



EC infrastructure intended for common use in Republic of Serbia

ITU Workshop for Europe on Mapping of Terrestrial
Broadband Infrastructure and Services

Warsaw, Poland
2-3 July 2019



RATEL infrastructure mapping system database

Capacities which may be subject of request by EC operators:

- type;
- availability;
- geographic location;
- for shared use / access only.





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Infrastructure **data** publicly available:

- detailed;
- geo-referenced;
- structured;
- may be subject of sharing.





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Current **regulatory framework** covers:

- cable infrastructure data;
- antenna towers / masts;
- other cable elements / equipment.

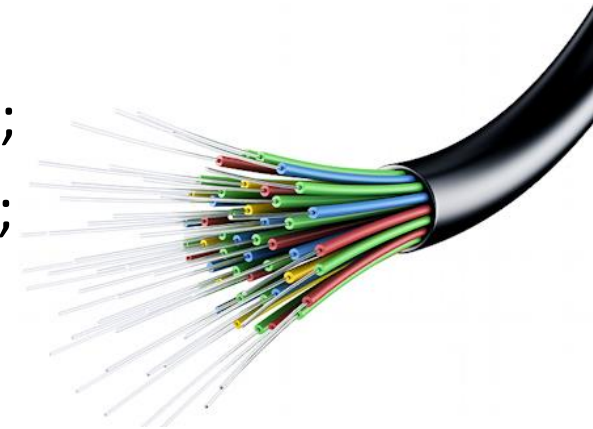




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Main **reasons** for mapping of shared infrastructure:

- optimization of infrastructure deployment;
- avoiding costs of setting-up new networks;
- better planning / cost sharing;
- accelerating development of NGN.





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Purpose of using shared infrastructure:

- competitiveness;
- effective and efficient performances;
- impossible to construct or install a new network / facilities.

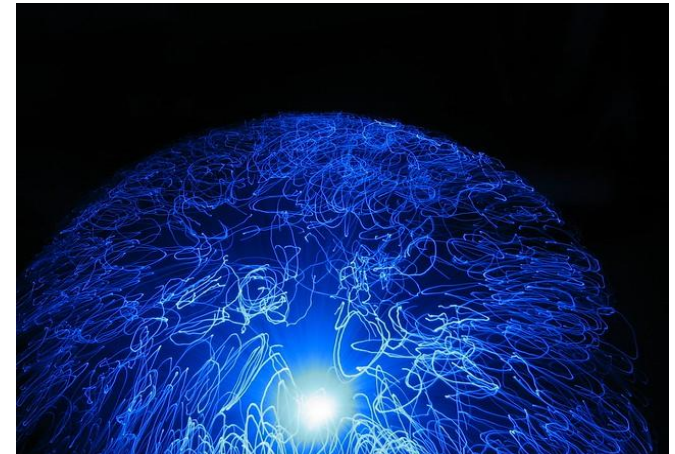




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Raising **awareness** for detrimental effects on:

- environment;
- public security;
- realization of spatial plans;
- preservation of cultural heritage.





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Database presentation **consists of** the following parts:

- implementation strategy;
- current status of database;
- web application preview;
- types of data;
- future plans.





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Strategy of infrastructure mapping system:

- Law on Electronic Communications;
- Rulebook of methods for data collecting and publishing;
- detailed geographic and structural data;
- EC operators responsibilities.



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Status of database established in 2016:

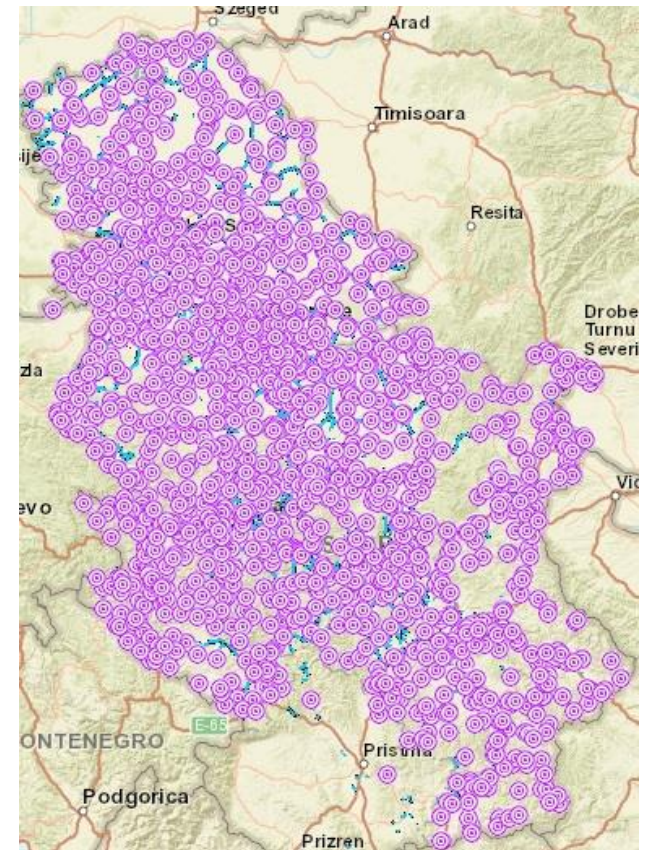
- > 30 registered operators (180 total);
- > 1500 antenna towers / masts;
- > 1500 fiber optic cables;
- > 200000 other cable elements;
- > 7000 database access / year.



