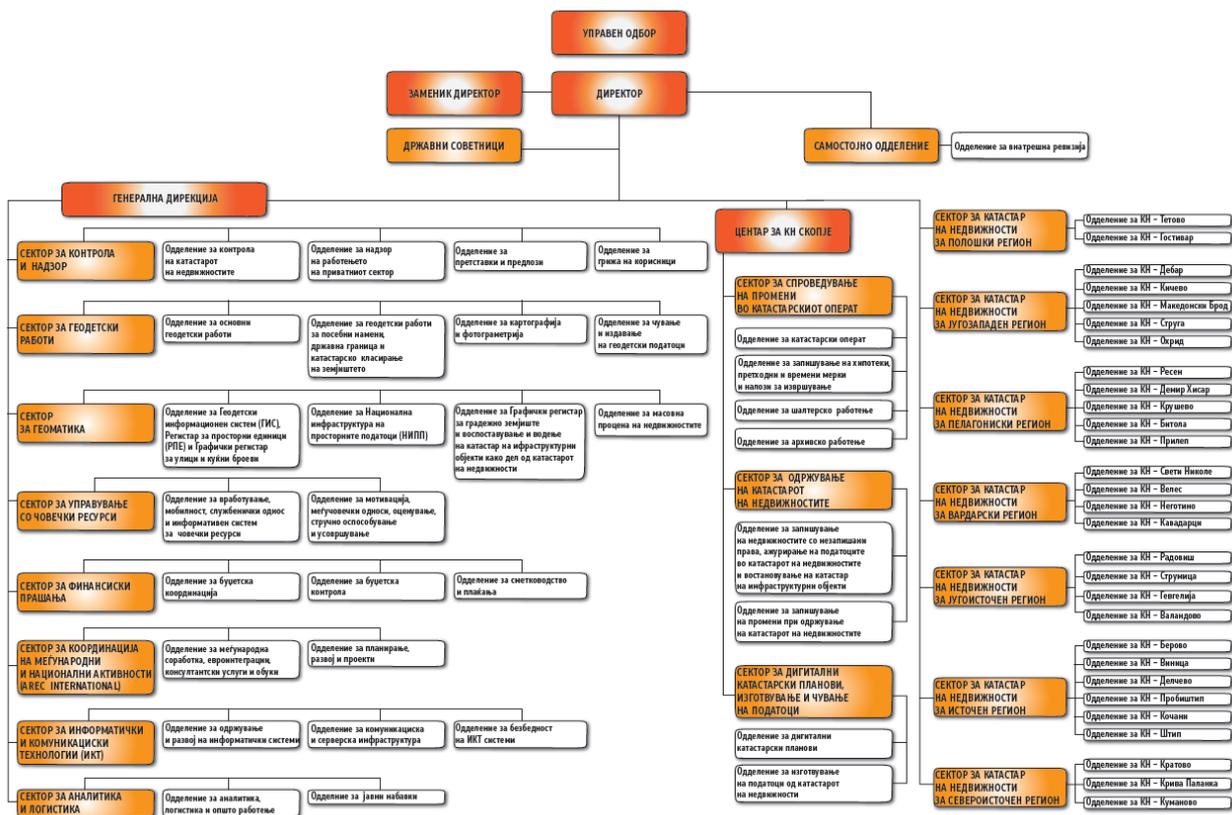
The subject, the types, scope of work and the way of implementing this program, in order for the Agency for Real Estate Cadastre to realize the goals and priorities established in the Strategic Plan for the period 2013-2016, aimed at improving customer service orientation, creating an efficient, reliable and secure digital GCIS and establishing effective and efficient processes by strengthening institutional capacities.

During 2014, the activities from the Agency for Real Estate Cadastre (AREC) shall be focused on realizing the following priority activities:

- ❖ Maintenance of the real estate cadastre and services delivery
- ❖ Establishing the electronic system for the registration of infrastructure objects
- ❖ Institutional development
- ❖ Creation of technical preconditions for establishing a national Geoportal
- ❖ Geodetic reference infrastructure and preparation of topographic maps

The agency works in its scope through the Headquarters, the Center for REC in Skopje, the sectors for REC, the local offices for REC and the cadastre front-desks.

