



РЕПУБЛИКА СРБИЈА  
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## Information Systems for Real Estate Cadastre in the Republic of Serbia

Danka Garic, Acting Assistant  
Director for ICT


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## Significance of the ISREC Project

- ISREC is the system of key importance for the RGA's operational mission
- ISREC will implement all relevant functions towards the provision of the full support to the registration and transactions directly related to the real estate cadastre in the Republic of Serbia
- The long-term objective is to provide for fully electronic transactions in the real estate cadastre; both internally within the RGA and in communication with the clients

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## RGA's Support


**The World Bank** – Real Estate Management Project in Serbia

- Sub-component B1 – Development of the information system for the real estate cadastre
- Sub-component B2 – Support for the National Spatial Data Infrastructure
- Sub-component B3 – IT sector sustainability
- Sub-component B5 – Data quality improvement

**Kingdom of Norway** – Requirement Specification ISREC project


**Government of the United Kingdom**, fund for good governance – The Establishment of e-FrontDesk for Properties Project

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## Preparation



- Identification of business requirements and stakeholders
- Analysis of the existing information technologies in the RGA
- Adopting the architecture principles
- Development of the business processes model
- Development of the logical data model
- Defining functional and non-functional requirements



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## Existing Information Technologies in the RGA

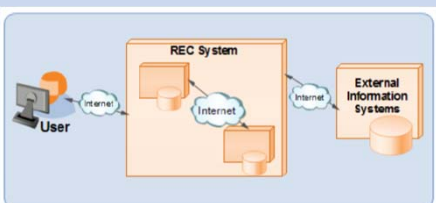

- Non-integrated information system
  - Parts of the system have been independently planned, developed and implemented
  - Sub-systems have no/limited communication among each other
  - Databases are maintained on the local level
  - Multiple technologies are in use
- Issues with the data
  - Data redundancy
  - Integration issues
- Implemented technologies are outdated

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## Architecture Principles of ISREC

- Service Oriented Architecture (SOA): Modular system, with independent components – modules integrated through services
- Centralized system with Web-based interfaces, scalable
- Central database
- All existing data are migrated in the new IS
- Software and hardware in line with the standards that promote interoperability of data, applications and technology

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## Procurement Procedure

- Procurement for all three ISREC phases has been done under the World Bank bidding procedure



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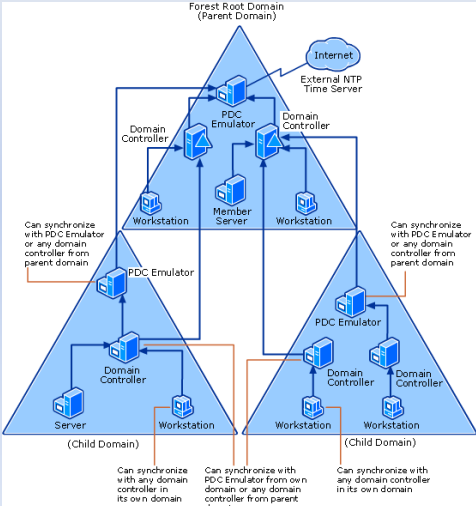
## New Data center



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## Centralized Resources Management

- Unified computer network:
  - All organizational units of the Republic Geodetic Authority are connected to a single network – domain – rgz.local
- Centralized authenticating of all users – RGA employees:
  - Implemented over the Microsoft Active Directory service;

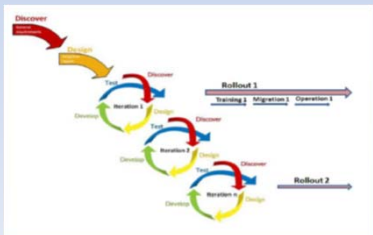



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## Implementation Strategy

Incremental development of sub-systems using agile method

- **Phase 1** (modules for document management, workflow management, user management and code lists management)
- **Phase 2** (Administrative Units Register and Address Register)
- **Phase 3** (Cadastré – textual, Cadastré – graphical, and persons module)

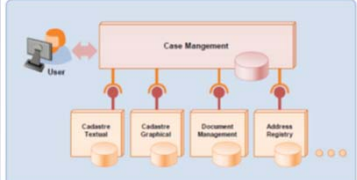





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## Phase 1 - DMS

- Status: **Successfully implemented** over the entire territory of the Republic of Serbia
- Workflow management module is an umbrella system for all other REC sub-systems
- All RGA users have online access to the workflow management system
- 2500+ active users
- First results:
  - Paperless case
  - Streamlined business processes in the LCO's
  - Significant improvement of possibilities for business processes analysis and improvement
  - More efficient quality control
  - Link to the other sub-systems (EPK, e-FrontDesk, e-Appeal, e-Government...)

