

D.T.2.3.4 MONITORING PLAN FOR HBA POPRAD



PP2 MESTO POPRAD
PP7 SPECTRA

04.2018

INTRODUCTION

Within DT221 were defined an energy efficiency and urban heat islands as main topics for a monitoring process. These topics are most interesting for the energy efficient city that is one of the objective of local development strategy.

Expectations about the monitoring of selected topics includes:

1. Analysing of the heat map, identifying of heat islands and features causing overheating
2. Analysing of the energy efficiency of selected buildings and relation between exterior and interior heat conditions

These analyses will help to define common measures for urban renovation and to define priorities and effective methods for energy-ineffective public buildings.

The selection of appropriate measures must be based on a relevant monitoring and assessment in a selected area. The municipality selected two HBAs for this project: 1. Spišská Sobota and 2. Juh III neighbourhood.

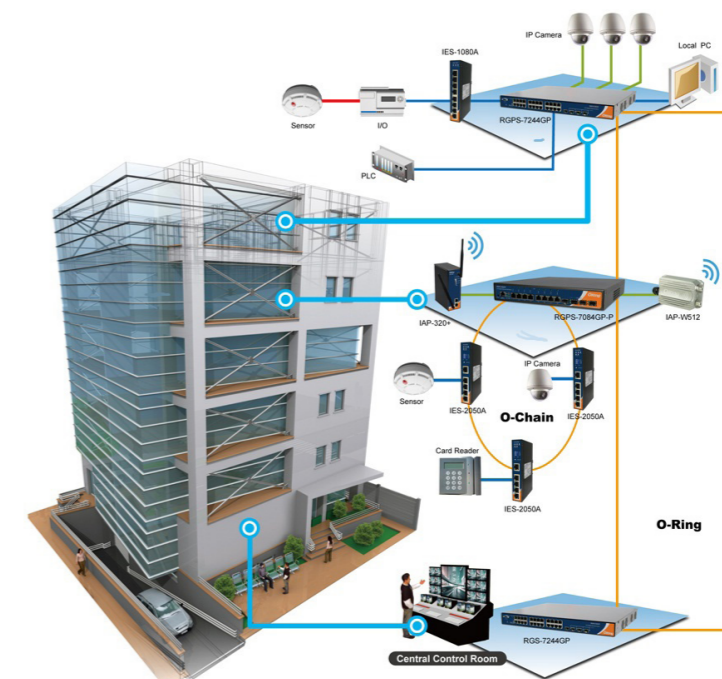
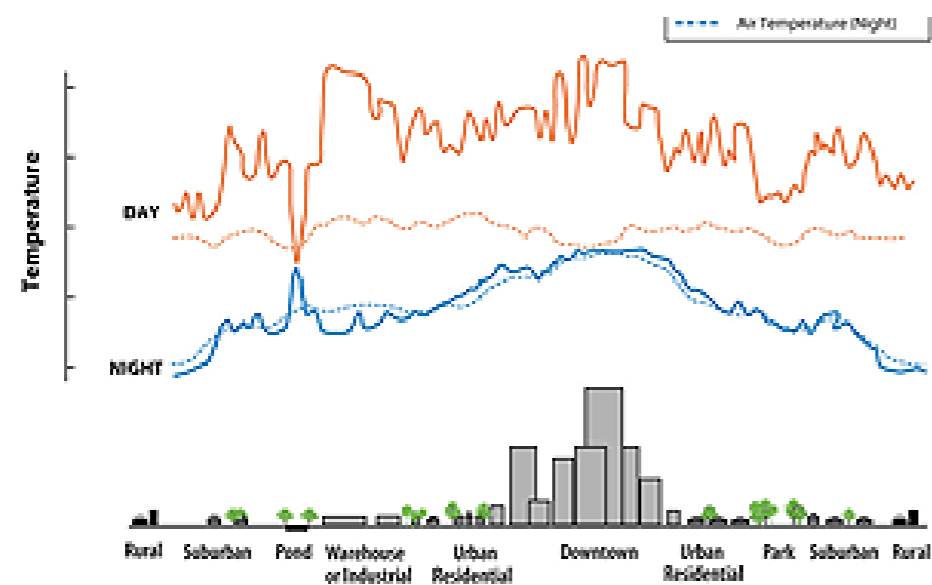
Area of interest	Purpose (partial aim of monitoring)	Dataset	Main indicator	Next indicators and variables	Source	Who will collect and process	When?	Output	Challenges
Basic data about use	These are basic data; from them it's possible to start monitoring	Existing Buildings	Current use	Geometry of objects, city property, legal protection, population?	Land-use plan / OSM/ cadastral map/ property list/ population register	External expert*/ Responsible municipal department	2018 (available at any time)	GIS databases	Different sources of information
Services and facilities	Description of the use of objects within land-use plan	Functional use	Proposed use		Land-use plan	External expert*	2018 (available at any time)	GIS databases	Smaller scale
Energy efficiency/ Maintenance costs	To obtain relevant data on energy efficiency in the area	Energy consumption	Total energy consumption per building block	Total energy consumption per inhabitant	Local energy company and population register	External expert*/ Responsible municipal department	2018 (available at any time)	GIS Databases	Necessary contextual processing
UHI	It is important to know the extent of the green for UHI mapping	Volume of greenery	Greenery index in block		Land-Use plan	External expert*	2018 (available at any time)	GIS Databases	Deviation from the real situation

