

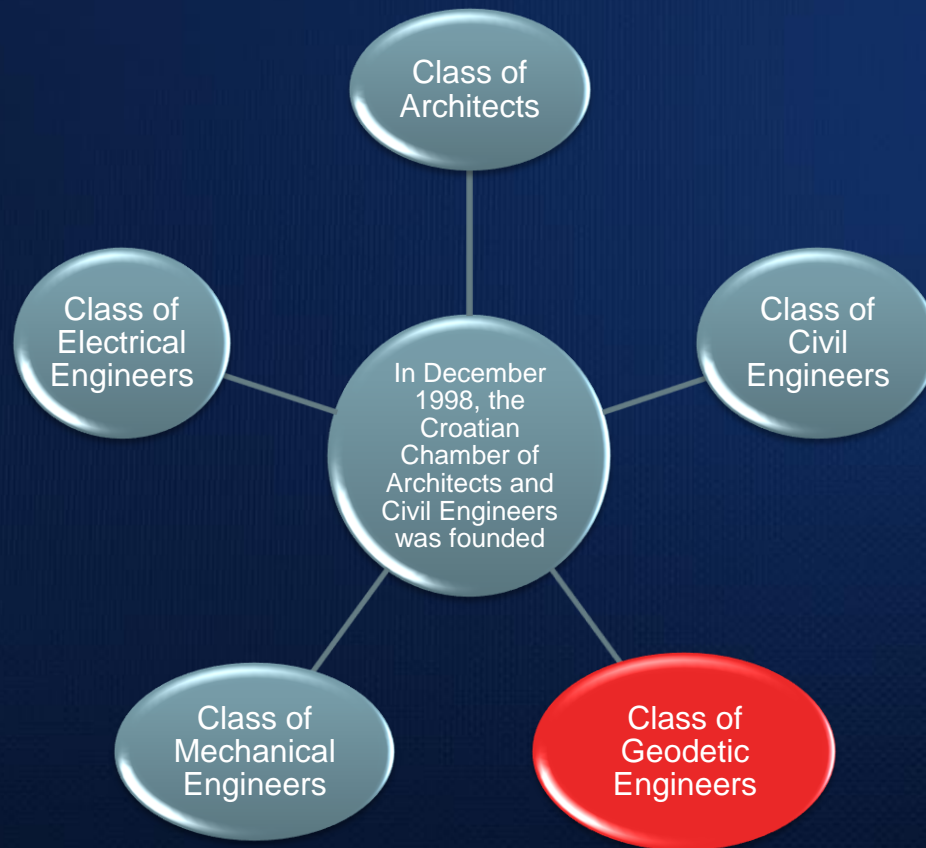


Croatian Chamber of Chartered Geodetic Engineers  
Zagreb, Croatia  
[www.hkoig.hr](http://www.hkoig.hr)