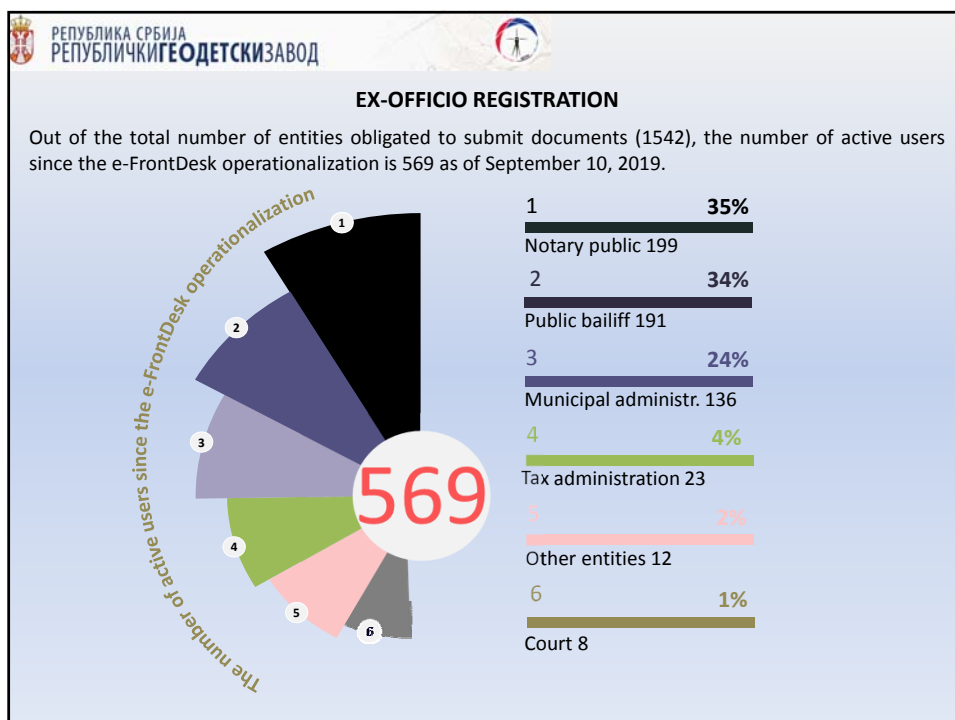
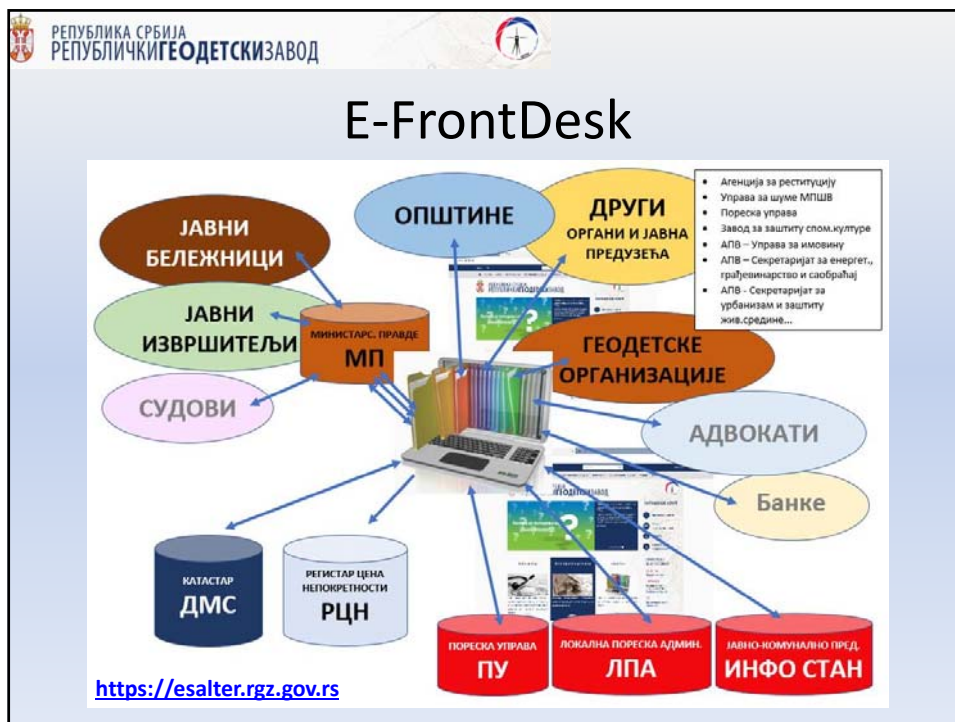



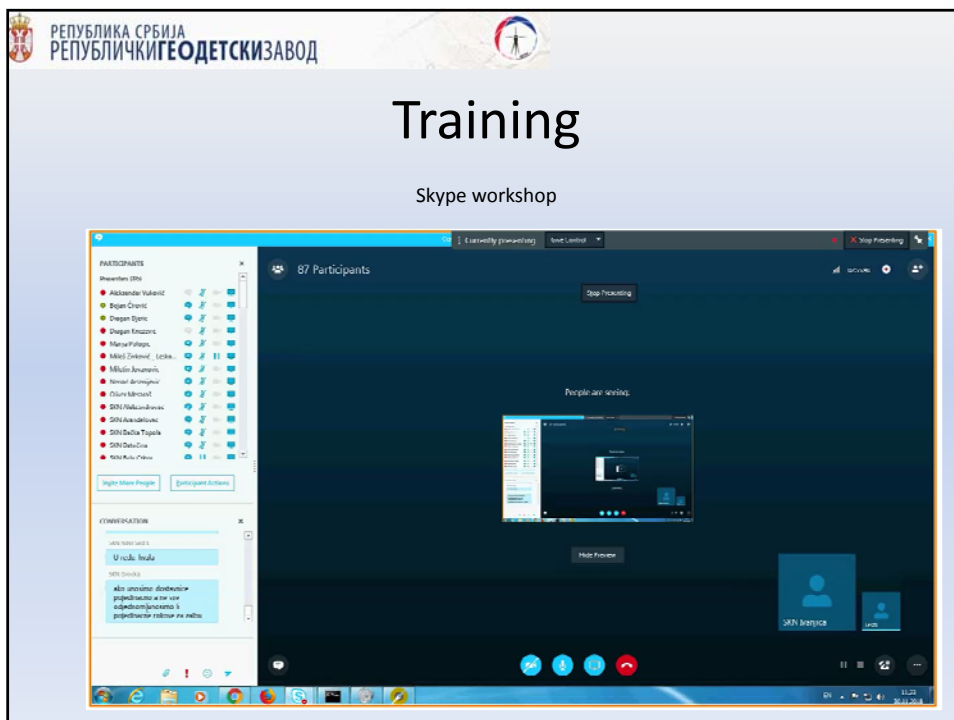
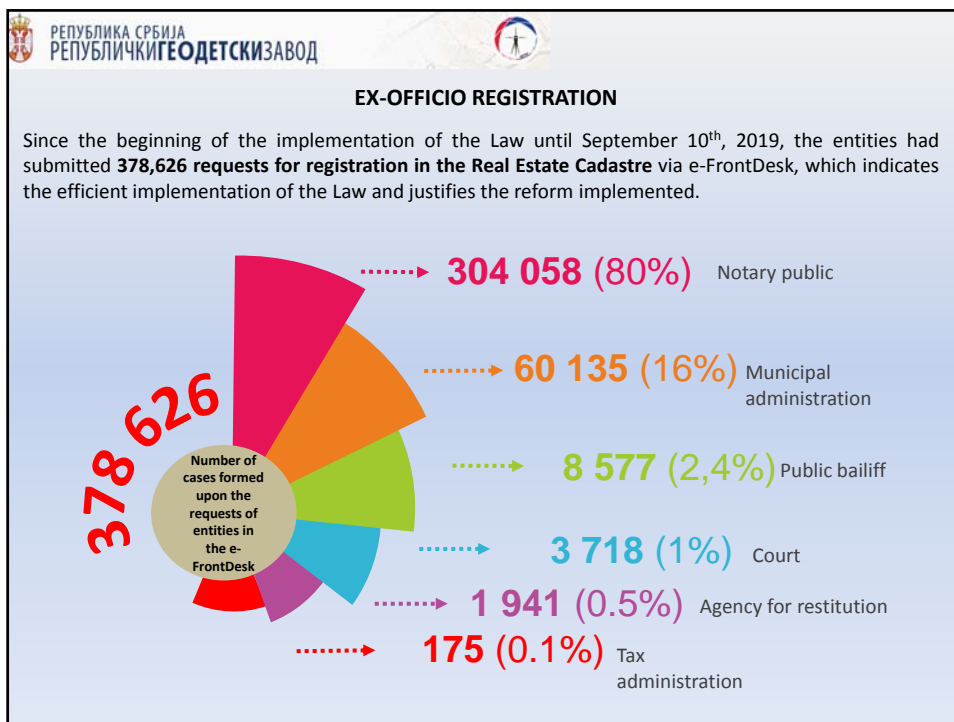
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## E-FrontDesk

