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GIS application for improving housing conditions in substandard Roma settlements in Serbia



osce

Organization for Security and
Co-operation in Europe
Mission to Serbia



OVDE SMO ZAJEDNO
EVROPSKA PODRŠKA ZA INKLUZIJU ROMA

SMART
ME
UP!



Content

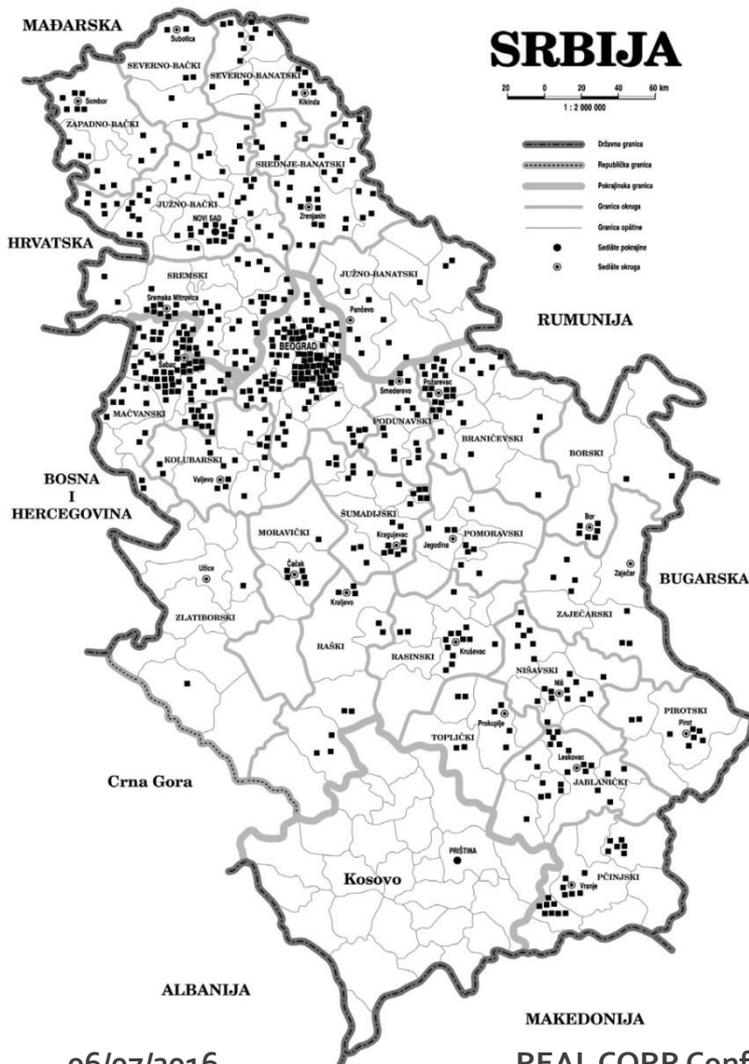
- Introduction
- Background
- OSCE Project for substandard Roma settlements (SRS) in Serbia
- GIS application for improving housing conditions of Roma community
- Discussion with conclusions

Introduction



- Status of Roma minority in Serbia
 - Substandard housing conditions
- Strategy on improvement of the status of Roma in Republic Serbia (2009)
 - OSCE IPA project “We are here together – European support for Roma inclusion”
- OSCE Project component “Mapping of substandard Roma settlements in GIS” (2014-2015)
 - GIS application with updated SRS data on national level

Background



- Efforts for improving Roma housing conditions invested since 2002 by Serbian Government
 - 50 initiatives for mapping SRS since 1990s
- Implementation difficulties within housing domain
 - Poor understanding of Roma settlements' problems
 - Lack of updated data and maps
 - Shortage of financial resources

Background (2)

- Spatial plan for the Republic of Serbia (2010-2020)
 - 2 scenarios or models for the SRS housing conditions improvement
- Prerequisites for implementation of 2 models for SRS housing conditions improvement
 - Quality and scope of data on SRS to be upgraded
 - Methodological approach to SRS data collection and management to be standardized

OSCE Project – Aim and objectives

- Adequate housing for Roma community in Serbia
 - SRS mapping on national level
 - GIS application development
 - Monitoring housing condition
 - Decision-making support
 - Housing improvement proposal preparation
 - Follow-up of selected affordable housing solutions implementation



OSCE Project - methodology



1. Definition of SRS
 - Based on the UN definition for substandard settlements
2. Conceptual data model for SRS
 - UML language advantages
 - International and national data standards, project needs
3. SRS data collection
 - Spatial data: CAD and orthophotos
 - Alphanumeric data: Excel survey (questionnaire)
4. GIS application for SRS data management
 - Data quality assessment, conversion and integration
 - SQL database, QGIS, Web technologies and services

OSCE Project – Results (1)

