Information system of cadastre in Bulgaria. Data and services
Data sources for creation of cadastral map and cadastral registers

- Data from digital map of the restored ownership of agricultural and forest lands
- Data collected via geodetic, photogrammetric and other measurements and calculations
- Data from previous cadastral, regulation or structural plans
- Data for the owners and holders of other real rights, gathered from the registers to the maps and plans and the registers of the municipal and regional administration

The data that corresponds by contents and precision to the requirements determined by the Law is combined for creating digital cadastral map and cadastral registers.
Immovable properties, objects in the cadastre

- **Land property** is the basic unit of the cadastre, it is a part of the surface of the earth, including durably covered with water, defined by boundaries compliant with the right of ownership. The land properties fully cover up the territory of the country, defined by the state borders, without overlapping each other.

- **Building**, including also rough construction (building or structure which surrounding walls and roof have been made).

- **Self-contained object of property (SCOP) in a building or in a facility of the technical infrastructure** - part of the building or facility that has a self-dependent function and building with exposed walls. SCOP can be an apartment, office, studio, garage, store, etc.

- Each land property, building or self-contained object is attributed an identifier, a unique number by which the immovable property is singularly identified within the territory of the country.
Cadastral registers

- Cadastral register of the geodetic base points;
- Register of cadastral identifiers and their changes.
- Cadastral register of the immovable properties – main cadastral data and data about owners, including:
  - the basic data about the property;
  - the data about the owner of the immovable property and the act/deed from which the owner benefits his right;
  - the data about the other real rights over the immovable property;
  - the number of the lot of the property in the property register.
Coverage with cadastral map and cadastral registers in compliance with the requirements of CPR Act

February 2018 - Coverage 36% of the territory, over 11,2 millions immovable properties

- 5 513 907 land properties
- 2 245 068 buildings
- 2 582 742 self-contained objects
- 3 933 194 subjects (rights holders)
Number of cadastral objects

Cadastral objects

Cadastral subjects

- Bulgarian individuals - 3,747,903
- Bulgarian companies - 116,626
- State and local administration - 25,348
- Foreign persons and companies - 62,652

Parcels - 95%
Buildings - 3%
SCOP - 1%

## Cadastral coordinate systems 2005

<table>
<thead>
<tr>
<th><strong>Reference system</strong></th>
<th>Geodetic Reference System 1980 (GRS 80)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Projection</strong></td>
<td>Lambert Conformal Conic</td>
</tr>
</tbody>
</table>
| **Two Standard Parallels** | $\varphi_1 = 42^\circ 00'00''$  
                           | $\varphi_2 = 43^\circ 20'00''$        |
| **Central Meridian** | $\lambda_0 = 25^\circ 30'00''$         |
| **Coordinates of central point of the projection** | $x_0 = 4 725 824.3591$  
                             | $y_0 = 500 000$ m                  |
Accuracy of the cadastral map

Error in the absolute position of a detail point

\[ \Delta S = \sqrt{(X - X_k)^2 + (Y - Y_k)^2} \]

\(X_k, Y_k\) - coordinates of the point on the cadastral map

\(X, Y\) - coordinates of the point obtained by control determination by land survey measurement and calculation

Error in the distance between two detail points

\[ \partial S = S - S_k \]

\(S_k\)-distance between two randomly selected detail points in one or adjacent objects (landed properties or buildings) on the cadastral map

\(S\) - distance obtained by control measurement on site between the same detail points
Accuracy of the cadastral map for urbanized territories

<table>
<thead>
<tr>
<th>Where the coordinates of the points are determined by land survey measurements</th>
<th>$\Delta S$, cm</th>
<th>$\partial S$, cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>For points of permanently materialized boundaries of landed properties and outlines of buildings in the main built-up domain</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>For points of non-permanently materialized boundaries of landed properties and outlines of buildings in the auxiliary built-up domain</td>
<td>60</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Where the coordinates of the points are determined from a graphic plan or a map</th>
<th>$\Delta S$, cm</th>
<th>$\partial S$, cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>For points of permanently materialized boundaries of landed properties and outlines of buildings in the main built-up domain</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>For points of non-permanently materialized boundaries of landed properties and outlines of buildings in the auxiliary built-up domain</td>
<td>120</td>
<td>80</td>
</tr>
</tbody>
</table>
Accuracy of the cadastral map for non-urbanized territories