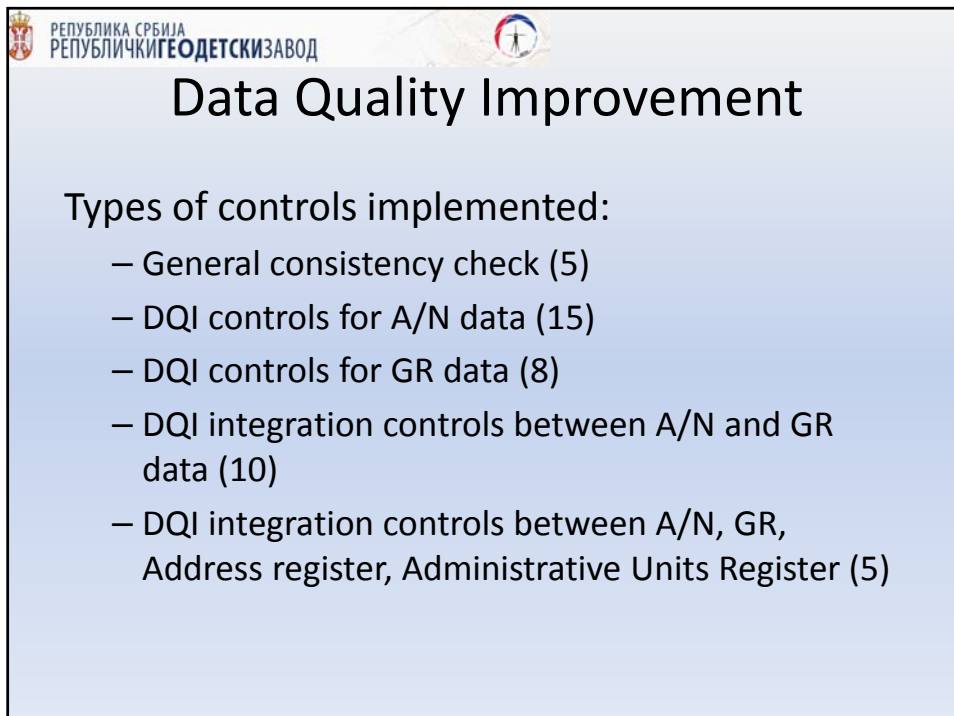
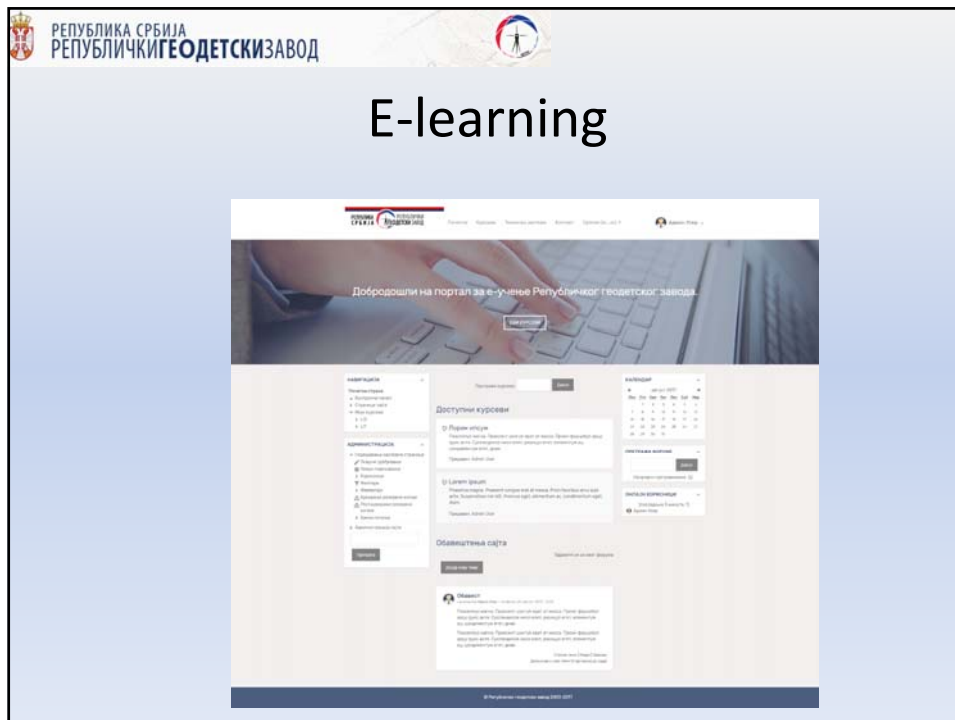