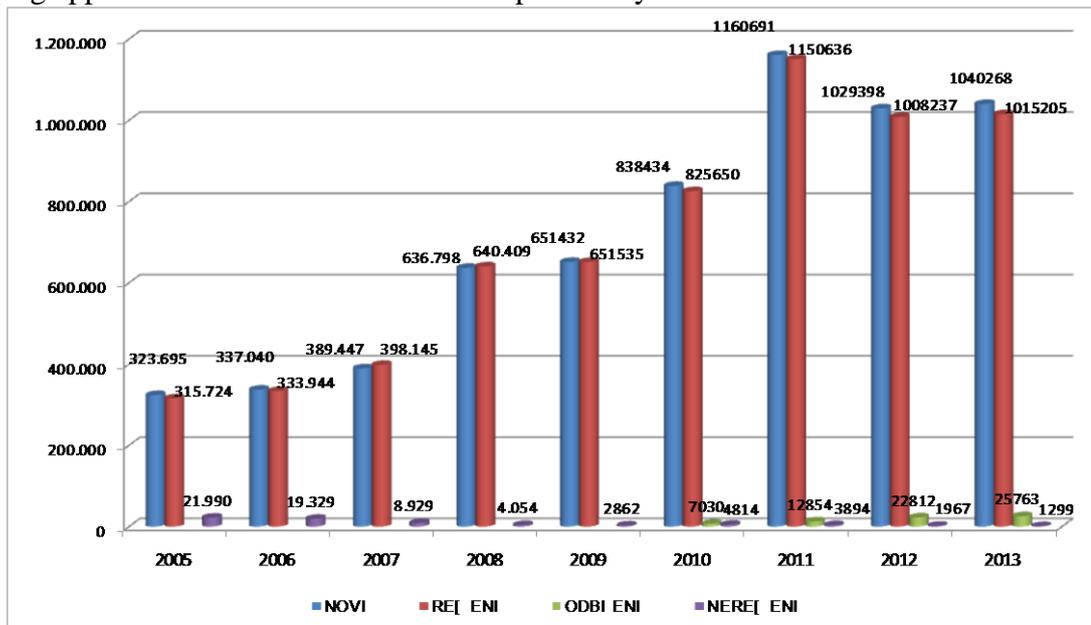
The internal organization of the Agency (organogram) is shown in the following figure:



## MAINTENANCE OF THE REAL ESTATE CADASTRE AND SERVICES DELIVERY

The maintenance of the real estate cadastre during 2014 shall be done through the Center for REC - Skopje, the seven sectors for REC, and the local offices for REC.

The implemented "e-Kat" system allows for regular monitoring of the performance of the work of the local offices for REC and monitoring the realization of the set standards for processing applications within the deadlines stipulated by the Law on REC.



Graph for received/processed applications for the period 2005-2013

The e-Kat system and the services for professional users ("e-Kat" and "e-Kat Front-Desk") enable a quicker and more efficient electronic exchange of data with professional users.

There is a continuous increase in the use of services "e-Front Desk" and "e-Kat Front Desk". At the end of 2013, a total of 392 contracts for "e-Front Desk" and 381 contracts for "e-Kat Front Desk" were signed, and during 2014 it is planned for contracts to be signed with all the notaries, private geodetic companies and municipalities.

In order to increase the speed and efficiency of the communication with professional users, as of 2014, it is planned to unify the two services "e-Front Desk" and "e-Kat Front Desk" in a single system. The Agency for Real Estate Cadastre is planning to conduct the entire communication and exchange of data with professional users by electronic means.

In order to offer faster and more efficient services to citizens, the Agency for Real Estate Cadastre introduced the possibility to scan every incoming document, and subsequently electronically distribute it in the system, which means that the processing of the application and the input documents shall be done electronically. Towards the end of 2013, in the Center for REC in - Skopje, Kumanovo, Strumica, Vinica, Negotino, Kriva Palanka and Resen a new functionality was introduced, which includes scanning of the entire received documentation attached to the submitted application, if it is categorized an archival value. With the scanning of the received documents, the digital archive of applications begins to form. The training of employees in other REC local offices will take place during the first quarter of 2014. The scanning of the book of changes is completed, and the data will be migrated to the central system and it will be tested. These are likely to be accessed through a module developed for

eKat, with access through the Internet. The browsing parameters will be according to the year, parcel and cadastral municipality. The system will progressively spread throughout the country, creating images and indexes, with their testing and putting into use.

### **Help Desk**

In order to improve internal and external communication, as well as the information, the Agency for Real Estate Cadastre foresaw the need for introducing a help desk with the ultimate aim of improving the level of service and information delivery. At the end of 2013 a company was chosen to prepare a software solution for a help desk and carry out a training of the staff in this department.

### **Managing a centralized database**

With the introduction of the electronic system and its upgrade with the graphics module, aside from the descriptive data for property, a graphical display of spatial data of cadastral parcels and buildings was also made possible. This upgraded system for e-Kat which contains the alphanumeric and graphic data for REC, enables a faster, more efficient and better maintenance of cadastral data as well as faster and more efficient electronic data exchange with professional users AREC and other state authorities.

So far a total of 25 cadastral municipalities, for which digital cadastral maps were prepared and aligned, have been included in the e-Kat database. For these 25 cadastral municipalities, it is now possible for a copy to be issued of the cadastre plan from the AREC front desks, immediately after the request has been submitted. For private surveying companies it is possible to obtain a basis for producing a geodetic report through the application "e-Kat Front Desk", which makes the implementation of changes in REC faster and more efficient.

The implementation of this action plan is linked to the system of quality control and quality assurance of the alphanumeric and graphic data of cadastral maps obtained in the process of digitalization. A detailed description of this process is contained in Chapter 3 of the Annual program.

The real estate cadastre maintenance for the cadastral municipalities that are located in the e-Kat database is done on the basis of digital geodesic reports prepared by private geodesic companies by using the MakEdit software.

### **State border**

AREC in accordance with the Regulation on the manner of performing the survey of the state borderline, the form and the content of the geodetic report from the performed survey of the state borderline and the manner of maintaining the borderline points ("Official Gazette of the Republic of Macedonia" No 139/13) shall perform the works regarding the survey, the marking, the maintaining and the reconstruction of the borderline marks and the borderline of the state border, in accordance with the program established by the Ministry of Foreign Affairs as the competent ministry.