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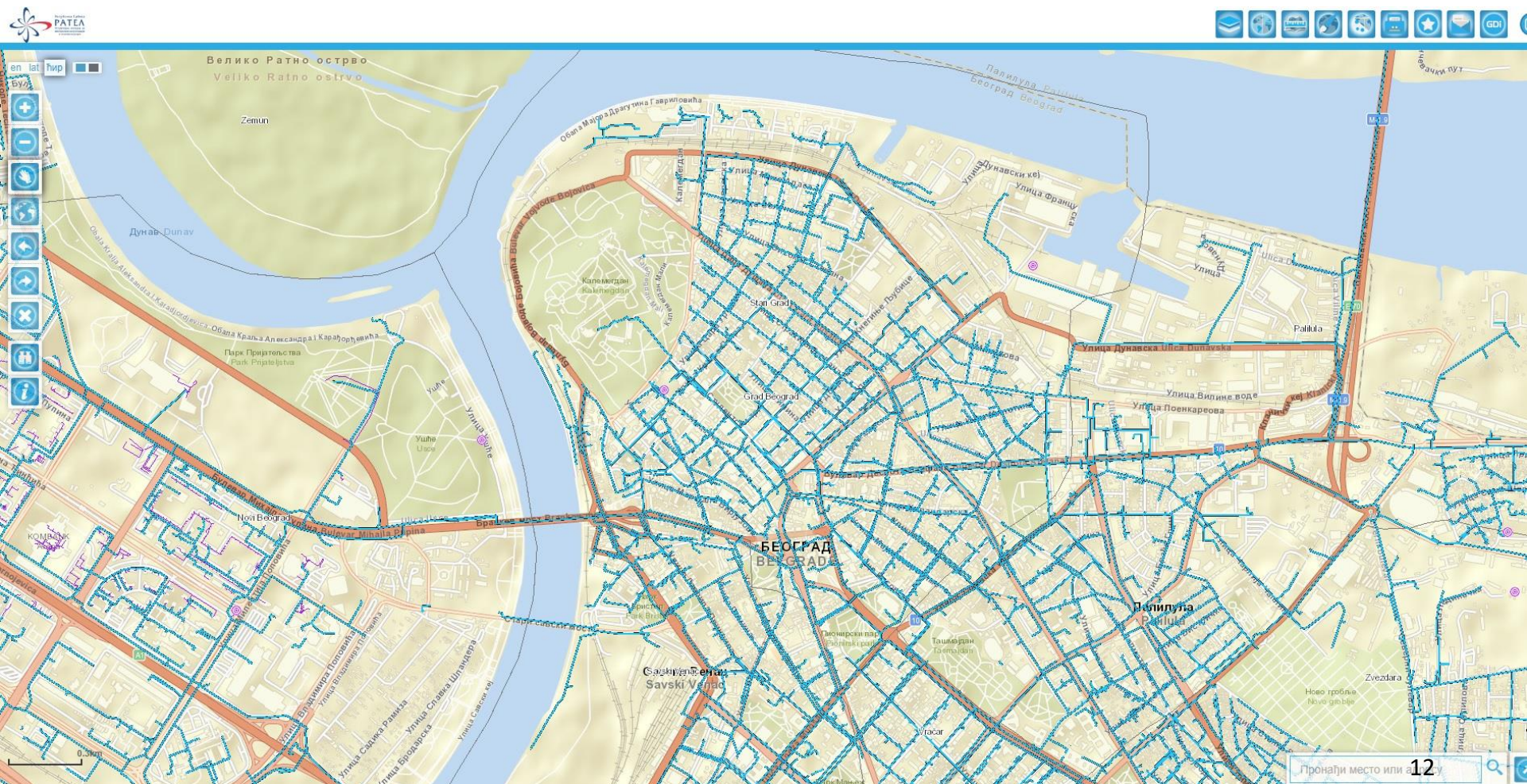
Web application **preview:**

- Web GIS application;
- User / pass secured logging;
- EC operators and RATEL admin only;
- Clearly defined instructions;
- 2 modes of access registration R / W.