<https://esalter.rgz.gov.rs>







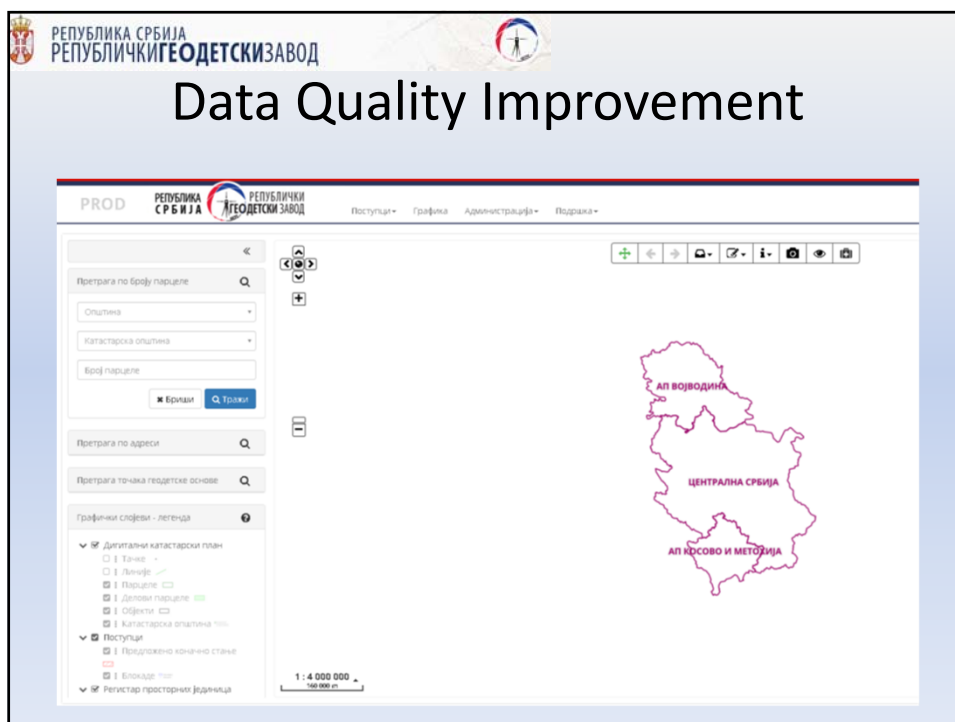
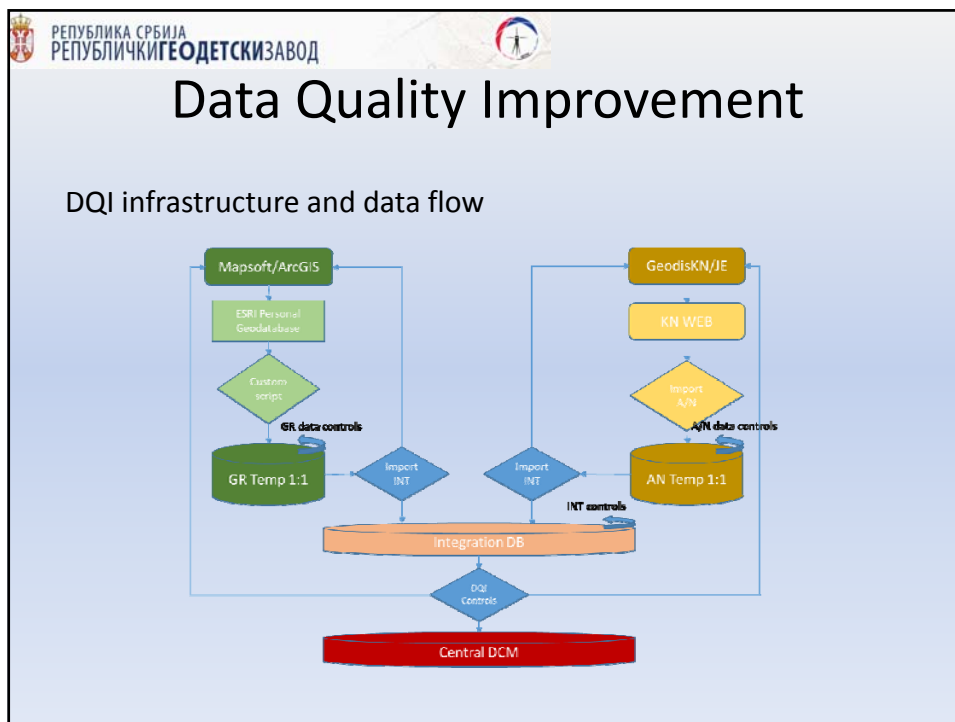


## РЕПУБЛИКА СРБИЈА РЕПУБЛИЧКИ ГЕОДЕТСКИ ЗАВОД

# Data Quality Improvement

Types of controls implemented:

- General consistency check (5)
- DQI controls for A/N data (15)
- DQI controls for GR data (8)
- DQI integration controls between A/N and GR data (10)
- DQI integration controls between A/N, GR, Address register, Administrative Units Register (5)



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## Data Quality Improvement

- Tool for data review

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## Data Quality Improvement

- Tool for data corrections

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## Data Quality Improvement

- Tool for data corrections

The screenshot shows the GISRC Editor application window. The title bar reads "GISRC Editor - катастарски општина Чачак (14028), пројекат: 1111". The interface includes a left-hand sidebar with a tree view of layers and a "Списак" (List) panel. The main map area displays a cadastral plan with green parcels and a central parcel highlighted in yellow. A red line indicates a boundary or correction on this parcel. The bottom status bar shows the scale as 1:5000 and the coordinate system as "Српски катастарски координатни систем (SRPS) - 21077 (Datum: 1945)".