# The Croatian Surveyor Guaranteeing Land Property

Ph. D. Danko Markovinović

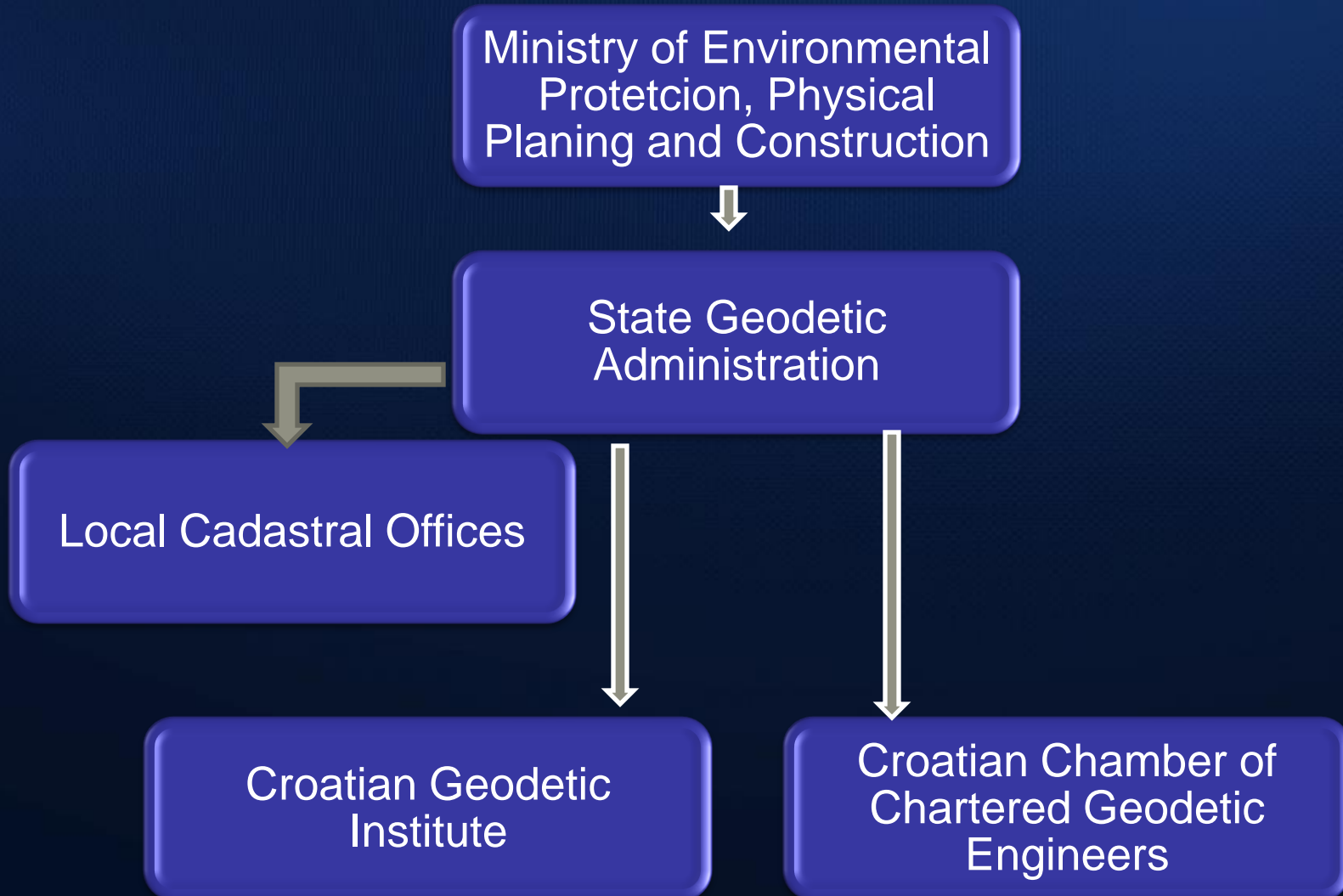
“The Cadastral Surveyor – paving the Way to the Future”  
2nd EUROPEAN CONFERENCE ON CADASTRE  
CLGE GENERAL ASSEMBLY  
Bucharest May 2010, Romania



In December 2008, the Croatian Parliament passed the Law on performing geodetic activities whereas the Croatian Chamber of Architects and Civil Engineers was transformed