* external expert in the field of GIS and spatial planning

Area of interest	Purpose (partial aim of monitoring)	Dataset	Main indicator	Next indicators and variables	How	Who will collect	Who will process	When?	Output	Challenges
Building condition data / Energy efficiency	Building materials have a significant impact on energy efficiency	Materials	Used materials		Survey - descriptive information	External expert - architect	External expert - GIS specialist / spatial planner	2018 (depends on public procurement)	GIS databases	Ability to identify and to know building materials
UHI	Heat map shows differenced temperature and UHI in the area	Heat map	Temperature		Thermovision measurements (remote sensing or ground survey) measurements (remote sensing or ground survey)	External service - remote sensing	External expert - GIS specialist / spatial planner	2018 (depends on public procurement)	Raster map	Detail and scale of the processing
UHI	Vegetation map shows the impact of vegetation on UHI	Vegetation map	Type of vegetation		Ground survey	External expert - landscape specialist	External expert - GIS specialist / spatial planner	2018 (depends on public procurement)	GIS databases	This information is not necessary

Next opportunities

Involvement of stakeholders via interactive forms for adding needed information (stakeholders are part of the target group of recommendations for building renovation).



DATA OWNER	DATA COLLECTOR	VALUE	PROBLEMS
(who has the data now)	(who should search for and collect the data)	(why to monitor those facts, which purpose and importance)	(main difficulties in collecting and using the data)

BUILT SPACES AND OBJECTS CONDITIONS

Several Building offices of the Municipality & private owners and technicians for "common" historic buildings National offices, big private owners and municipal officers for monumental buildings	Ideal solution would be a shared Data Base where every involved subject inserts its specific data. Then, 1 responsible person monitors the situation	These are basic data; from them it's possible to start specific monitoring activities	The data, if existing, are sprawled among different actors. The ICT solution to collect and process the data are often not interoperable.
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ENVIRONMENTAL FEATURES

Municipal Offices Energy Agency Energy/ Multiutility company Private/public owners or lodgers	According to the goal of monitoring.	Environmental behaviour of HBA is not to be treated as the one of a new built area, it needs specific competences and specific approaches, when environmental issues should be balanced with aesthetic and cultural-historic value.	Often, environmental data are really technical and related to single buildings; the challenge is to find a way to identify the right level of degree to involve this phenomena among the general monitoring on a HBA.
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SOCIAL COMPONENTS

Municipal offices (often not related to constructions or heritage) Private associations	The involvement of private subject could be the best way to collect data in a shared DB	The social dynamics should be integrated among the policies related to spaces and buildings, because pro-active participation of final users, possible financers and managers is the only effective way to ensure durability and effectiveness of the actions, especially on areas with cultural and identity's value like HBAs	Moreover, many data are not already available and would be to be ad hoc collected for this approach to the management.
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ECONOMIC ASPECTS

Municipal Offices Energy Agency Energy/ Multiutility company Private/public owners or lodgers	Municipal offices (only for public goods) National Bodies (for monumental public goods) Private owners Technicians.	The monitoring of maintenance and intervention's costs on HBA represents the base to plan priorities and urgencies and to identify the possible sources of financing processes.	The data are sprawled among different subjects and also not so easy to be interpreted in an effective, shared way
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