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## Data Quality Improvement

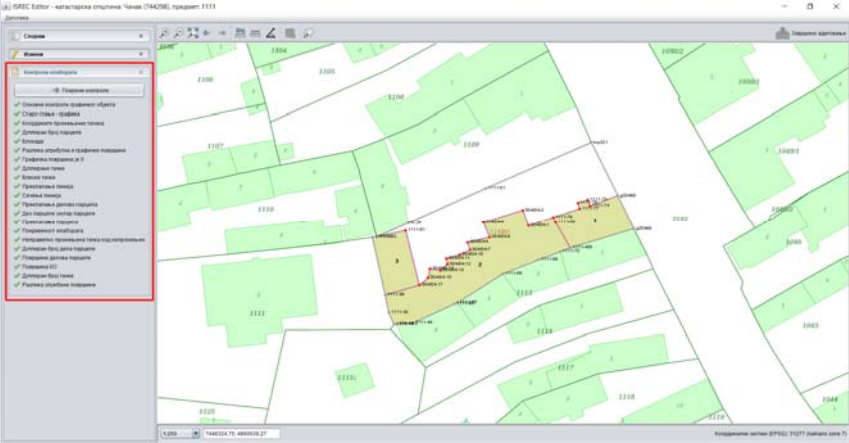
- Tool for data corrections

This screenshot is identical to the one above, showing the GISRC Editor interface. A red rectangular box highlights the "Измене" (Changes) panel in the left sidebar, which contains icons for undo, redo, and other editing functions. The rest of the interface, including the map and toolbars, remains the same.

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## Data Quality Improvement

- Tool for data corrections



The screenshot shows the GISRC Editor application window. The title bar reads 'GISRC Editor - катастарска општина Чачак (140286), пројекат: 1111'. The interface includes a 'Слојеве' (Layers) panel on the left with a tree view of data layers, a central map area displaying a cadastral map with green and yellow parcels, and a bottom status bar showing coordinates and scale.

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## Data Quality improvement

- Process for data correction preparation completed in:
  - 10 local departments
  - 30 Cadastral municipalities
    - 247.709 cadastral parcels
    - 211.460 part of parcels
    - 2.625.816 lines
    - 2.782.799 points
  - Roll out ongoing for remaining departments



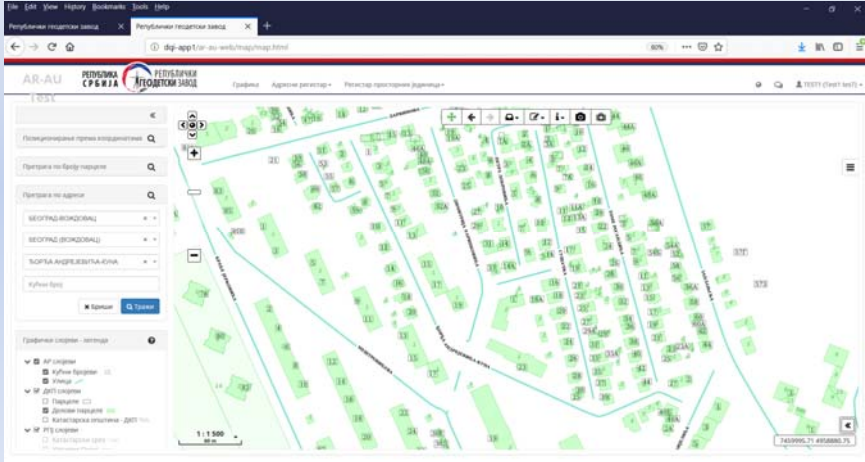
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## Phase 2 - Address register and Administrative Units Register