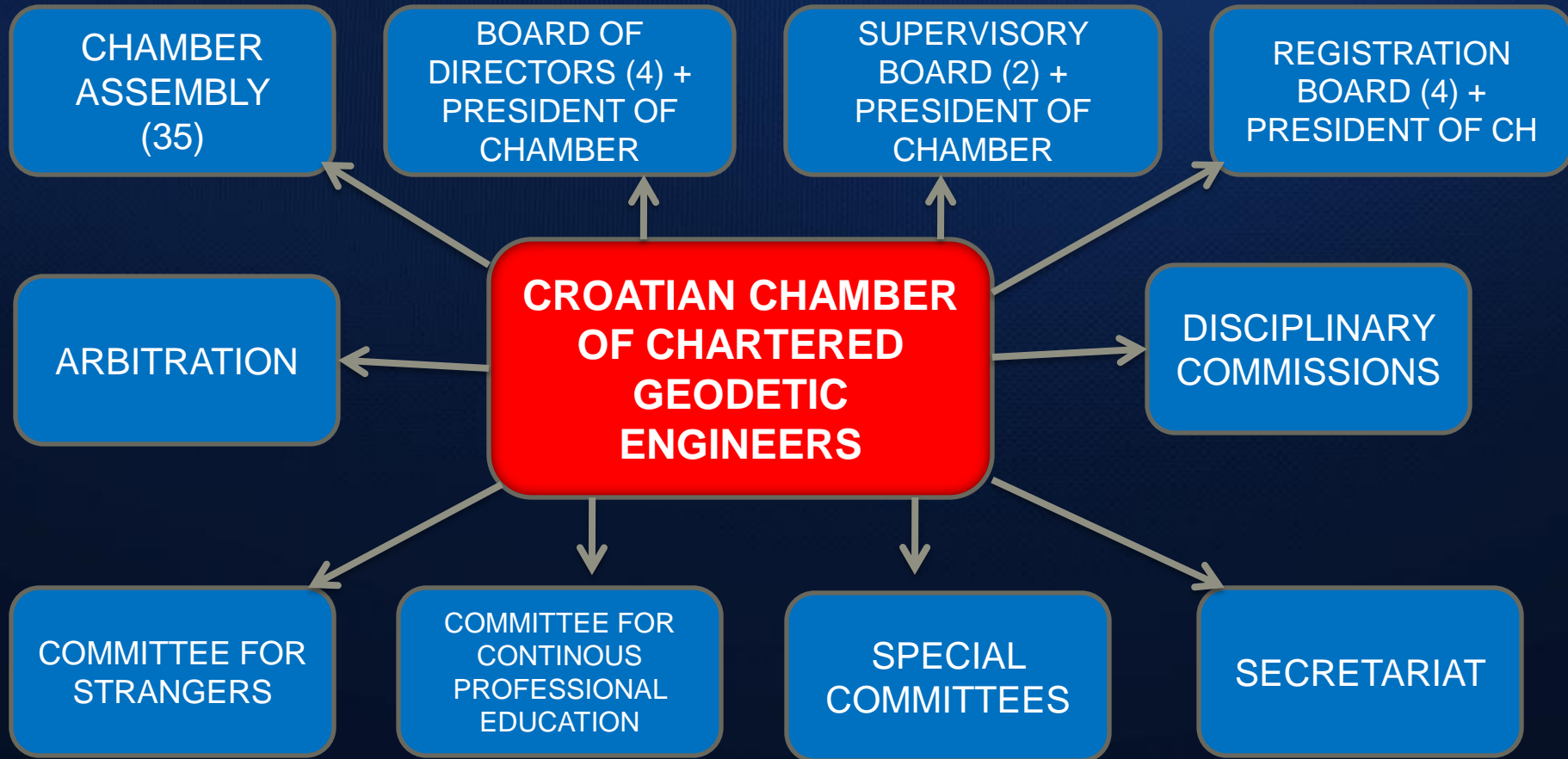
June 2009 **THE CROATIAN CHAMBER OF CHARTERED GEODETIC ENGINEERS** was founded

# POSITION OF THE CHAMBER IN THE INSTITUTIONAL HIERARCHY



# ORGANIZATION OF THE CHAMBER

**BASIC BYLAWS: Geodetic Activities Act and the HKOIG Statutes**



# FUNDAMENTAL LEGAL FRAMEWORKS FOR CADASTRE

- State Surveying and Real Estate Cadastre Act (Official Gazette no. 16/07)
- Spatial Planning and Construction Act (Official Gazette no. 76/07)
- Geodetic Activities Act (Official Gazette no. 152/08)
- Book of Rules on Conditions and Standards for Awarding and Withdrawal of Compliance to Perform the Jobs on State Survey and Real Estate Cadastre
- Book of Rules on State Exam and Improvement of Skills for Operators Performing Professional Geodetic Jobs