### Updating data in REC under ex officio procedure

AREC performs the updating of data in the REC under an ex officio procedure for the cadastral municipalities where the percentage of the property remaining with unregistered rights is greater than 20%.

To update the data, the Agency has prepared an annual program to update data in REC under an ex officio procedure for 2014.

### Geodetic works for special purposes relevant for the Republic of Macedonia

During 2014 AREC will also be engaged for the performance of geodetic works for special purposes, which are of importance for the Republic of Macedonia, and those shall be determined by the Government of the Republic of Macedonia.

The Agency for Real Estate Cadastre will continue during 2014 with monitoring the work of the sole proprietors, authorized surveyors and trade companies for geodetic works, with conducting the activity “Open Cadastre Days” and control over the working of the local offices of REC in the Republic of Macedonia.

### Establishing an electronic system for registration of infrastructure objects

The upgrade of e-Kat with a module for infrastructure objects will enable registration of the ownership right of the infrastructural objects (underground and above ground) and their graphic display with precisely determined coordinates.

For the preparation of the software solution for the cadastre of infrastructural objects, as part of e-Kat system, a contract was signed in December 2013. The software solution should be finished by mid-December 2014, while at the end of the first quarter of 2014, it is planned to make the first entry of an infrastructure object into the cadastre, for which a property list will be issued.

The following table presents the activities for achieving this priority in 2014:

No.	Activity	Timeframe	
		Start (month/year)	Finish (month/year)
1	Maintenance of the REC	continuous	
2	Introducing a help desk	ongoing	September 2014
3	Managing a centralized database	continuous	
4	Performing geodetic works for special purposes relevant for the Republic of Macedonia determined by the Government of the Republic of Macedonia	continuous	

5	Supervision over the working of the sole proprietors, authorized surveyors and trade companies for geodetic works	continuous
6	Establishing an electronic system for registration of infrastructure objects	march 2014

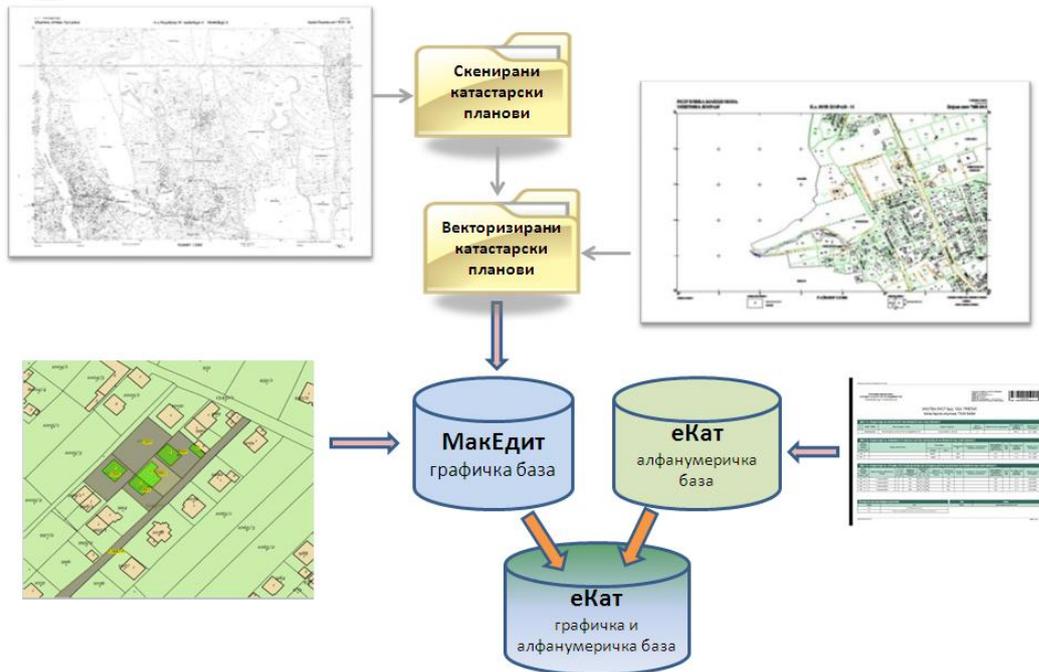
The mentioned activities will be financed by a loan approved by the World Bank program 3A, with the realization dynamics identified in the annual plan for spending the funds and from self-financing funds from the program 20 and program 2A. For part of the activities means are provided from the self-financing, program 20 - REC and program 2A - Geodetic cadastral information system.

#### DIGITAL CADASTRAL MAPS AND ESTABLISHED UNIQUE INTEGRATED GCIS FOR THE ENTIRE TERRITORY OF THE REPUBLIC OF MACEDONIA

##### Digitalization process of the cadastral maps

After the scanning and geo-referencing of all archive originals of cadastre plans for 1491 CM, and their vectorization, the process of introducing changes of WO began, which is carried out by experts in the local offices for real estate cadastre in Macedonia, as well as 115 professionals engaged by the World Bank.

