

## Research area:

- GIS -
- Computer Graphics -
- Virtual Reality -
- Expert Systems -
- Artificial Intelligence -
- CAI -



**CG & GIS L@b**  
Design the future ...

Computer Graphics and Geographic  
Information Systems Laboratory

Faculty of Electronic Engineering  
Aleksandra Medvedeva 14, 18000 Niš  
Serbia

Tel.: (+381 18) 529-500, 529-642 and 529-331

Faks: (+381 18) 588 399

<http://gislab.rs>  
[info@gislab.rs](mailto:info@gislab.rs)



Faculty of Electronic Engineering, University of Niš



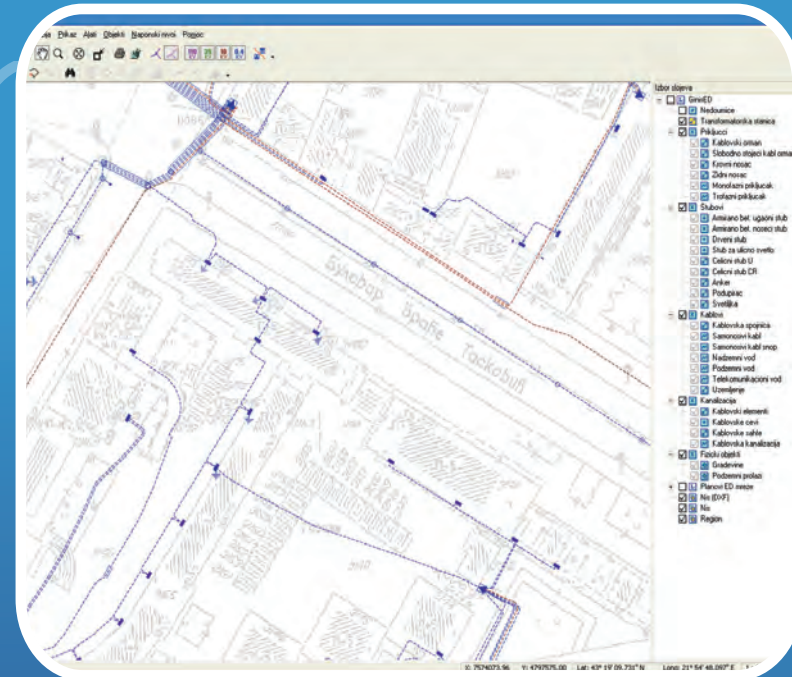
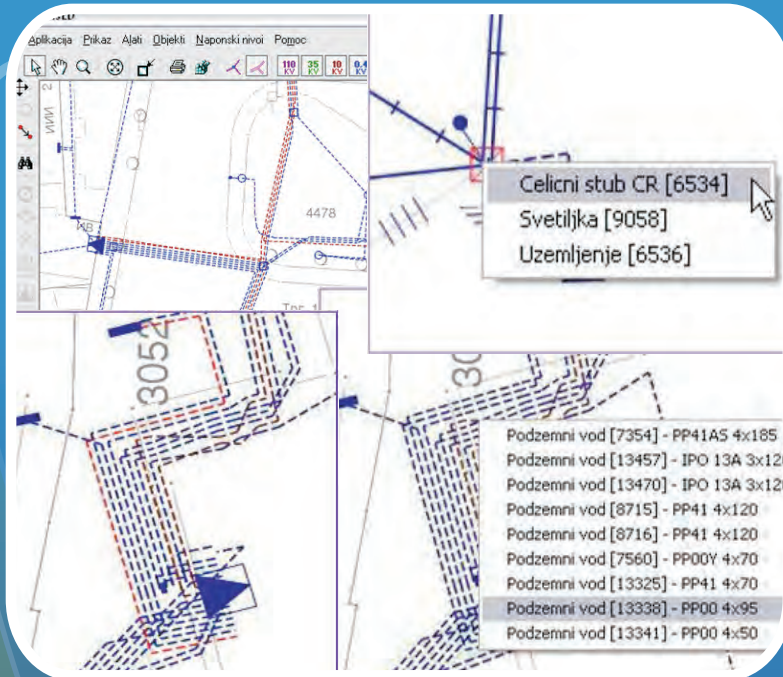
## GinisED