# PROFESSIONAL GEODETIC ACTIVITIES PERFORMED BY CHARTERED GEODETIC ENGINEERS IN CADASTRE

- Professional geodetic activities relating to real estate cadastre
- Professional geodetic activities relating to pipeline cadastre
- Professional geodetic activities relating for the requirements of spatial planning
- Professional geodetic activities relating to for the requirements of land re-parcelling of agricultural land
- Professional geodetic activities for protected regions



# WHO PERFORMS THE GEODETIC JOBS

- Acting as competent person the physical person who is entitled to used the professional title of a **chartered geodetic engineer** can perform the jobs in accordance with act
- Acting as **professional collaborator of a chartered geodetic engineer** (*professional collaborator*) they can perform the jobs of the person being Master of Geodesy or having the academic title of a Bachelor (baccalaureus) of geodesy, i.e. the persons who have acquired adequate level of education in geodetic profession regulated by special provision and who have passed a state exam
- Acting as **collaborators of a chartered geodetic engineer** (*collaborator*) the persons who have got a professional title of geodetic technician (IV. Degree, secondary education) and who have passed state exam
- Professional geodetic jobs in the offices regulated by the Law and legal persons registered for performing professional geodetic jobs can be done only by the persons working in these offices and legal persons working in accordance with employment regulation and those not employed by another employer

# LEGAL FRAMEWORK OF CADASTRAL DOCUMENTS

The Law covers the area	Name of the Act	Year
Land Register Law	Act on Ownership and Other Real Rights	1996.
Cadastral Plan	Law on State Survey and Real Estate Cadastre	2007.
Title Registration	Land Registry Book Act	1996.
Building and Flats	Land Registry Book Act	1996.
Survey and Plan Production	Law on State Survey and Real Estate Cadastre	2007.



# GEODETIC JOBS OF STATE INTEREST - CADASTRE -

Reconstruction of Real Estate Cadastre



goal – great importance for the development of economy, new real estate markets in private ownership, new studies and planning of land usage and purpose, environmental protection

Reconstruction of cadastral registers and plans



goal – establishment of complete and reliable register with the information about real estates and titles

# FORMS OF PRIVATE SECTOR INCLUDED INTO THE LAND CADASTRE

OFFICES OF CHARTERED ENGINEERS OF GEODESY AND SMALLER GEODETIC FIRMS (up to 15 employees)

