

## Contents

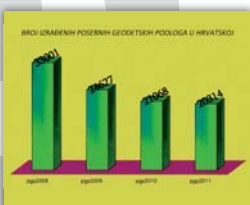
### Monograph



### Day of European Surveyors



### Geodetic activities in the circumstances of global crisis



## Presentation of the monograph *Topographic Maps at the Territory of Croatia*

Marking the first Day of European Surveyor and Geoinformation, the State Geodetic Administration presented the monograph *Topographic Maps at the Territory of Croatia* on 2. March 2012 in the Croatian Academy of Sciences and Arts, under the auspices of the Minister of Construction and Physical Planning, Ivan Vrdoljak.

The monograph was prepared by Stjepan Ćosić, PhD director of the Croatian State Archives in Zagreb, Mirko Alilović, graduate engineer of geodesy, former deputy director of the State Geodetic Administration, Prof. Stanislav Frangeš, PhD, full professor at the Faculty of Geodesy, University of Zagreb, and MSc. Ivan Landek, deputy director of the State Geodetic Administration. The editor in chief is Prof. Stanislav Frangeš, PhD.



Minister and director of SGA



The authors of the monograph, Frangeš, Ćosić, Alilović & Landek

The monograph gives the overview of the production of topographic maps ever since the year 1673 until the present day. The contents of the monograph are divided into six chapters. Each of them, except the introductory chapter and last chapter, describes the production of topographic maps through four time periods. The last chapter offers the list of topographic maps recorded at the territory of Croatia in a table format providing also the information about the place of their storage.

The chapter *Topographic Maps of the Croatian Lands until the Beginning of the 20. Century* (author Stjepan Ćosić) describes the beginnings of military surveys and map production with topographic features, Josephinian topographic maps, the maps from the Napoleon period, Franciscan and Francisco-Josephinian topographic maps, as well as public maps until the beginning of the 20. Century.

The chapter *Topographic Maps of Croatia from 1900 until 1945* (author Mirko Alilović) presents the production of topographic maps at various scales (1:25 000, 1: 50 000, 1: 100 000, 1: 200 000, 1: 300 000, 1: 500 000 and other) by the Military Geographical Institute in Vienna, later the Military Geographical Institute of the Kingdom Yugoslavia, during the first and the second World Wars by Italians, Germans, English and the other.

The chapter *Topographic Maps of Croatia in the Period from 1946 until 1990* (author Stanislav Frangeš) describes the production of the State Base Map (ODK) at the scale of 1: 5000 from 1965 until 1990 with the general maps from each year of production. The presentation of topographic features (settlements, traffic routes, water bodies, vegetation, relief, borders) is clearly described, as well as the production of topographic maps at the scale of 1: 25 000 to 1: 500 000.

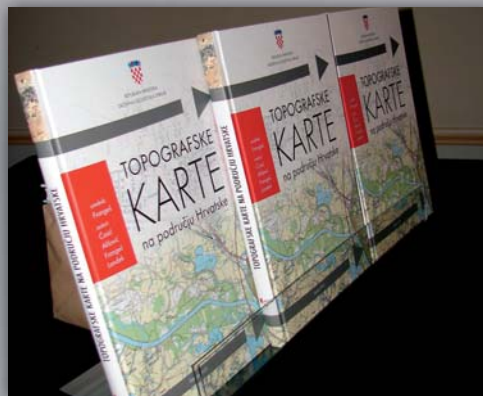
The last chapter *Topographic Maps of the Republic of Croatia after 1990* (author Ivan Landek) presents the production of the Croatian State Map (HDK) and the Croatian Base Map (HOK) at the scale of 1: 5000 after the year 1990 with the general maps for each year of production. There is also the development of CROTIS presented, as well as the development of new topographic map at the scale of 1: 25 000 for each year of production at the entire territory of the Republic of Croatia. In this period there were also the topographic maps at the scale of 1:100 000 and 1: 200 000 renewed, military topographic maps at the scale of 1: 250 000, as well as the general topographic map at the scale of 1: 500 000 produced.

The preface of the monograph was prepared by the former director of the State Geodetic Administration, Prof. Željko Bačić, PhD, and it was reviewed by professor emeritus Nedjeljko Frančula and Prof. Miljenko Lapaine, PhD who also performed the proofreading of the text. The preface and the contents were translated into English (Corinne Enquist) and German (Mr. Biserka Fučkan Držić). The formatting of the text and pictures was made by the technical editor Ivan Grubić, graduate engineer of geodesy. The monograph was printed by Printera grupa d.o.o. from Sveta Nedelja in a circulation of 1000 copies.

Together with the Minister of Construction and Physical Planning, Mr. Ivan Vrdoljak and the director of the State Geodetic Administration, Mr. Danko Markovinović, PhD, numerous other high-ranking officials attended the presentation - assistant minister of foreign and European affairs, Mrs. Andrea Metelko-Zgombić, Mrs. Zofija Mavar from the Ministry of Culture, the director of DUZS, Mr. Jadran Perinić, PhD, the director of HHI, Mr. Zvonko Gržetić, PhD, assistant director of the Central Bureau of Statistics, Mrs. Žaklina Čizmović, and others.