<table>
<thead>
<tr>
<th>Where the coordinates of the points are determined by land survey measurements</th>
<th>( \Delta S, \text{ cm} )</th>
<th>( \partial S, \text{ cm} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>For points of permanently materialized boundaries of landed properties and outlines of buildings</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>For points of non-permanently materialized boundaries of landed properties</td>
<td>120</td>
<td>80</td>
</tr>
<tr>
<td>Where the coordinates of the points were determined from a graphic plan or a map</td>
<td>( \Delta S, \text{ cm} )</td>
<td>( \partial S, \text{ cm} )</td>
</tr>
<tr>
<td>For points of all boundaries of landed properties</td>
<td>180</td>
<td>120</td>
</tr>
</tbody>
</table>
Integrated information systems for cadastre and property register

**CADASTRE INFORMATION SUB-SYSTEM**
- Internet module “KAIS portal”
- Record keeping module “KAIS Office”
- GIS module “Cadastral map and cadastral registers”

**PROPERTY REGISTER INFORMATION SUB-SYSTEM**
- Module - Registration of Documents
- Module – Act entry and property lot
- Module – Reports and Services

Integration process – exchange of notifications via XML messages

- over 30 000 for change in cadastral map – in 2017
- over 200 000 for change in cadastral register in 2017

Geodesy, Cartography and Cadastre Agency

Registry Agency
Architecture of Cadastre information subsystem

CENTRAL LEVEL - GCCA

- WEB SERVER
- CENTRAL KAIS DATABASE
- APLICATION AND GEO SERVERS
- LOCAL NETWORK
- WORKSTATIONS

INTERNET

External systems

Customers

Regional Level – 28 GCCO
Internet module “KAIS portal” of the cadastre information system [http://kais.cadastre.bg](http://kais.cadastre.bg)

- Search
- Find
- View

- Automatically generated queries

- Application forms for requesting services
Internet module “KAIS portal” of the cadastre information system http://kais.cadastre.bg
Users of cadastral information

KAIS portal

Individuals and companies
- Free access to basic cadastral information;
- Automatically generated queries;
- Application forms for services

Notaries
- Free access to cadastral map and cadastral registers;
- Electronic request and receipt of sketches for own procedures

State and local administration
- Free access to cadastral map and cadastral registers;
- Free queries and documents for their law duties

Authorized state employee
- Free access to cadastral map and cadastral registers;
- Free queries, documents for their law duties;
- Rights for providing documents to end users

Licensed surveyors
- Search, find, view cadastral information;
- Automatically generated queries and extracts;
- Free access to geodetic points;
Automatically generated queries in “KAIS portal”

- Real time queries, automatically generated by the system;
- Free references to basic cadastral data of the immovable properties;
- Free information for geodetic base points and their coordinates;
- Reports in *.pdf format from cadastral map and cadastral registers;
- A copy of the cadastral map and cadastral registers in digital vector format;
- Results are available electronically in the client profile in KAIS;
- For some reports of cadastral map and cadastral registers shall be paid fees, determined by a tariff adopted by the Council of Ministers.
СЛУЖБА ПО ГЕОДЕЗИЯ, КАРТОГРАФИЯ И КАДАСТЪР - гр. Габрово

КОПИЯ ОТ КАДАСТРАЛНА КАРТА С ДАННИ ОТ КРНИ

Пожелен имот с идентификатор: 14218.503.304

Гр. Габрово, общ. Габрово, обл. Габрово
По кадастровата карта и кадастралните регистри, одобрени със Заповед РЗ-18-64/26.10.2007 г. / 26.10.2007 г. на ИЗПЪЛНИТЕЛЕН ДИРЕКТОР НА АГКК
Последно изменение със Заповед, издавана за изпълнение в ККПР
Адрес на поземления имот: гр. Габрово, п.к. 5300, ул. Конверна № 13
Площ: 1745 кв.м
Трайно предсръдонение на територията: Урбанизирана
Начин на трайно ползване: За друг вид освобождени площи