06/07/2016

SRS domain model

REAL CORP Conference 2016, 22-24 June, Hamburg, Germany

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8 objects model

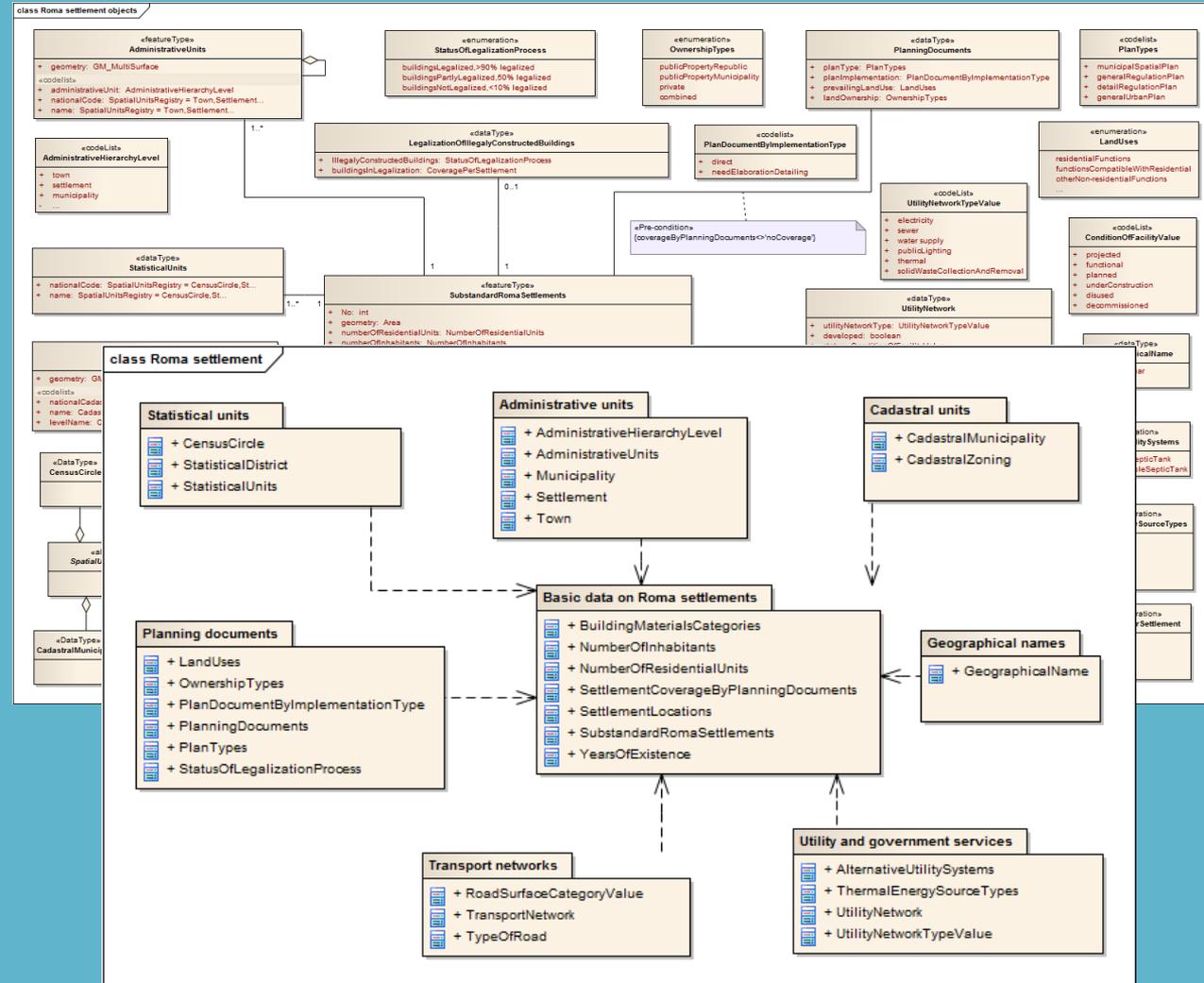
- SRS data collection
- Basic SRS issues description and their status monitoring, evaluation and decision-making
- DB structuring
- Data conversion

4 data categories

(administrative, utilities, planning, legal)

Model-to-GIS

Scalability, extendability, and interoperability



OSCE Project – Results (3)