The updating of A0 of the digital cadastral maps is done with the help of the entire official record held by the Agency (working originals of cadastre plans, manuals, photo sketches, geodetic reports for special purposes, data from field measurements made in the past, starting from 1927 to the present). In order to achieve successful harmonization of the graphical and alphanumeric databases, additional field measurements have been foreseen. The entire procedure starts with the process of matching the graphic and alpha-numeric data, thereby receiving a Report on the state of the data is necessary to harmonize. Namely, the report contains data on cadastral parcels that will need to be harmonized to the digital cadastral map, and that data should be harmonized e-Kat database. Also, the Report contains data on the surface of the cadastral parcels in the digital cadastral map, the difference in the surface which is caused by digitization and the one that is listed in the e-Kat system, that occurs due to the different methods of calculating the same in the past period, as well as information about whether the resulting difference is within the limits of tolerance (also defined in the Regulation digital cadastral maps and plans of infrastructure facilities).



The agency, along with the aforementioned activities established a central database which would merge the graphical and alphanumeric part. In this regard the prepared MakEdit software intended for updating and maintenance of digital cadastral maps was launched in mid-July 2012 for cadastral municipalities of the area that is covered by the Center for REC - Skopje, as well as Local offices for REC in the Republic of Macedonia.

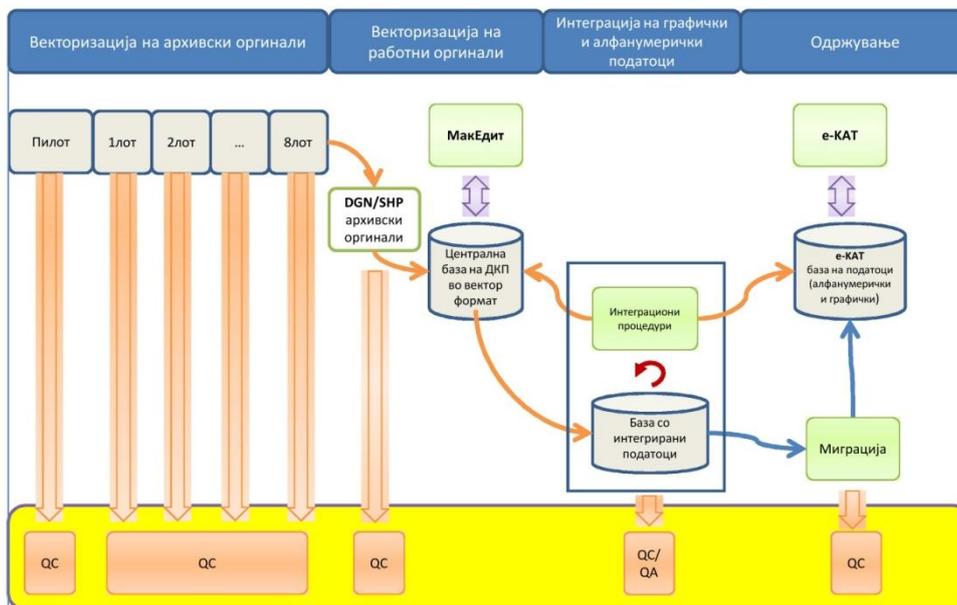
Up to June 12 2013, 261 CM were entered into the MakEdit software. Simultaneously, the expert staff is being trained to work with the mentioned software.

The process of entering the cadastral municipalities in MakEdit takes place in several steps: topological cleansing of details, aligning boundaries of cadastral municipalities from one local office for real estate cadastre, as well as alignment of the boundaries of cadastral municipalities from two neighboring local offices for real estate cadastre, various topological controls regarding data for cadastral municipalities, cadastral parcels, buildings and parts of buildings, controls that apply to the surface of cadastral parcels, cadastral parcels numbers, numbers of titles, land uses and classes, cleaning unnecessary topological vertex, wedges etc. The said process is carried out iteratively for each cadastral municipality separately.

In the function of the above mentioned, a system was established of quality control and quality assurance of graphic and alphanumeric data of cadastral maps. Through the system of quality control and quality assurance the highest level of quality is obtained from the data from the digitization project and a possible integration of the graphical database DCM (MakEdit database) with the alphanumeric database (E-Cat base) in a single centralized database.

Up till 06.12.2013, 25 CM have been imported in the e-Kat graphic database. For these 25 CM, all interested parties can obtain data, such as copy of the map, together with a property

КОНТРОЛА НА КВАЛИТЕТОТ И ПОТВРДА НА КВАЛИТЕТОТ  
НА ПРОЦЕСОТ ДИГИТАЛИЗАЦИЈА ( QC/QA )



list at any of the front desks, where they can submit a request to obtain such data.

The Government of the Republic of Macedonia, upon proposal of the Agency for Real Estate Cadastre, adopted an Action Plan for digitization of archive originals of the analogue cadastre plans by quarters for 1491 CMs, as of the end of December 2014 of the planned 795, 547 CM have been completed, 188 CM are in operation and 60 CM remain unfinished.

### Web GIS

Within the activity web-GIS, AREC performs maintenance and upgrade of the existing GIS portal, where spatial data and information from AREC are published and shared. The purpose of the portal is to provide the stakeholders with easy access and data review, but also to build a kind of service system for building custom applications. The goal is to establish a system where spatial information, such as digital cadastral maps, orthophoto and topographic data are readily available for local and/or central government, so that it can contribute to greater efficiency and transparency of public services.