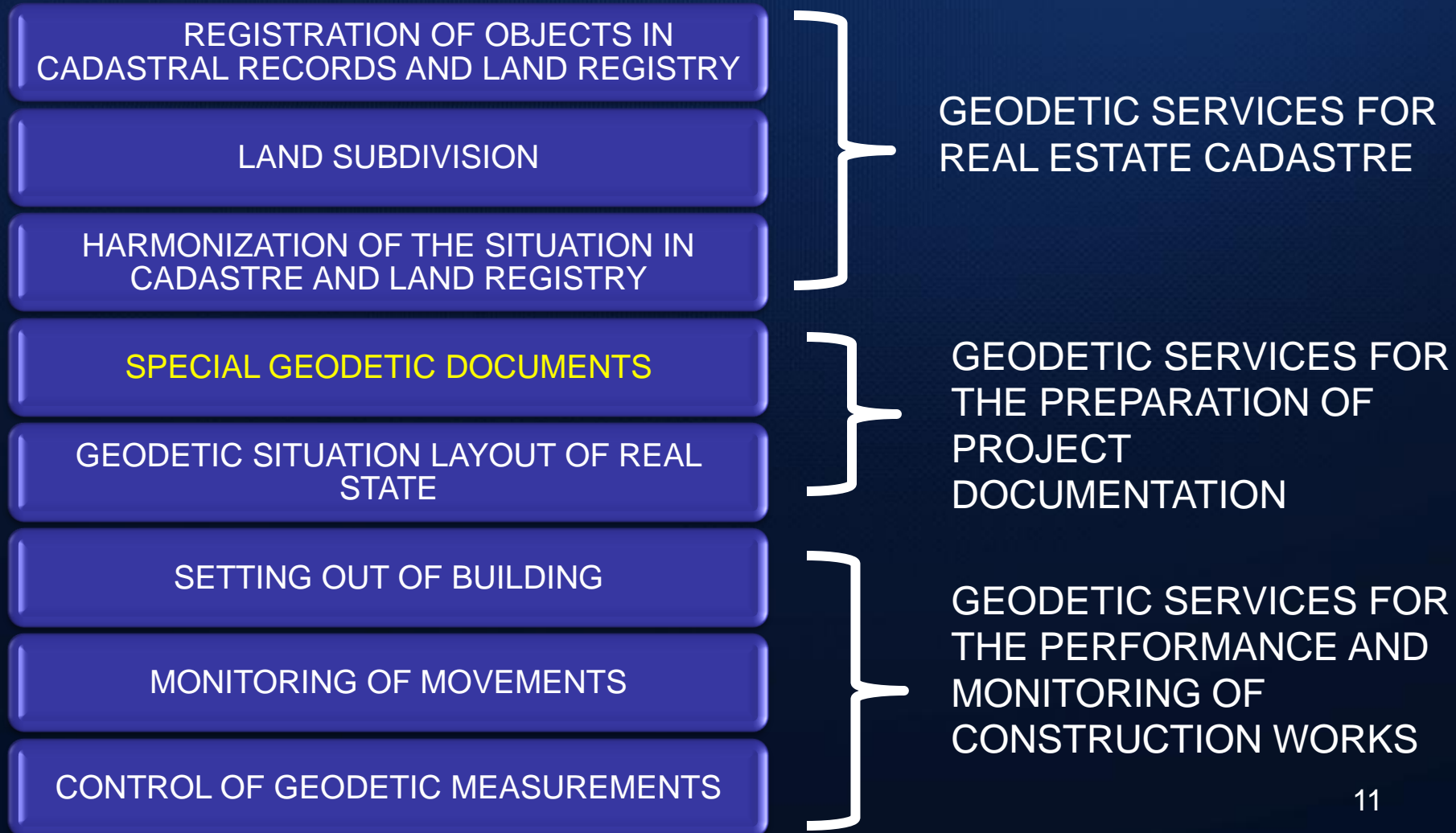
- mostly individual work with clients

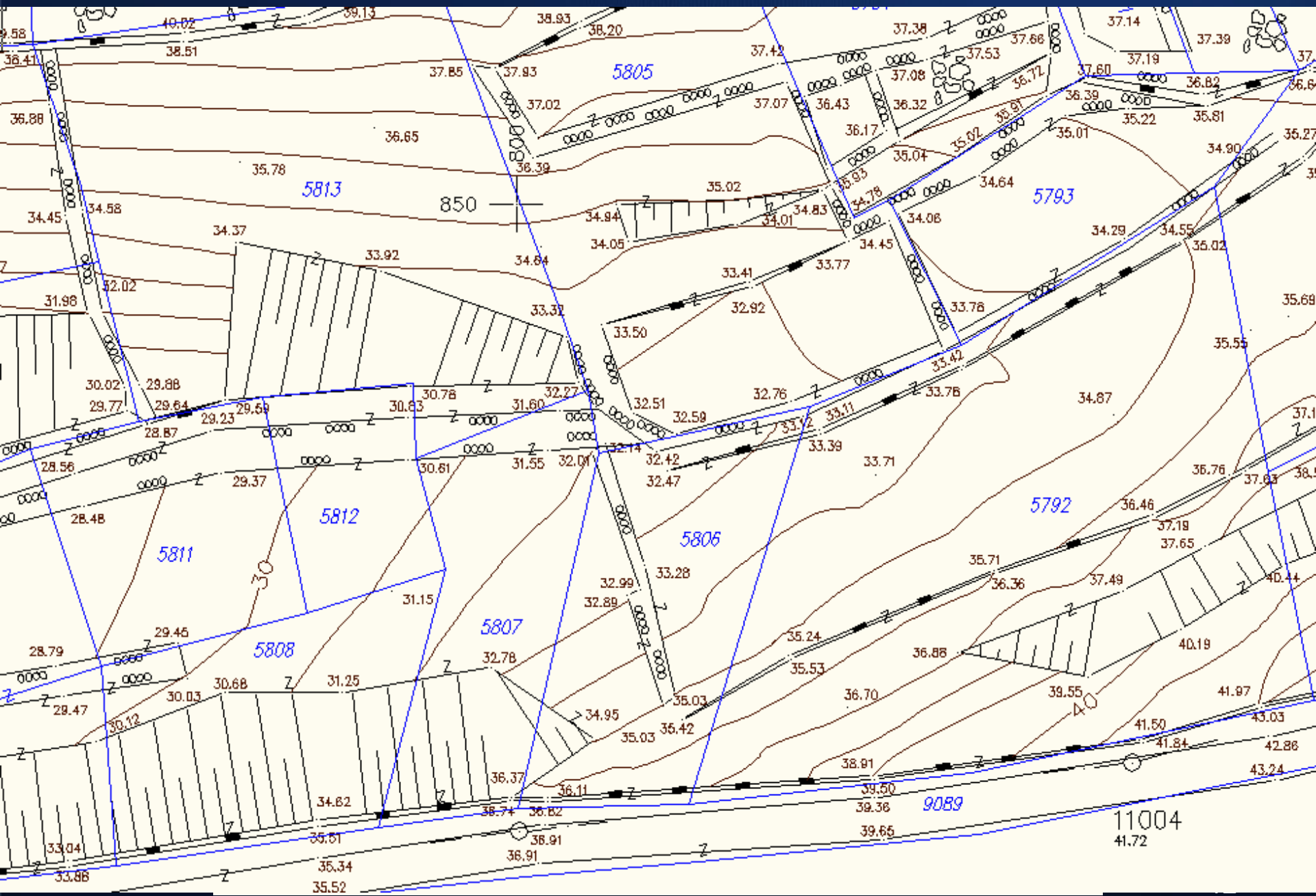
GEODETIC FIRMS (more employees – up to 100 employees)

- large geodetic projects
- cadastral surveys and technical reambulation

# OFFICES OF CHARTERED GEODETIC ENGINEERS AND SMALLER GEODETIC FIRMS

## LIST OF MAJOR GEODETIC JOBS CONNECTED WITH CADASTRE





# CADASTRAL SURVEY AND TECHNICAL REAMBULATION

- Prepared clear and confirmed study of cadastral survey, i.e. technical reambulation is the basis for exhibiting the data for public inspection that were collected by means of cadastral survey, i.e. Technical reambulation with the simultaneous reconstruction (foundation) of land registry, as well as for the preparation of cadastral documents of real estate cadastre.
- Cadastral surveys, i.e. Technical reambulation are complex projects demanding a large number of coordinated participants in order to be successful, who come from State Geodetic Administration and Ministry of Justice, land registry departments of municipal courts, the units of regional and local self-management, owners and authorized persons, as well as authorized geodetic firms.