*Distribution of monograph*



*Title page of the monograph*

There were about hundred guests present at the gathering, and each of them received a copy of the monograph at the end of the presentation as a reminder of this historical event. At the end, we would like to thank everyone who have helped in the organisation of the presentation and have given their contribution in presenting the monograph Topographic Maps at the Territory of Croatia, i.e. to the Minister Ivan Vrdoljak, grad. eng. el., to the director, Mr. Danko Markovinović, PhD, Prof. Marijan Herak, PhD, who delivered a welcome speech in the name of the Croatian Academy of Sciences and Arts that provided for us the beautiful Illyrian Hall in Opatička Street 18, to the editor in chief, Prof. Stanislav Frangeš, PhD, the reviewer and proof reader Prof. Miljenko Lapaine, PhD, to all employees of the Department for Topographic Survey and State Maps, as well as to all other employees of the Central Office of SGA.

Ivan Landek, Ivan Grubić

## Open Days

The Council of European Geodetic Surveyors [Comité de Liaison des Géomètres Européens] passed at the meeting of its General Assembly held in September 2011 in Tallinn the Decision to designate the 5. March the Day of European Surveyors and Geoinformation. On this occasion, the State Geodetic Administration organised the Open Days offering thus the opportunity for more than 700 pupils of primary and secondary schools to visit our cadastral offices and branches.

The Regional cadastral office in Koprivnica was visited by the pupils from the third class of the primary school Antun Nemčić Gostovinski, altogether 24 of them. They attended a short presentation about Mercator, the creator of map projection, and about maps and cadastre. The pupils were given the opportunity to get familiar with the work in cadastral system and to see and look through geodetic instruments (total station and GPS).



*RCO Koprivnica*

The branch offices Đurđevac and Križevci participated in the event of the Open Days. The cadastral office in Križevci hosted the pupils from the primary school Ljudevit Modec. The pupils from its regional schools Apatovec, Glogovnica and Vojakovački Osijek were present at the Open Days. The cadastral office in Đurđevac had the visitors from the third class of the primary school Grgur Karlovčan.

The Regional cadastral office Pula was visited by the pupils from the first and second class of the Technical School Pula, attending the programme of geodesy. They were accompanied by their teachers. There was a short lecture held for the pupils about the history of cadastre and about the present methods of work. They also visited the business premises of the Office and could take a look at the documentation that the office has at its disposal and takes care of.



*Branch Office Đurđevac*

The pupils from the 8d class of the primary school Vladimir Nazor visited the branch office Pazin of the Regional cadastral office Pula accompanied by their class mistress. There was a short lecture organised for the pupils about the history of the cadastre and about current achievements in computer aided activities performed so far. The pupils also had the opportunity to take a look in the old written cadastral documents, as well as in the new products of SGA. The branch offices Labin, Poreč and Rovinj from the area of Istria also participated at the event.



*Branch Office Križevci*

The Regional cadastral office Krapina with its branch office Zabok also joined the above mentioned activities. Its offices were visited by the pupils from the first class of the Secondary School Krapina and the pupils from the fourth class of the high school Antun Gustav Matoš in Zabok who had the chance to get familiar with the activities in the cadastral and geodetic profession, and with the work of the State Geodetic Administration as a whole.

In order to learn about the jobs performed in cadastral offices, and about the geodetic profession and geodesy as their possible occupational choice, the pupils from the eighth class of the primary school Julije Kempf visited the RCO Požega. It was their first meeting with the SGA and the activities performed in cadastral offices. The branch office Pakrac was visited by the pupils from the fourth class of the secondary school Pakrac, attending the programme of building technicians. In ninety minutes of their visit, they learned about geodetic instruments, the development and current activities of the geodetic profession in Croatia.



*RCO Krapina*



*RCO Požega*



*Branch Office Pakrac*



*Branch Office Zabok*



*RCO Požega*



*Branch Office Mali Lošinj*

The RCO Rijeka was visited by the pupils from the third class of the Construction Training School, the programme of geodesy, and their teachers, and the branch office in Mali Lošinj was visited by the pupils from the second class of the Hotel and Tourism School Ambroz Haračić together with their class master. The old, manually produced and very valuable maps of Mali Lošinj from the year 1872 were presented to the pupils, as well as the method of their delineation. After that, the plans of Veli and Mali Lošinj made by the Italian cartographers around 1920, as well as the plans made according to the new survey in 1974 were shown to the pupils.

The pupils could also observe the field books, sketches, methods of surveying and calculation, as well as the new topographic map at the scale of 1:25 000, but also the most recent digital orthophoto produced after the aerial photogrammetric survey in 2011. They were interested in the situation in title deeds and in the copies of cadastral plans referring to their own example, according to the name and surname, i.e. according to the residential data. The branch office Sv. Ivan Zelina of the RCO Zagreb was visited by the pupils from the seventh and eighth class of the primary school who immediately signed up for the participation at the 2. Open Days of Surveyors and Geoinformation next year.

The branch office Velika Gorica of the RCO Zagreb was visited by the pupils from the high school in Velika Gorica - the young geographers with their teacher.