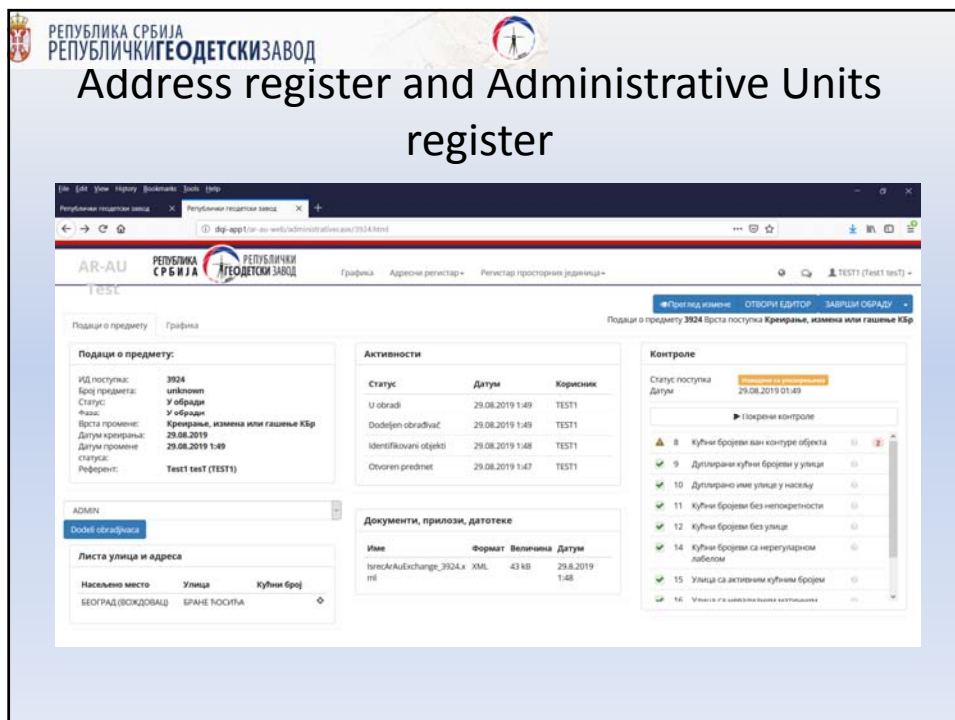
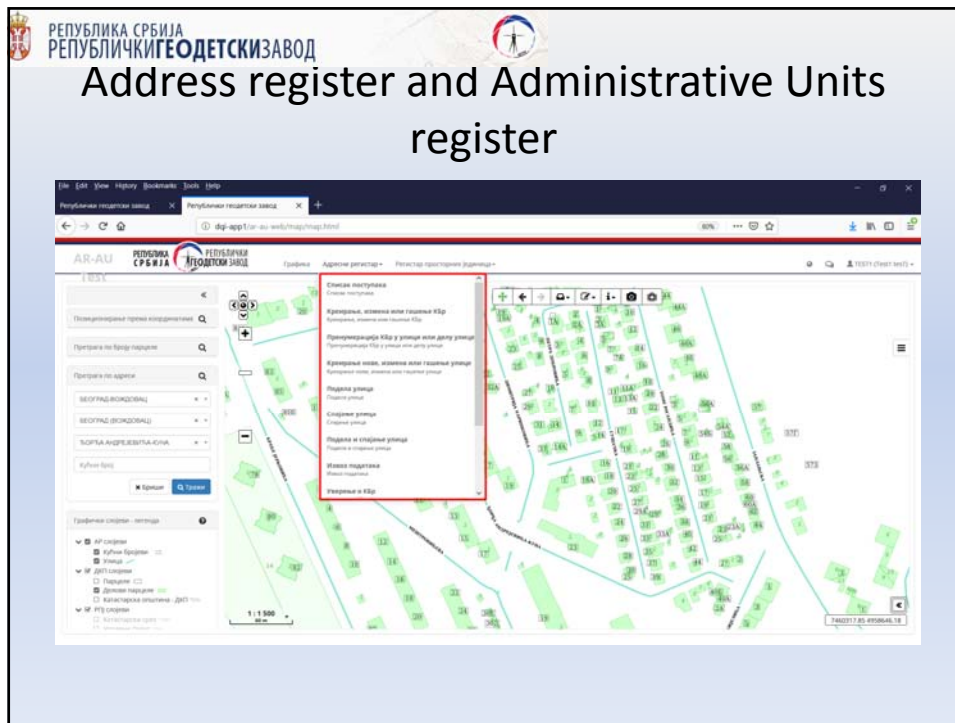
- Phase 2 current status
  - Testing of the functionalities ongoing
  - Testing of the integration with DMS ongoing
  - Deadline for completion all local departments December 2019

