New Cadastral Mapping in the Czech Republic

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Basic Data about the Czech Republic

• Area: 78 866 km²

• Population: 10 mill.

• Administrative division: 14 regions
  77 districts
  6255 municipalities
  13 095 cadastral units
Current Map Basis

11 300 out of the total 13 095 cadastral units (C.U.) are in digital form at present.
State of Art of the New Mapping

- ČÚZK focused at present on finalization of the digitalization of cadastral maps in the scale of 1:2880 – project has been running since 2008 and its completion is planned in 2017
- Number of newly mapped areas can be counted maximum in tens of C.U. yearly, in general only on a part of the C.U. - built-up areas after CLC (complex land consolidation)
- After 2017 the capacities will be used for the new mapping and so 200 C.U. will be updated yearly
State of Art of the New Mapping

• New mapping – combination of GNSS and terrestrial methods
• Firstly the built-up areas are mapped and so GNSS is being used solely for determination of survey points network
• Accuracy of the detailed points is below 5 cm
• The project of parallel surveying and investigation is not used at present–it is not in such a state to be used in daily practice so far
Subjects of the New Mapping

• As for boundaries we investigate following:
  – Plot boundary
  – Buildings’ perimeters
  – Boundaries of administration units

• The commission further investigates descriptive information:
  – Information about the owner
  – Nature and mode of land use
  – Nature and mode of building use
  – House (building) or registration number
  – Local names (oikonyms) and semi-local ones (anoikonyms)
New Mapping Processes

- Announcement to municipality and to owners
- Revision and completion of the geodetic point field
- Preparation of the documentation for investigation
- Adjudication of boundaries (field inspection)
- Detailed survey
- Elaboration of the renewed cadaster documentation
- Displaying for public consultation
- Verification of the documentation
- Publication (coming into force)
Adding Parcels without Boundary Investigation
Srovnávací sestavení parcel

Katastrální území: Satalice (746134)
List vlastnictví: 305 (zobrazí se stav před obnovou operátu)
Operát vyložen od–do: 23.04.2015 - 07.05.2015
Předpokládané datum platnosti: 25.05.2015

Další informace:
Obnovený katastrální operát je vyložen k veřejnému nahlédnutí vždy v pondělí a ve středu od 8:00 do 16:30 hodin, v úterý a ve čtvrtek od 8:30 do 14:30 hodin a v pátek od 8:30 do 13:00 hodin na Katastrálním úřadu pro hlavní město Praha, Pod sídlištěm 9/1800, Praha 8 Kobylysi, místnost 189.
Obnova operátu je provedena přepočtováním na katastrální mapu v digitální formě, více podrobnosti o tomto typu obnovy a další informace naleznete v nápovědě.

Příslušné katastrální pracoviště: Katastrální úřad pro hlavní město Praha, Katastrální pracoviště Praha (pro případné dotazy)

<table>
<thead>
<tr>
<th>Původní parcela</th>
<th>Výměra</th>
<th>ZU/V</th>
<th>Nová parcela</th>
<th>Výměra</th>
<th>ZU/V</th>
<th>Druh pozemku</th>
<th>Způsob využití</th>
</tr>
</thead>
<tbody>
<tr>
<td>478/4</td>
<td>203 m²</td>
<td>0</td>
<td>478/4</td>
<td>203 m²</td>
<td>2</td>
<td>zahrada</td>
<td></td>
</tr>
<tr>
<td>483</td>
<td>185 m²</td>
<td>0</td>
<td>483</td>
<td>182 m²</td>
<td>2</td>
<td>zastavěná plocha a nádvoří</td>
<td></td>
</tr>
<tr>
<td>494/1</td>
<td>73 m²</td>
<td>0</td>
<td>484/1</td>
<td>72 m²</td>
<td>2</td>
<td>zahrada</td>
<td></td>
</tr>
</tbody>
</table>

Sčet výměr za LV: 481 m²

457 m² Rozdíl: -4 m²

Více informací o vyložení operátu naleznete v nápovědě k aplikaci.
Český úřad zeměměřický a katastrální

Start budoucího stavu

Katastrální mapa

Marushka®

Obraz katastrální mapy a mapy pozemkového katastru neodpovídá odměření 1:500.

Podrobnější informace o pozemku, aktualizaci dat a jejich olosovém posouzení v PGP formátech.

Všechny údaje jsou pouze výkladu a důležitá data vyžadují pro vystoupení hranic pozemku v terénu.
Shortcomings of Current Mapping

- Many boundaries remained unchanged (overtaken from the existing graphic map) after the mapping process
  - Unclear boundaries inside the ownership
  - Real property boundaries used in the frame of the larger land complex
  - Disputable boundaries
- Within cadastre administration the territory is being divided into small parcels making then problems during land consolidation (cooperation with urban planning organs is necessary)
  - ČÚZK is striving to find solution
Shortcomings of Current Mapping

- Trend is to minimize the built-up area, because of tax reasons
  - Separate parcel for the building – courtyard is registered as the agriculture or other land
  - Insufficient interest of the institutions responsible for urban planning
  - ČÚZK efforts to improve this state according to real results of the present mapping => protests of owners
Shortcomings of Current Mapping

• Many registered descriptions are out of date
  – Data about heritage or nature protection, land type, land use etc.
  – Legal rule based on reporting duty is ineffective
  – Administrative sanctions are applicable only with difficulties – low danger to society, high administrative demands
  – Solving discrepancies during the renewal of the cadastral documentation complicates and prolongs the process
Nearest Future

• By the end of 2017 the cadastral maps will have been digitized – only some single cadastral units remain for new mapping and complex land consolidation (CLC)
  – The deadline for digitization will be fulfilled with exception of some cadastral units – undergoing or due to undergoing of CLC

• Cadastral maps based on digitization of 1:2280 maps cannot meet the demands of multipurpose land registration in the future, even though the technology chosen has been the most exacting – it is necessary to improve their planimetry accuracy

• Capacities having been used for digitization will be used for works on quality maps improvement (we suppose 800 employees)
  – New mapping
  – Revision (improvement support from the owners)
  – Correction of local mistakes (closed areas f.i. with cottages, communications – esp. railways etc.)
Nearest Future

• The speed of new mapping should be planned so, that within 30 years the cadastral maps will be improved enough (taking into account also the CLC)

• Updating of technical description data should be solved via competence sharing – také over the data from external information systems of responsible subjects
Research and Development – New Technologies

• Use of mobile laserscanning proved practically
• Technical conditions and criteria were amended into the mapping rules
• For daily practice not economically feasible – preferation of other modern methods
Research and Development – New Technologies

- Pilot testing of photogrammetry using UAV (Unmanned Aerial Vehicle) is in operation
Conclusion

Thank you for your attention.

Questions???

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