Branch Office Sv. Ivan Zelina



Branch Office Velika Gorica

It was also visited by the licensed surveyors in this part of Croatia, the surveyors from the geodetic department of the Town Velika Gorica, as well as the deputy mayor of the Town Velika Gorica, Mr. Stjepan Kos. Successfully organised 1. Open Days of the SGA proved to be a very nice opportunity for the pupils, as well as for the employees of SGA to socialize in a very nice and educational environment that should be continued in the future as well.



## Performing geodetic activities in the circumstances of global crisis

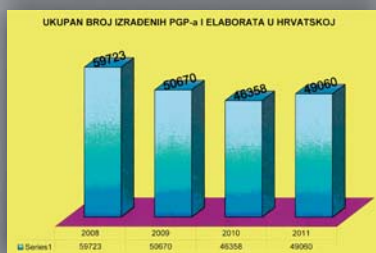
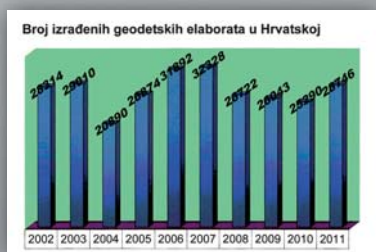
According to the data collected and just processed by cadastral offices, natural and legal persons licensed to perform professional geodetic activities completed in the year 2011 a total of 28746 subdivision and other geodetic documents. These data have been systematically observed ever since 2002, and the trends can be seen on the following graph (Fig. 1). The graph shows that the number of prepared documents decreased in 2004 as related to the year 2003, which was the consequence of the passed amendments to the Law on Physical Planning and Construction that made the implementation of all desired subdivisions difficult, and also partly impossible. The number of completed documents exceeded the amount of 32000 in the year 2008, and after that it was abruptly reduced along with the appearance of the economic crisis. The fact that after two years of decreasing there were 14% more subdivision and other geodetic documents made in 2011 as related to the year 2010, is however, encouraging.

Fig. 2 shows the number of completed special geodetic documents since 2008 until today. In the last year, there was a total of 20314 special geodetic documents completed for the entire territory of Croatia. This task was prescribed by the Law on Physical Planning and Construction passed at that time. Since the cadastral offices confirm that the graphic presentation of real situation is correctly integrated in the cadastral maps, the number of prepared documents can also be statistically monitored according to the cadastral data.

Unlike the preparation of subdivision and other geodetic documents, the preparation of special geodetic documents depends largely on the construction activity in the country. Therefore, the data about the number of prepared documents reflects the crisis in the construction that started in 2008. The end of the crisis is still not predictable in this segment of geodetic activities. Namely, the number of prepared documents is continuously decreasing, hence, there were 38% less special geodetic documents made in 2011 than in 2008. However, the number has been somewhat stabilized in the last two years, and the reduction of the number of prepared special geodetic documents has been significantly slowed down compared with the relation between the years 2008 and 2009. By summing up the numbers of these two types of works, we obtain relevant information about the situation in the geodetic profession during the last 4 years, which is presented on Fig. 3. It can be seen from the graph that

the quantity of work was somewhat consolidated after a sharp decline in 2009. However, the last year's 6% increase compared to the year 2010 is encouraging, although the indicated activity still falls behind the activity in the year 2008 before the crisis.

There has been approximately one fifth less job in the market of geodetic services in the last three years (2009, 2010 and 2011). The crisis has not hit all counties equally. This statistics is based on the data obtained from the RCO, hence, the analysis can be made for each county separately. For this occasion we have chosen two counties with the best and worst indicators respectively, and the indicators for all other counties and the City of Zagreb are somewhere between the given examples. It can be concluded from the given data that the amount of geodetic activities has been mostly reduced in Osječko-baranjska and Virovitičko-podravaska Counties. The number was almost halved in the period between 2008 and 2009 in Osječko-baranjska County, but after that, a slight recovery could be noticed. On the other hand, the number of performed activities in Virovitičko-podravaska County is still reducing, although the reduction of work is not as high as in Osječko-baranjska County. The data indicate the extreme stability of geodetic jobs in Istarska County, although there is still 4% less job there now then in 2008. Šibensko-kninska County is the only one that records the increase of the total number of completed documents and special geodetic documents. Since it is a very small county, the data about its activities unfortunately do not affect the total picture of the situation referring to geodetic activities in Croatia. These data can be rough indicators, and on the basis of the trends indicated, one can perceive the economic activity, and consequently evaluate the performance of geodetic companies, i.e. the value of performed services. The fees for making geodetic surveys and special geodetic documents are different and they mostly depend on the real estate value and financial solvency of clients. By multiplying the number of performed activities with the average price we can conclude that there is a significant turnover of funds present in this segment of geodetic activity. This statistics should be considered tentatively bearing in mind that the analysed numbers refer to the numerous, but less valuable geodetic jobs. On the other hand, however, a great majority of geodetic companies work on the preparation of special geodetic documents and the performance of geodetic surveys, most of them having no other activities. In the considered case, the investors are mostly natural persons who either build, or try to settle property issues relating to their real estate.



Hori Martinić