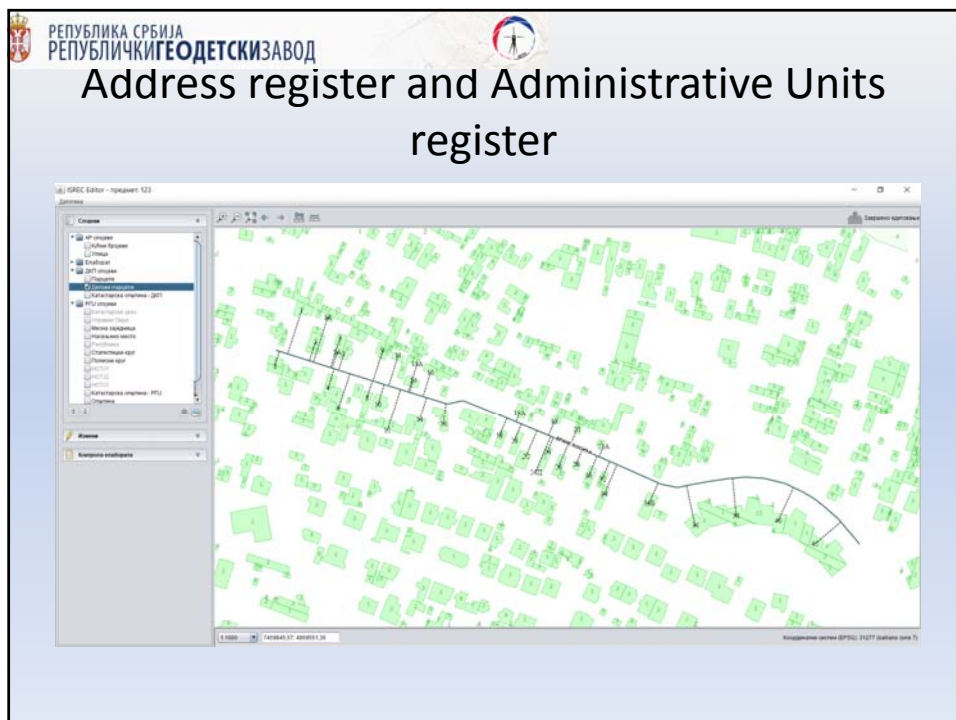
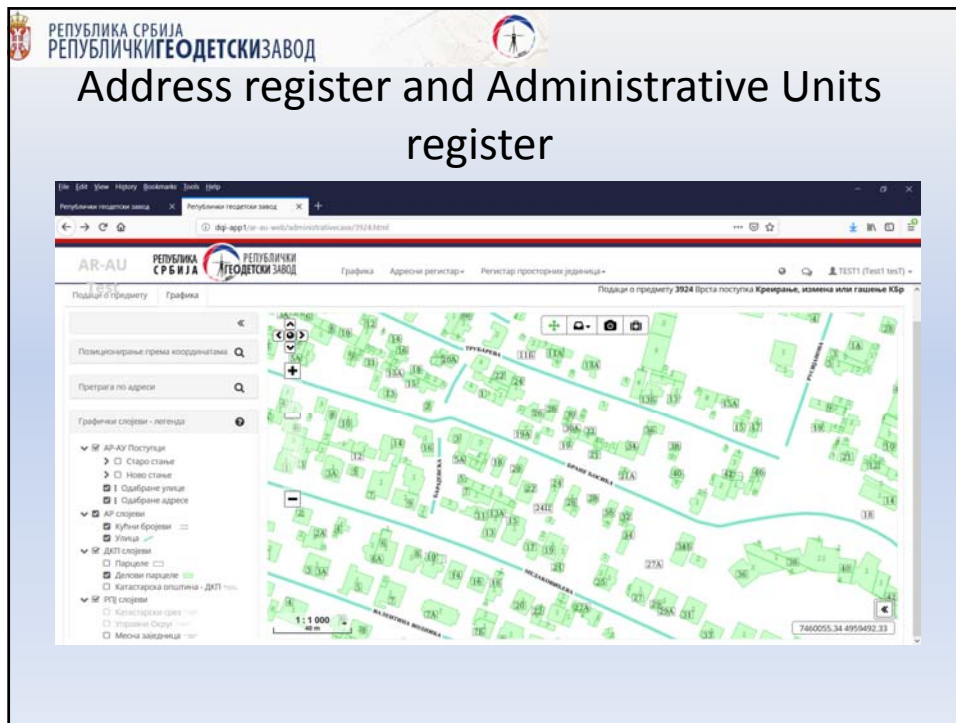
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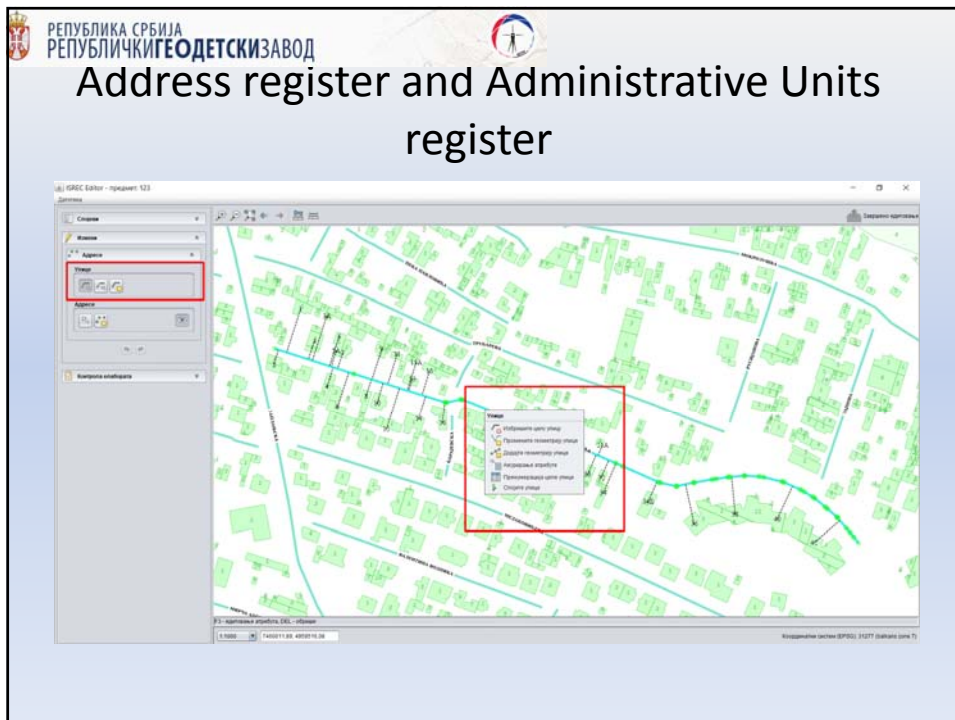
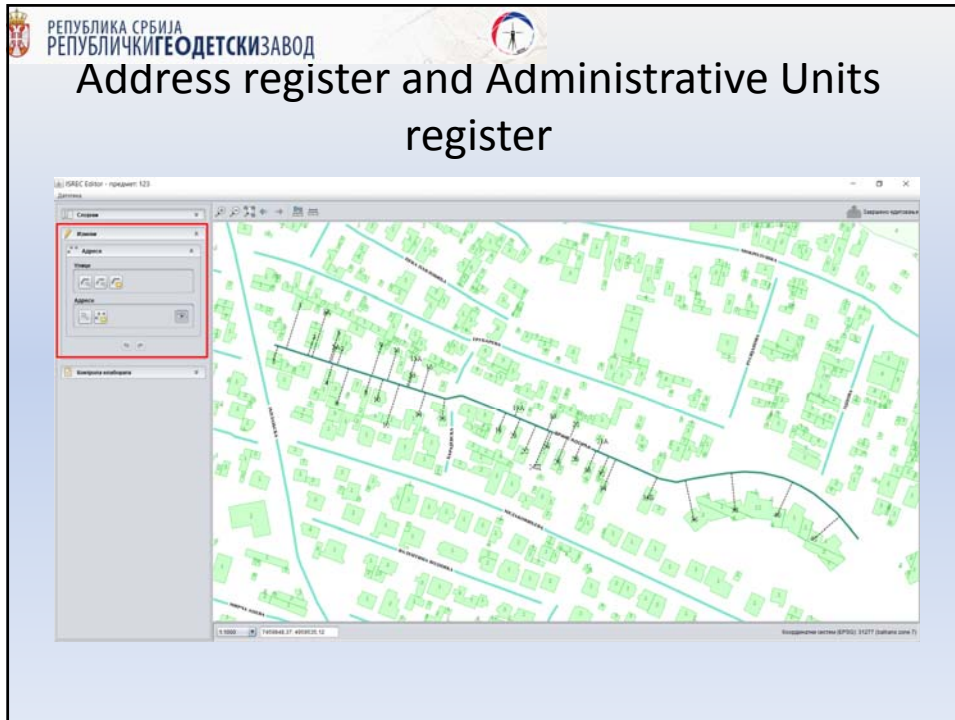
## Address register and Administrative Units register



