



# URBAN SMS Soil Management Strategy



## Review on past efforts – overview of existing soil evaluation tools

T. Vernik & B. Vršèaj

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This report was compiled according to the results of the informative questionnaire, received from nine partners of the Urban SMS project.

Report is divided in sections, each trying to answer certain question regarding the test sites, existing as well as future evaluation tools.

### ***General expectations of partners:***

- To establish new or improve existing soil evaluation tools (location specific)
- To improve and automate the evaluation process
- To measure, operate and plan the impacts of soil (sustainable use within planning processes)
- To tackle lack of stakeholder's awareness (during the planning process)
- To shift the decision making on to the level of regional or urban land use planning.
- To be able to use previous experience and expertise
- General assistance (data support...)

### ***Test Areas described by the partners***

Generally a very diverse nature with various properties, sources of pollution, land use and general site history. To summarise;

- Character of sites: urban, semi-urban, industrial, agricultural and semi-agricultural sites, with issues of various soil pollution, erosion, odour, and ground water pollution.
- Land use: From brownfields, allotments, vineyards, green and recreational areas, to revitalised contaminated sites, small gaps (pockets) between separate housing developments and housing areas.
- Main concerns: health and environmental risk, land evaluation (as a natural resource...) hence planning difficulties, altered soil characteristics (drainage, ecological functions...)

### ***Existing data and tools in use***

Layers currently available or/and in use:

- General soil map
- Land use,
- Soil properties (quality, texture and organic matter),
- Geology map,
- Ortho-photo map,
- Cadastre,
- Pollution (various),
- Anthropogenic deposits, waste sites,
- Topographic layers (various),
- Erosion (water),
- Digital evaluation models...

Formats (file standards) in use:

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Borut Vrščaj, Tomaž Vernik

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- ESRI (shape, grid, point...),
- ERDAS (Ortho-photo)
- Oracle,
- MS Excel
- and other (not specified)

Human resources:

- Generally small teams (Only Bratislava and UBA professional team)

Preferred SW:

- ESRI ArcGIS, ArcMAP
- ESRI Arc View 3.x

Preferred open source SW:

- Existing SW platform will be used
- Commercial GIS SW is preferred
- Open source SW was preferred only by two partners

Tool Expectations:

- An effective tool that will support existing type of data and give quality results

## ***Conclusions***

- In general very specific needs by each partner (test site, current practise...)
- Very diverse nature of test areas
- Various “in-house” SW solutions developed by partners
- Developed future tools will be evaluated and should allow flexibility to be redesigned according to the needs of the partner
- Commercial (existing) SW platforms are preferred
- Open source SW not widely appreciated
  
- Challenging task!



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This paper belongs to the following section of URBAN SMS work plan:  
WP4 Soil manager suite/4.1 Evaluation of existing tools/4.1.1 Review on past efforts

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## Contact details of project partner commissioning / responsible for this paper:

Mr Borut Vrščaj, AIS - Agricultural Institute of Slovenia - Centre for Soil and Environment Research, Hacquetova 17, SI-1001 Ljubljana, SLOVENIA, [Borut.Vrscaj@kis.si](mailto:borut.vrscaj@kis.si)

## Other URBAN SMS Partners contributing to this paper:

Petra Blümlein, City of Stuttgart, Department for Environmental Protection, DE

Isabel Wieshofer, City of Vienna, Environmental Protection, AT

Marco Parolin, City of Milan, Executive Plans and Programs for Buildings Department - Office for Reclamation, I

Elisa Oberto, University of Torino, Department of Valorization and Protection of Agroforestry Resources, Agricultural Chemistry, IT

Aleš Volf, City of Celje, SI

Grzegorz Siebielec, Institute of Soil Science and Plant Cultivation, Pulawy, PL

Jaroslava Sobocká, Soil Science and Conservation Research Institute, Bratislava, SK



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