Besides the ongoing maintenance of web GIS portal, an upgrade is planned in order to support the project for digitization of cadastral maps. The upgrade should provide additional functionality to the portal which is associated with the addition of new layers in vector format for the cadastral maps obtained in the process of digitization. On the browser, vector data will be displayed in a particular color will be different from the other layers, but will also enable the display of the digital surface area of cadastral parcels and surface underneath buildings.

### Mass valuation of real properties

The mass valuation of the property will serve to the development and stabilization of the real estate market, as well as for better and more effective monitoring of real estate transactions, which will allow data distribution to other state agencies (PRO, National Bank, courts) as well as banks, companies, real estate agencies, insurance companies, investors etc., and will be available to all interested citizens. The system will allow the revision of already estimated property tax and its annual changes based on the increase or decrease in the value of property, it will facilitate the work of municipalities, which will no longer have to make an individual valuation of each property in the sale thereof, will enable better qualification of properties, easier collection of data for them, as well as many statistical data that will simplify the analysis of the property market.

A Study was prepared for the Mass Valuation of Properties, and the following step is for the Agency for real estate cadastre to establish a Registry of prices and leases, where apart from the other data, the value of the property shall also be recorded.

#### Study on the establishment of a registry of construction land and a centralized system for urban planning documentation in the Republic of Macedonia

With the funding provided by the World Bank loan, in the second quarter from 2014, a Study should be prepared for the establishment of a registry of construction land and a centralized system for urban planning documentation in the Republic of Macedonia. The study will include prescribing standards for the overall urban planning documentation, which will provide the prerequisites for storing it in a centralized system. The study should propose an action plan with deadlines and activities for all parties involved in the development and adoption of urban-planning documentation, as well as a technical specification for the procurement of a software solution that will enable standardized and centralized management of urban planning documentation in all municipalities of the Republic of Macedonia.

This will allow quick and efficient way to issue extract from the urban planning documentation, review the use of the construction land, as well as an overview of urban planning documentation in the GIS system.

The following table presents the activities for achieving this priority in 2014;

No.	Activity	Timeframe	
		Start (month/year)	End (month/year)
1	Updating the vectorized archive originals	ongoing	December 2015
2	Implementing quality control and integration of graphic database with alphanumeric base (MakEdit by e-Kat)	ongoing	December 2015
3	Electronic maintenance and implementation of changes in CN	ongoing	continuous
4	Development and implementation of Web GIS - Distribution System and AREC Geoportal (cadastral, topographic, orthophoto, thematic, etc.). Including procurement of licenses for Oracle EE database for AREC's distribution system	January 2014	April 2015

5	Electronic publishing of data through the AREC-GIS portal	ongoing	December 2015
6	Mass valuation of property – establishing a Registry of prices and leases	ongoing	continuous
7	Development of Study on establishing a Registry of construction land and a centralized system for urban planning documentation in the Republic of Macedonia	June 2014	

The aforementioned activities will be financed from a loan approved by the World Bank, program 3A, with the dynamics of conversion identified in the annual plan for spending those funds. For part of the activities means will be provided from self-financing, program 20 - Real estate cadastre and program 2A - Geodetic Cadastral Information System

### ***INSTITUTIONAL DEVELOPMENT***

With the objective to provide efficient and adequate services for the need and demands of the public and the professional community, it is necessary to ensure the institutional development and support in the building of the capacities of AREC.

#### **Integrated Resource Planning**

Currently, AREC is implementing the software for integrated resource planning (Enterprise Resource Planning - ERP) which will additionally strengthen the institutional capacities of AREC and will improve the service delivery through the implementation of an integrated system for financial management, human resources, monitoring, analysis and reporting.

The activities include upgrade of the current software solutions for improvement of the delivery of services for registration, including procurement of the needed software licenses, adaptation, data migration, training, technical assistance in the management with the implementation of the system and providing quality control and quality assurance.

#### **Scan Center**

As part of the priority for the institutional development, in mid January 2014, AREC will draft a study for establishment of a Scan Center with the objective to facilitate the management of the documentation and the archive materials owned by AREC. With this project, AREC will permanently protect its documentation from further deterioration, will create a new classification of the documentation and at the same time it will establish a system of fast and easy browsing of all documents of AREC in digital form at any local office for REC. Through this system, the local offices for REC which have a smaller scope of work will be able to process application from the remaining local offices for REC. By doing this, AREC will

increase not only the work transparency but it will also decrease the time required to process an application.

The study for the establishment of a scan center will contain a detail elaboration of the work processes in the scan center, step by step, a specification for the required hardware and software for its establishment, an action plan with specific time frame for its implementation, a financial frame, a proposal for training of the employees in the Scan Center as well as certificates which the employees have to possess. Also, the study will incorporate the ISO standards which are to be used during the establishment of the scan center, the system for the control of the entire process, the system for the entry and browsing of the metadata in the documents, the proposal for the upgrade of the current IT infrastructure of the Agency for Real Estate Cadastre, as well as the system for classification of the documents which are to be scanned.

In compliance with the findings and the action plan which are the integral part of the study, AREC will have to engage staff for the scan center department, find the adequate space where to set up the scan center, prepare the bidding documentation and procure the needed hardware and software, carry out the training for the employees, carry out a pilot project and test the established scanning system. AREC will also have to upgrade the current IT infrastructure.