06/07/2016

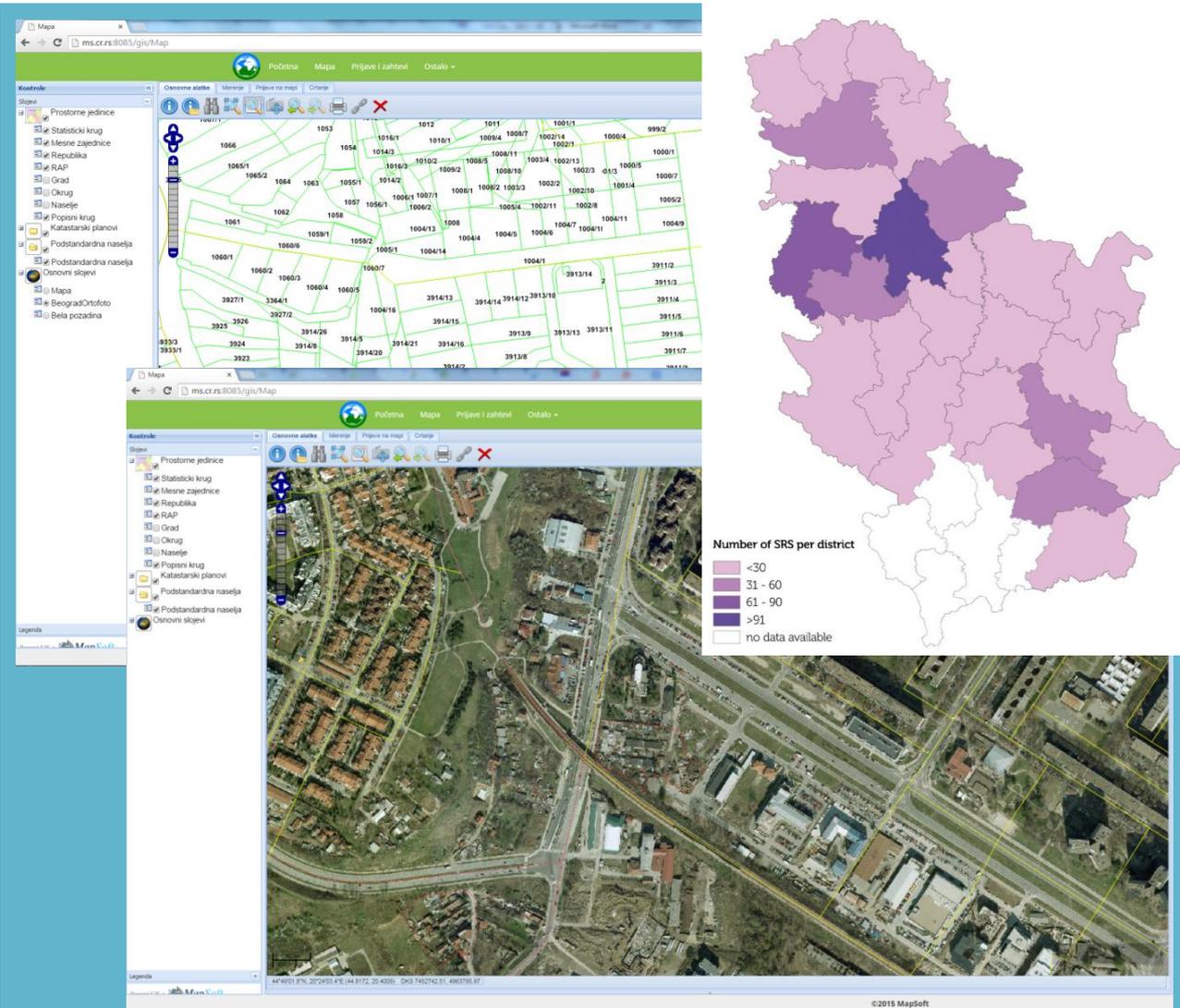
SRS overview

- 71,01% municipalities
- 583 SRS in total
- 22.4 avg.number of SRS per NUTS3
- Data on SRS housing conditions collected for the first time
- SRS distribution, housing demands and patterns in Serbia revealed
- SRS data integration with other relevant data and IS (RGA, RSA)

GIS application for SRS data integration

REAL CORP Conference 2016, 22-24 June, Hamburg, Germany

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SRS GIS application advantages

- Technological:
 - Minimal maintenance cost
 - Interoperability secured
 - Various analytical tools on disposal
 - Simultaneous work with different data formats
 - Simple metadata administration
 - Easy roles and user rights administration
- Functional:
 - Implementation of basic data analyses (for 2 models implementation!)
 - Monitoring of SRS status on local and national level
 - Making informed and timely conclusions and decisions on needed activities and funds
 - Standardized approach to SRS issues management

Discussion – OSCE Project advantages and disadvantages

PROJECT

- First GIS application for SRS in Serbia
 - DM standards
 - Interoperability
 - Replicable methodology
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- Limitations of time and resources induced limited data usage application (narrow data scope and generalisation)

RESULTS

- Majority of SRS integrated and built from durable material
 - At least one type of planning documents exists
 - Roma community attitude positive and collaborative
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- Limited GIS application user-group
 - Worst situation with water supply and sewerage systems and services

Conclusions



- GIS platform for monitoring, evaluation, decision making and proposal preparation for affordable and sustainable housing options for Roma community in Serbia
- Possible future initiatives
 - Upgrading SRS database, software and hardware
 - Identification of criteria and priorities for investment
 - Integrated IS for substandard settlements in Serbia, i.e. for better living conditions, social inclusion and poverty reduction of vulnerable groups in Serbian society



Thank you!