Geo-Information system for support of evidencing,  
maintenance, management and analysis of electric power  
supply network



**CG & GIS L@b**  
Design the future ...

Computer Graphics and Geographic  
Information Systems Laboratory



- **Installation of GinisED system and usage training**

- Working with maps – basic GIS functionality
- Editing functions

- **Customization to the specific user's needs**

- Adding new functionality
- Adding new reports
- Automation of processes

- **Digitization of maps**

- Cadastral maps, orthophoto, satellite images

- **Vectorization of the existing technical documentation**

- Initial data entry
- Correction of entered data

- **Using the GIS analysis**

- Displaying the data considering objects
- Analysis and search of geo-data
- Report creation

- **Standard and advanced GIS functionality available through standard, Web or mobile clients**

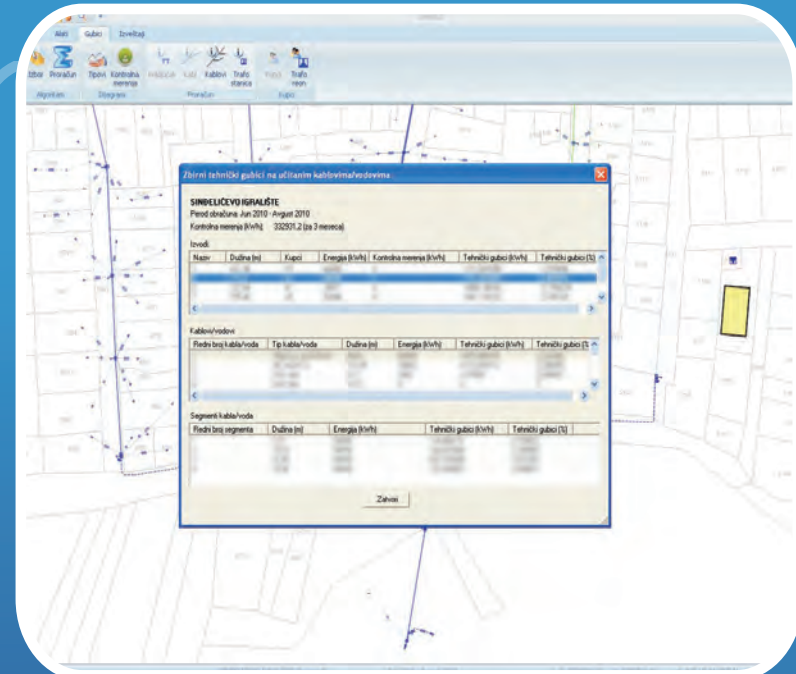
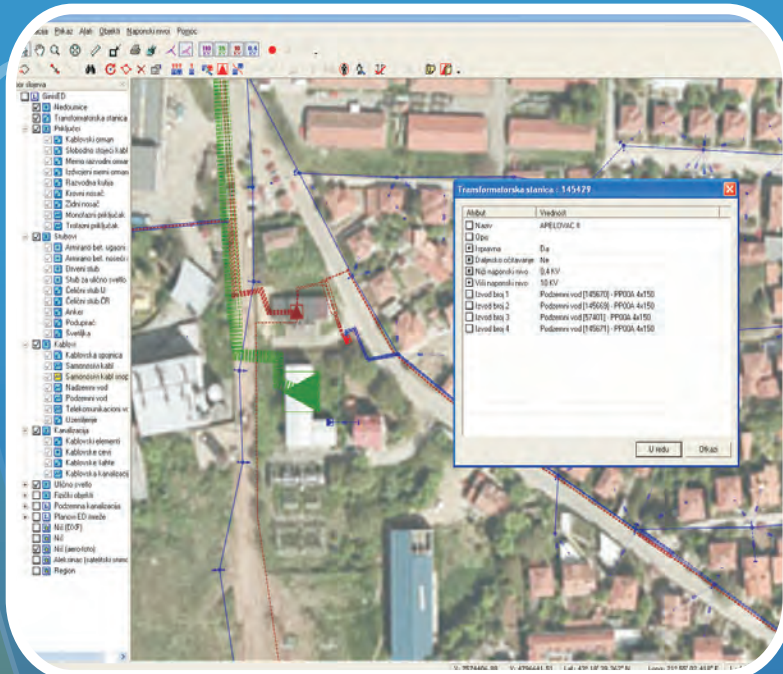
- **Specialized analysis of electric power distribution network customized according to user's requirements**