#### International Cooperation and Training

The Agency for Real Estate Cadastre during 2014 actively participated in all international organizations in which is a member, such as Eurogeographics, FIG, EUREF, the annual INSPIRE conferences, EUPOS, EULIS and other. During the annual assemblies, conferences and workshops organized under these organizations, AREC presented its institutional progress in the area of real estate cadastre, geodesy, and spatial data infrastructure and information technology.

Within the regional cooperation, the AREC continues to proactively participate in the regional conferences on land administration and spatial data infrastructure as well as in the preparation and implementation of the regional projects.

Within the signed memorandums for cooperation, the AREC will intensify its activities related to the experience and knowledge sharing in the adequate areas.

The Agency for Real Estate Cadastre during 2014 plans to carry out activities related to trainings for authorized entities, institutions and legal entities from the country and abroad in reference to works related to real estate cadastre maintenance as well as geodetic and information technology works for the purpose of establishing, management and technical; development of the GCIS. The execution of this activity will be performed in compliance with the Annual Training Program in the area of establishment and maintenance of the real estate cadastre and geodetic and information technology works.

Under this activity, AREC also continues to carry out the process of continuous training for the authorized surveyors in the area of real estate cadastre and geodesy, as part of the legal obligation for the authorized surveyors to attend continuous trainings in the adequate areas. The trainings are carried out by expert management staff from the Agency for Real Estate Cadastre. During 2014 or more specifically in May, AREC plans to initiate the implementation of the project Spatial Data Infrastructure in the region of the Western Balkans which is to be financed by the Swedish International Development Agency (SIDA), with the objective to instigate and

support the development of the regional spatial data infrastructure in compliance with INSPIRE, with the objective to meet the criteria of the EU as well as development and delivery of interoperable content and services in the region of the Western Balkans as part of the e-government concept, realization of SEE 2020, economic development, transparency of the ownership and anticorruption processes.

The table below lists the activities that need to be carried out in order to execute this priority in 2014:

No	Activity	Timeframe	
		Start (month/year)	End (month/year)
1	Implementation of the ERP software	ongoing	October 2014
2	Integration of the ERP software with the e-Cadastre system	ongoing	October 2014
3	Consultant services for quality control during the implementation of the ERP system	ongoing	July 2014
4	Scan Center – procurement of equipment (hardware and software) for scanning and digitalization of the archive documents of permanent value	April 2014	August 2014
5	Procurement of DMS software (delivery of required licenses, configuration and installation, adaptation, implementation, maintenance, staff training)	April 2014	April 2015
6	Training	continuous	continuous

The stated activities will be financed from the approved World Bank Loan program 3A with a tempo of execution defined in the Annual Procurement Plan for these funds. Part of these activities will be financed with AREC funds, program 23 – Advancement and technical development, and program K2 – Advanced training.

### ***NATIONAL SPATIAL DATA INFRASTRUCTURE (NSDI)***

The activities related to the national spatial data infrastructure are aimed towards creating and putting into operation a national geo-portal of the Republic of Macedonia. 16 institutions will be able to connect to the geo-portal in compliance with the draft-law on national spatial data infrastructure of the Republic of Macedonia, whose enactment by the Parliament of the Republic of Macedonia is expected during 2014. The Agency for Real Estate

Cadastre participated in the work group tasked for the drafting of the Law on National Spatial Data Infrastructure of Republic of Macedonia.

The AREC with its new organizational setup, within the Sector for geomatics, has established the department for National Spatial Data Infrastructure (NSDI) which will carry out the works related to the establishment, maintenance and providing public access to the national spatial data infrastructure (NSDI) and coordination of the same at national level.

At the same time, AREC will continue the process of creating metadata for the geo-spatial data for which the Agency is responsible. AREC plans during 2014 to create 50 metadata as well as production of software for the national NSDI geo-portal.

The table below lists the activities that need to be carried out in order to execute the stated objective:

No	Activity	Time Frame	
		Start (month/year)	End (month/year)
1	Implementation of software solution for the national NSDI geo-portal of Republic of Macedonia	May 2014	April 2015
2	Procurement of hardware for the NSDI geo-portal	July 2014	October 2014
3	Standardization of the dataset for administrative units according to the EU INSPIRE directive	September 2014	November 2014
4	Standardization of the services for browsing and searching of data for the administrative units in compliance with the EU INSPIRE directive	November 2014	December 2014
5	Creation of 50 metadata (for points from the geodetic reference networks and topographic maps)	January 2014	December 2014

The stated activities will be financed from the approved World Bank Loan with a tempo of execution defined in the Annual Procurement Plan for these funds. Part of these activities will be financed with AREC funds, program 23 – Advancement and technical development.

### ***GEODETIC REFERENCE INFRASTRUCTURE AND PRODUCTION OF TOPOGRAPHIC MAPS***

#### Upgrade of the geodetic reference infrastructure

In the past couple of years, AREC has intensively worked on the establishment of a modern national geodetic reference infrastructure according to European standards.