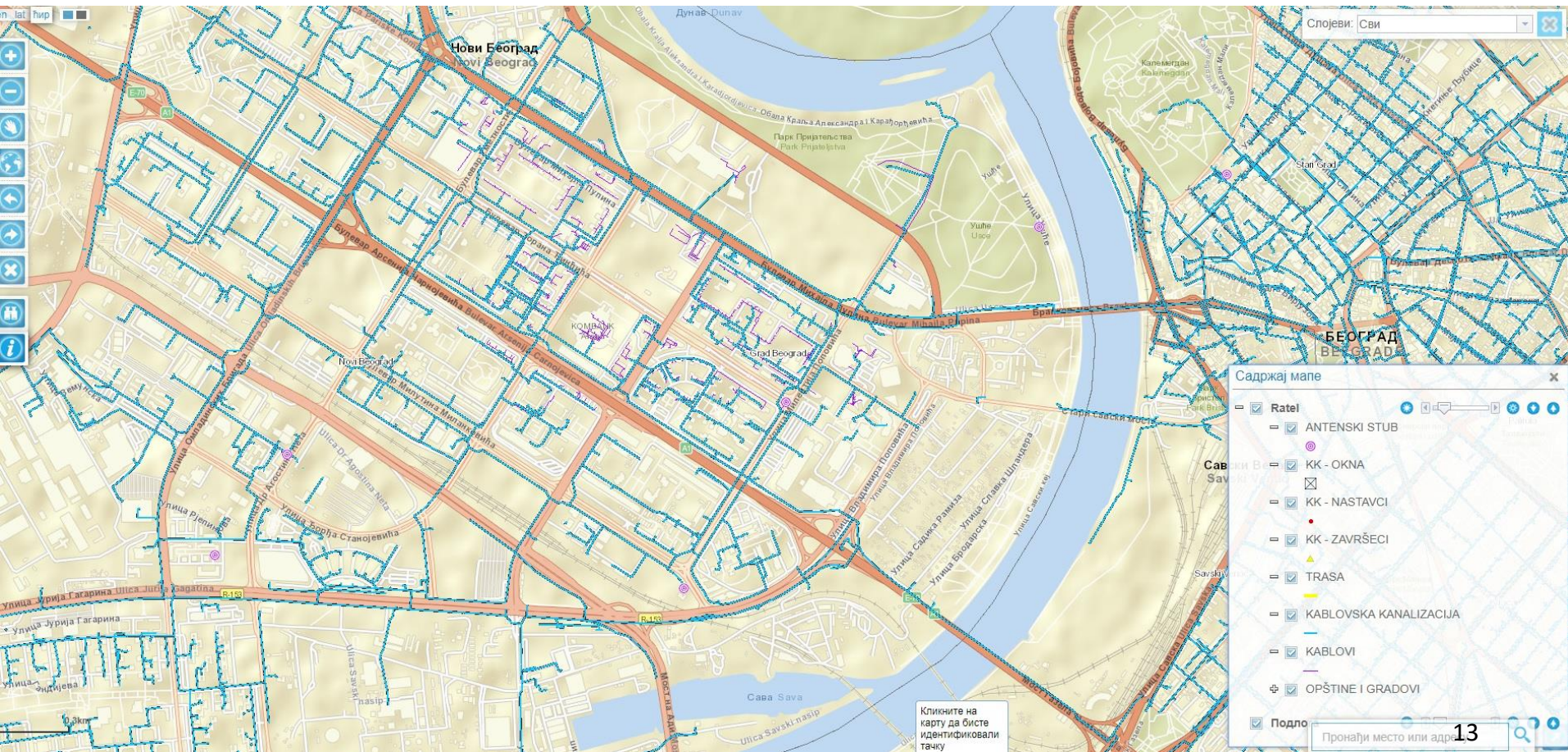


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RATEL infrastructure mapping system database





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Infrastructure sharing data (**cables**):

- Name of operator (owner) / location / route;
- WGS84 coordinates of important points (start/end, hub);
- Cable type and route length / geodetic record;
- other information (type of pipes / number of pipes on the route / manhole type / number of manholes on the route);
- Capacity for lease / unused capacity;
- Cable installments and ending data (optional).



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Infrastructure sharing data (**antenna towers / masts**):

- Name of operator (owner);
- Location of antenna tower / mast and construction data;
- Shape of tower / mast base and dimensions (m);
- Tower / mast height (m) and object height (m);
- Free space (segment length / available azimuth range);
- Mounted equipment (type / free capacity) - optional.



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Standard mapping **GIS tools**:

- Switching on / off the layers;
- Zooming;
- Measurement of distance / surface;
- Selection of data using spatial queries / by hand;
- Exporting selected data to Excel;
- Background selection through free ArcGIS online service.



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Improvements and **Future** plans:

- Extension for mapping of complete EC infrastructure;
- Binding with other sectors (Power distribution, Geodetic);
- Guidelines for infrastructure sharing;
- Open data approach.



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Thank you for your attention.

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