- Since 2001 the total of 299 cadastral municipalities with the total area of 250.302 ha, and the value of contracted services is 98 mil Euro, have been surveyed.

# CONDITIONS FOR OBTAINING THE COMPLIANCE TO PERFORM THE JOBS OF STATE SURVEY AND REAL ESTATE CADASTRE - 1

	<b>Activity</b>	<b>Minimum geodetic equipment</b>	<b>Needed number and professional education of geodetic employees</b>
1.	Preparation of the employees study of control points needed in fundamental geodetic jobs secondary	<ul style="list-style-type: none"> <li>- 2 GPS receiver + software</li> <li>- 1 total station (5")</li> <li>- 1 level (1 mm/km)</li> <li>- 1 program for the processing of terrestrial measurements</li> <li>1 CAD or GIS software</li> </ul>	2 highly educated employees or at least 2 employees with higher education and 2 employees with secondary education
2.	Preparation of the study of cadastral survey and technical reambulation	<ul style="list-style-type: none"> <li>- 2 GPS receiver + software</li> <li>- 1 total station (5")</li> <li>- 1 level (1 mm/km)</li> <li>- 1 program for the processing of terrestrial measurements</li> <li>1 CAD or GIS software</li> </ul>	4 highly educated employees or at least 4 employees with higher education and 2 employees with secondary education