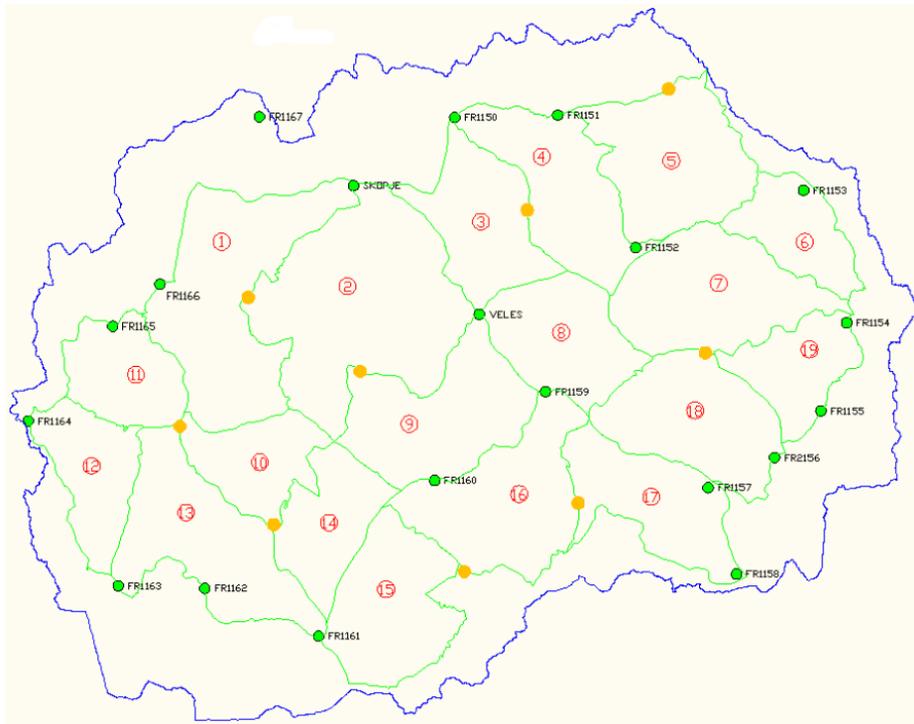
With the help of certain donors and by using own funds, AREC established an active (MAKPOS) and passive GNSS network on the entire territory of Republic of Macedonia and through specially conveyed geodetic campaigns have incorporated them into the European reference framework. MAKPOS and the passive GNSS network are the first actual realization of the ETRS89 coordinate system which is a performance standard in the EU countries, which the Republic of Macedonia as an EU candidate country, is obligated to implement.

In the period of 2014-2016, AREC will work on creating preconditions for introduction into official use of the ETRS89 coordinate system.

In 2014, AREC plans to carry out control of the produced model for transformation of the coordinates from ETRS89 coordinate system into the state coordinate system and vice versa on the entire territory of Republic of Macedonia, before the official placement in use.

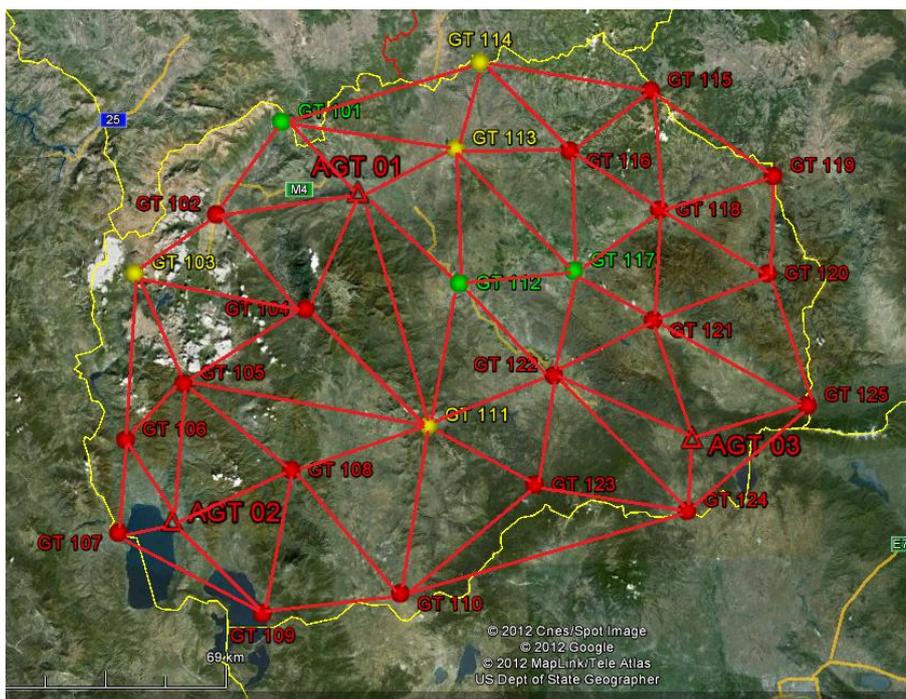
With the objective to improve the vertical and gravimetric reference system, AREC produced a study for development of a new leveling and gravimetric network in Republic of Macedonia, as well as projects for their realization.

In the period of August 2012 - December 2013, AREC completely finished the field geodetic works which refer to the establishment and determination of the new leveling network of high accuracy in Republic of Macedonia. Definitely, the network is comprised of a total of 1098 leveling points (benchmarks), connected in 49 leveling lines and 19 polygons, with a total length of 2190 kilometers.