- **Integration with existing information systems providing the higher quality of decision-making**

- **Flexible and scalable system with the possibility of adding new functionality to meet the user's needs**

- **Integration with specialized devices (for data collection, management and control, sensors, etc.)**

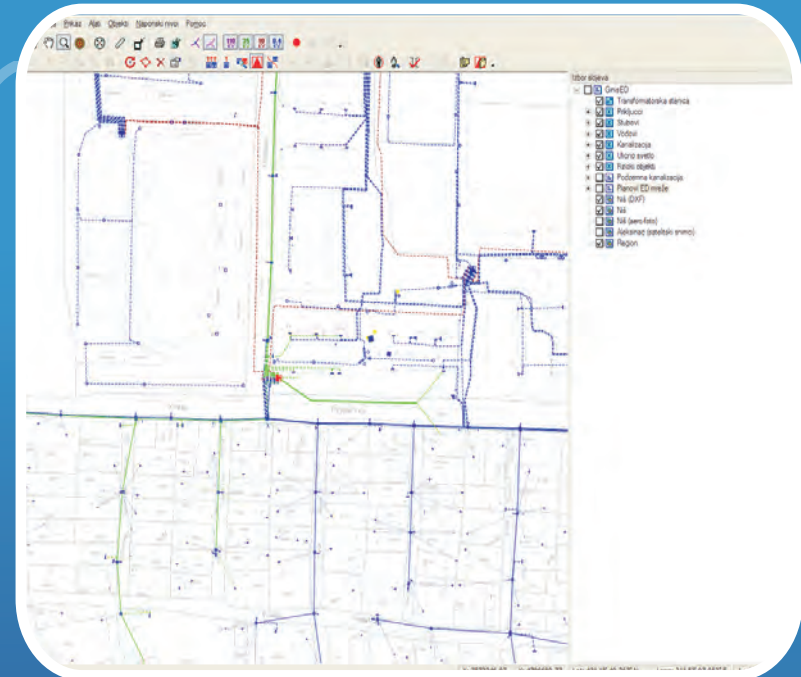
- **Multilingual support**



- The basic GIS functionality (usage of raster maps with different scale, scrolling, zooming and panning, positioning and search, distance measuring, etc.)
- Creation of digital electronic maps (based on geodetic maps, ortho-photo, satellite imagery and other sources)
- Rich set of tools for inserting, updating, retrieval and display of ED network geo-data
- Entering of the existing documentation of the ED network (digitalization of data from paper plans and other sources)
- Field data gathering using mobile devices

## Analysis of energy losses

- The calculation of technical losses for the selected substation or the entire network based on monthly consumption and typical load diagram
- Entering of typical load diagrams for various customers
- Commercial losses calculation based on the entered control measurements
- Display of losses for each transformer stations area
- Creating reports in MS Excel and MS Word formats on the basis of performed calculations
- Creating summary reports with warnings of excessive losses



- **Field data gathering**

- Applications for data preparation
- Applications for entering network data in the field using GPS

- **Retrieving information from the device**

- Import of data gathered in the field
- Validation and possible correction of field data
- Data available through GinisED and GinisED Web