## CONDITIONS FOR OBTAINING THE COMPLIANCE TO PERFORM THE JOBS OF STATE SURVEY AND REAL ESTATE CADASTRE - 2

	<b>Activity</b>	<b>Minimum geodetic equipment</b>	<b>Needed number and professional education of geodetic employees</b>
3.	Preparation of subdivision and other geodetic studies of real estate cadastre	<ul style="list-style-type: none"> <li>- 1 total station 5", (5 mm +/- 5 ppm x D)</li> <li>- 1 CAD ili GIS software for graphic data processing</li> </ul>	
4.	Preparation of special geodetic documents for spatial planning and construction designing, for preparation of geodetic design, for preparation of the study about construction layout, control of geodetic measurements in the construction and maintenance of s structures (monitoring of possible movements)	<ul style="list-style-type: none"> <li>-1 total station 5", (5 mm +/- 5 ppm x D)</li> <li>- 1 level 5 mm/km</li> <li>- 1 CAD ili GIS software for graphic data processing</li> </ul>	

# CONDITIONS FOR OBTAINING THE COMPLIANCE TO PERFORM THE JOBS OF STATE SURVEY AND REAL ESTATE CADASTRE - 3

	<b>Activity</b>	<b>Minimum geodetic equipment</b>	<b>Needed number and professional education of geodetic employees</b>
5.	Making special geodetic documentation for protected area	<ul style="list-style-type: none"> <li>-1 total station 5", (5 mm +/- 5 ppm x D)</li> <li>- 1 level 5 mm/km</li> <li>- 1 CAD ili GIS software for graphic data processing</li> </ul>	
6.	Geodetic works in land consolidation	<ul style="list-style-type: none"> <li>- 2 GPS receiveres + software</li> <li>- 1 total station – 5", (5 mm +/- 5 ppm x D)</li> <li>- 1 level 5 mm/km</li> <li>- 1 CAD ili GIS software for graphic data processing</li> </ul>	4 employees with high education or at least 4 employees with higher education and 2 employees with secondary education

# CONDITIONS FOR OBTAINING THE COMPLIANCE TO PERFORM THE JOBS OF STATE SURVEY AND REAL ESTATE CADASTRE - 4

	<b>Activity</b>	<b>Minimum geodetic equipment</b>	<b>Needed number and professional education of geodetic employees</b>
7.	Jobs of professional surveillance of works	<ul style="list-style-type: none"> <li>- 1 total station (5")</li> <li>- 1 level (1mm/km)</li> <li>- 1 program for the of the terrestrial measurements</li> <li>-1 CAD ili GIS software</li> </ul>	1 employee with high education

# CHECKING AND VERIFICATION OF GEODETIC WORKS

- The quality control of performed geodetic works on cadastral documentation is given a lot of importance and attention
- Usual period for the control is 30 days
- It is done by authorised professionals in cadastral offices

# KEY GOALS OF THE CHARTED ENGINEERS IN CADASTRE

- Elimination of all legal and administrative obstacles
- Standardization of geodetic products in cooperation with State geodetic administration
- Active participation in drafting legal frameworks regulating performance of the activities
- Increasing public authorities by transferring them from the state authorities to chartered geodetic engineers and practical exercising of current public authorities

# LAND ADMINISTRATION CONCLUSION - 1

## IMPORTANCE

1. Registration of ownership right and legal security
2. Buying and selling and land transfer
3. Mortgage establishment
4. Basis for spatial planning



# LAND ADMINISTRATION CONCLUSION -2

## GOAL

1. Establishment of cadastral register corresponding to the real situation in the field
2. Complete harmonization of cadastral records and land registry
3. Faster and more efficient services for end users
4. Complete transfer from analogous to digital form

# Thank you for your attention !

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