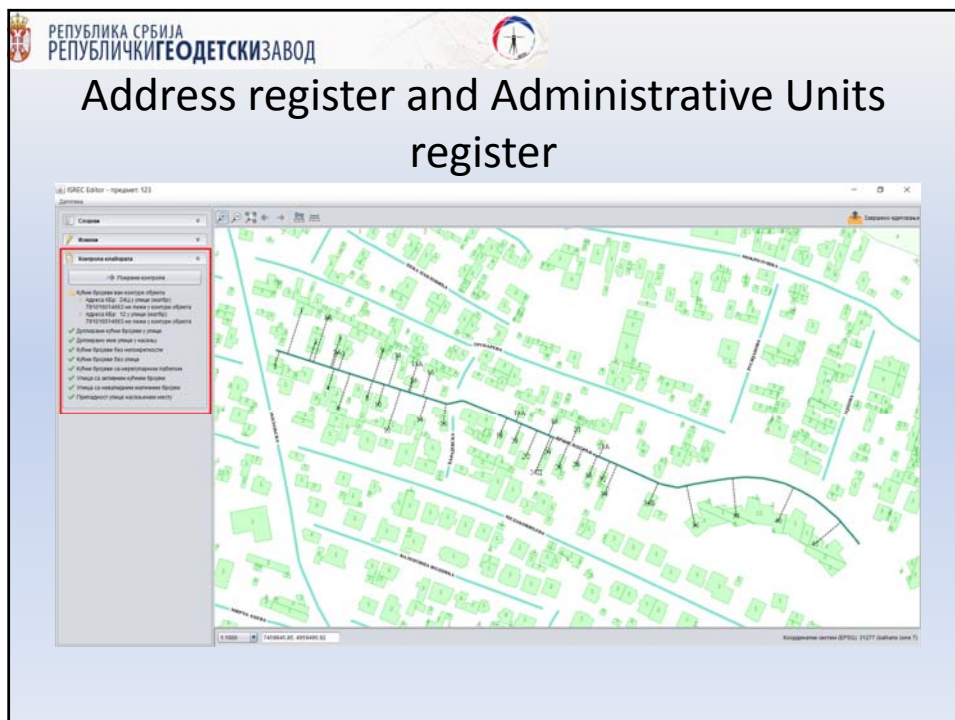
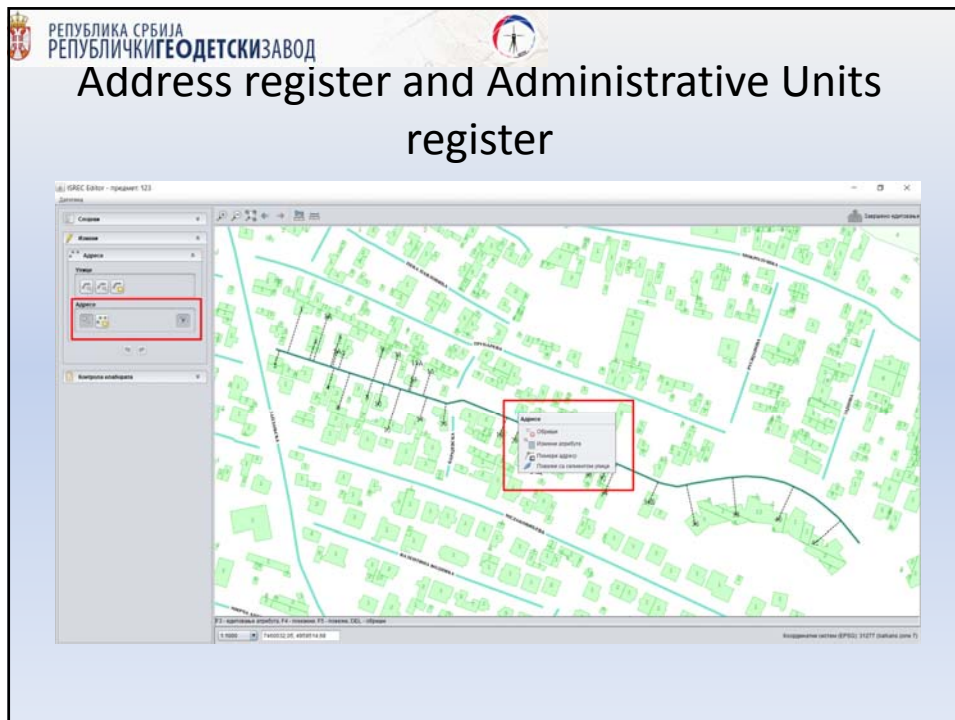
The screenshot displays the AR-AU web application interface. At the top, there is a navigation bar with the text 'РЕПУБЛИКА СРБИЈА РЕПУБЛИЧКИ ГЕОДЕТСКИ ЗАВОД' and a logo. Below the navigation bar, the title 'Address register and Administrative Units register' is prominently displayed. The main content area features a map with various colored overlays representing different data layers. On the left side of the map, there is a sidebar with several search and filter options, including 'Плановно-изградњени простори', 'Постројења по броју парцели', 'Постројења по адреси', and 'Кућне бази'. The map itself shows a grid of buildings and streets, with green and blue overlays indicating specific data points. The bottom of the map includes a scale bar and a north arrow.













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## Phase 3

- Phase 3 current status
  - Detailed functional specification is being developed and accepted
  - Iterative component development has started
  - Deadline for completion is end 2020 for the territories of 19 municipalities



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## The ISREC Project Expected Results

- Optimal, efficient and cost-effective operation of the RGA
- Efficient production, maintenance and distribution of geospatial data over the territory of the Republic of Serbia
- All data at disposal of the RGA's organizational units and the end users
- Infrastructure and architecture compatible with the EU standards
- No data duplicating
- Information are accurate and current
- Protection and security of property rights registration

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# Questions?



The slide features a light blue background. At the top left is the logo of the Republic of Serbia Geodesic Authority. The main title 'Questions?' is centered at the top. Below the title are three images: a hand with 'I have a Question!' written on the palm, a cluster of colorful speech bubbles with question marks, and a magnifying glass focusing on the word 'answer' in red, surrounded by several instances of the word 'question' in black.

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# Thank you for your attention!