The final processing of the data is planned to be completed in 2015, after previously completing the gravimetric measurements of the leveling.

In the period of September - November 2013, AREC established and determined the basic gravimetric network on the territory of Republic of Macedonia. The network is comprised of three absolute gravimetric points of first order, placed at an average distance of 30 to 40 kilometers, which cover the entire territory of the country. The basic gravimetric network will further serve as basis for performance of the gravimetric survey and for performance of thematic gravimetric surveys/measurements.



In 2014 and by the end of the first quarter of 2015, AREC plans to carry out a detailed gravimetric survey of the entire territory of the Republic of Macedonia, which will include all benchmarks from the new leveling network of high accuracy (a total of 1098). This activity will also determine approximately 1200 additionally selected gravimetric points which cover the state territory in appropriate grid, at a distance of around five kilometers.

The data from the gravimetric survey are necessary for the final processing of the data from the new high accuracy leveling network of and for determination of the geoid in the Republic of Macedonia.

#### Topographic maps in smaller scales

In reference to the cartography, in 2014, AREC will continue to perform control and synchronization of the data on the topographic maps in scale of 1:25000, i.e. the maps produced independently by AREC with the maps produced within the JICA project, as well as with the production of topographic maps in scale of 1:50000. In 2014 AREC plans to produce 20 sheets of the topographic maps in scale of 1:50000.

In the period of 2014-2015, AREC also plans to produce a study for selection of the optimal cartographic projection for the Republic of Macedonia which is to follow the ETRS89 coordinate system, after its placement into official use.

The table below lists the activities that need to be carried out in order to execute the stated objective in 2014:

No	Activity	Time Frame	
		Start (month/year)	End (month/year)

1	Maintenance and support of the MAKPOS system	January 2014	December 2014
2	Field control of the model for transformation of coordinates	January 2014	December 2014
3	Gravimetric survey: measurement and delivery of data	March 2014	March 2015
4	Consultant for quality control of the gravimetric surveys/measurements	August 2013	February 2015
5	Control and synchronization of the data on the topographic maps in scale 1 : 25.000	January 2014	December 2014
6	Production of topographic maps in scale of 1:50000	January 2014	December 2014
7	Production of a study for selection of optimal cartographic projection of Republic of Macedonia	January 2014	December 2015

The stated activities will be financed from the approved World Bank Loan program 3A with a tempo of execution defined in the Annual Procurement Plan for these funds. Part of these activities will be financed with AREC funds, program 22 – Basic geodetic works and cartography.

This program will set in force the following day after its publication on the information board of the Agency for Real Estate Cadastre, meaning the same will be published after obtaining approval by the Government of the Republic of Macedonia.

**Chair of the Steering Board**

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**Aneta Jordanova**

**Annex:  
Proposal for  
expenditures  
per type and  
source of  
financing for  
2014**

in 000 MKD

Item	Expenditures under the basic budget			Expenditures from self-financing activities							Expenditures from Loan funds	Total Expenditures	
	Administration	REC	Total	Administration	REC	Basic geodetic works and cartography	Advancement and technical development	GCIS	RECRP	Advanced training	Total	RECRP	
Program	1o	2o	total	1o	2o	22	23	2A	3A	K2	total	3A	total
401	22.177	191.374	213.551		25.192						25.192		238.743
402	1.974	9.680	11.654		76.650						76.650		88.304
<b>40</b>	<b>24.151</b>	<b>201.054</b>	<b>225.205</b>		<b>101.842</b>						<b>101.842</b>		<b>327.047</b>
420				1.000	4.800		200				6.000	100	6.100
421				11.500	45.000	0		8.500			65.000	500	65.500
423					13.965		35				14.000	310	14.310
424					26.000	2.000		18.000	0		46.000	390	46.390
425					30.000		200	0			30.200	60.000	90.200
426					8.200		600			200	9.000	1.000	10.000
<b>42</b>				<b>12.500</b>	<b>127.965</b>	<b>2.000</b>	<b>1.035</b>	<b>26.500</b>	<b>0</b>	<b>200</b>	<b>170.200</b>	<b>62.300</b>	<b>232.500</b>
451									8.500		8.500		8.500
<b>45</b>									<b>8.500</b>		<b>8.500</b>		<b>8.500</b>
464				0	1.000						1.000		1.000
<b>46</b>				<b>0</b>	<b>1.000</b>						<b>1.000</b>		<b>1.000</b>
480				0		5.000		3.000			8.000	10.400	18.400
481				0	6.000						6.000		6.000
485						0		4.300			4.300	38.000	42.300
<b>48</b>				<b>0</b>	<b>6.000</b>	<b>5.000</b>		<b>7.300</b>			<b>18.300</b>	<b>48.400</b>	<b>66.700</b>
491									49.330		49.330		49.330
<b>49</b>									<b>49.330</b>		<b>49.330</b>		<b>49.330</b>
<b>4</b>	<b>24.151</b>	<b>201.054</b>	<b>225.205</b>	<b>12.500</b>	<b>236.807</b>	<b>7.000</b>	<b>1.035</b>	<b>33.800</b>	<b>57.830</b>	<b>200</b>	<b>349.172</b>	<b>110.700</b>	<b>685.077</b>