Координатна система 1972:

М 1:1000

Стар идентификатор: няма
Номер по предходен план: квартал: 13, парцел: 6
Съседи: 14218.503.305, 14218.503.300, 14218.503.303

Актуално към 09.07.2014г.
Отпечатана на 09.07.2014г. - 11:12:55

АГКК Поддръжка ИИСИФИР
Заявка: 12998-09.07.2014

Съдържание, които попадат във върха имота
1. Сграда 14218.503.304:1: застроена площ 339 кв.м., брой етажи 1, предназначение: Промишлена сграда
2. Сграда 14218.503.304:2: застроена площ 430 кв.м., брой етажи 1, предназначение: Складова база, склад

Актуално към 09.07.2014г.
Отпечатана на 09.07.2014г. - 11:12:55

АГКК Поддръжка ИИСИФИР
Заявка: 12998-09.07.2014
Automatically generated queries in “KAIS portal”

Number of queries in years

Automatically Generated Queries in 2017
- Graphic query of a cadastral object with basic cadastral data (36%)
- Graphic query of a cadastral object with info for owners and holders of other rights (24%)
- Extracts of the cadastral map in vector format (20%)
- Query of owners and holders of other rights of property from cadastral register (7%)
- Extract from the register of the geodetic points (12%)
- Other queries (1%)

GEODESY, CARTOGRAPHY AND CADA斯特RE AGENCY
Application forms for requesting services via “KAIS portal”

- Application forms for a service are filled in and sent to GCCA for implementation;
- GCCA employees handle the request in the statutory deadline;
- Depending on the type of final document, the result can be available electronically in the client profile in KAIS or shall be received in the GCCA reception room;
- Application forms for some services require to be digitally signed by the client;
- For the services of cadastral map and cadastral registers shall be paid fees determined by a tariff adopted by the Council of Ministers.
Applications for services

Number of applications for services

- 2014: 375,000
- 2015: 425,000
- 2016: 450,000
- 2017: 475,000

Number of electronic applications for services

- 2014: 1,500
- 2015: 8,500
- 2016: 15,500
- 2017: 29,500
Most required cadastral services

- Application of changes in the cadastral map and cadastral registers
  - Adding new immovable properties
  - Reflecting changes in the boundaries and attributes of immovable properties
  - Partition of land property
  - Consolidation of land properties
  - Reflecting changes for buildings that are removed

- Issuing legal documents of immovable properties
  - Sketch of a land property or a building
  - Scheme of a self-contained object
  - Extracts from the cadastral register of real estate
  - Certificates for cadastral objects

- Information about the points of geodetic work

- Copy of the cadastral map in vector or graphic format
Requested cadastral services

Number of requested cadastral services

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>700 000</td>
</tr>
<tr>
<td>2015</td>
<td>800 000</td>
</tr>
<tr>
<td>2016</td>
<td>900 000</td>
</tr>
<tr>
<td>2017</td>
<td>950 000</td>
</tr>
</tbody>
</table>

Requested cadastral services in 2017

- Sketches and Schemes of cadastral object - 388 201
- Application of changes in the cadastral register - 300 549
- Application of changes in the cadastral map - 65 994
- Certificates for cadastral objects - 50 164
- Other administrative works - 31 206
- Determining and maintaining a cadastral identifier - 31 071
- Copy of the cadastral map in vector or graphic format - 9 530
- Extracts from the cadastral register of real estate - 9 325
- Answers of letters and question - 8 635
- Other services - 7 649

Geodesy, Cartography and Cadastre Agency
Main development goals

- **Cadastral information system**
  - Implementation of open source technologies
  - Implementation of a new file format for cadastral data and web services, based on OGS standards
  - Implementation of new spatial data in cadastre for land planning and administration

- **Implementation of INSPIRE**
  - Harmonization of spatial data sets and implementation of INSPIRE data specifications
  - Establishment and operation of a network services for the spatial data sets and metadata
eng. Stefan Petrov, PhD
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Director of Directorate "Information systems"
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