- **Visualization of ED network based on voltage levels**

- **Search and display of ED network facilities data**

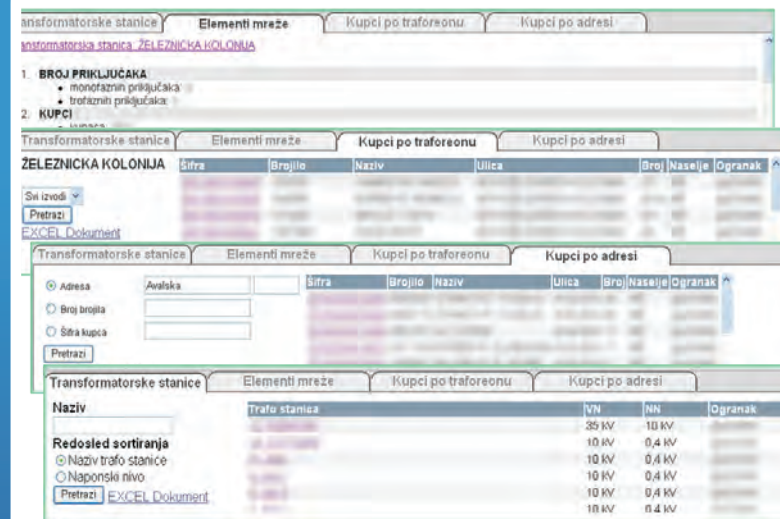
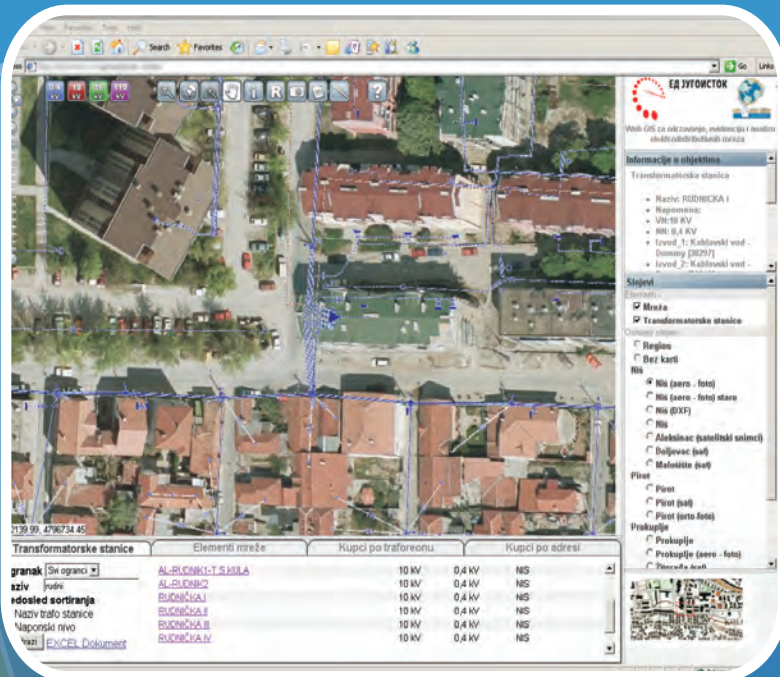
- **Determination and visualization of area of transformer station or feeder**

- **Search and display of customers supplied from the selected transformer station or feeder**

- **Creating reports considering ED network infrastructure (number of transformer stations, cable lengths etc.)**

- **Creating reports in MS Excel and MS Word format on the basis of conducted tests and analysis and printing of ED network maps**

- **Integration with other ISs (CIS, SCADA...)**



- Geo-information about ED network available via the Internet / intranet and Web browser within the business system
- Application adaptation to meet the user's needs
- GIS functionality in a Web application, without installation and administration
- Limited set of functionality for display and analysis of ED network according to the user's privileges
- Customising search and reports according to customer requirements

- Searching transformer stations by title and voltage levels
- Search and display of customers supplied from the selected transformer station or feeder
- Search and display of customers on the bases of customer address
- Creating reports considering ED network infrastructure for selected transformer station or part of network (number of transformer stations, cable lengths etc.)
- Creating reports in MS Excel and MS Word format on the basis of conducted tests and analysis
- Creating images for printing of ED network maps