Info-package 2

City Information Platform

ICTs

Introduction

|	
The City Information Platform of Valladolid, Nottingham and Tepebaşı will be the systems in charge of collecting, tracking and processing the whole set of variables being monitored in each of the cities to fulfil the requirements of REMOURBAN implementation and monitoring plan, that will assess the effectiveness of the interventions carried out in the different ambits: energy buildings and districts, urban mobility and integrated infrastructures, by calculating a set of efficiency indicators based on these monitored variables, in line with the main concept of smart cities and enabling decision-making for further improvements and new interventions. The city platforms will collect these variables from local networks of sensors, data sources and IoT devices. Considering the value of this data, ICT platforms have been also built to analyse and present this information through charts, reports and other resources within a web interface. Finally, each of the city platforms will share their variables with the REMOURBAN global platform, that centralises and stores the whole set of variables from the three cities, acting, in turn, as data source for some core services developed to make the most of the information stored in this platform by offering specific value-added services to end users.	**Description**

City information platform	**Figure**

City Information Platform

ICTs
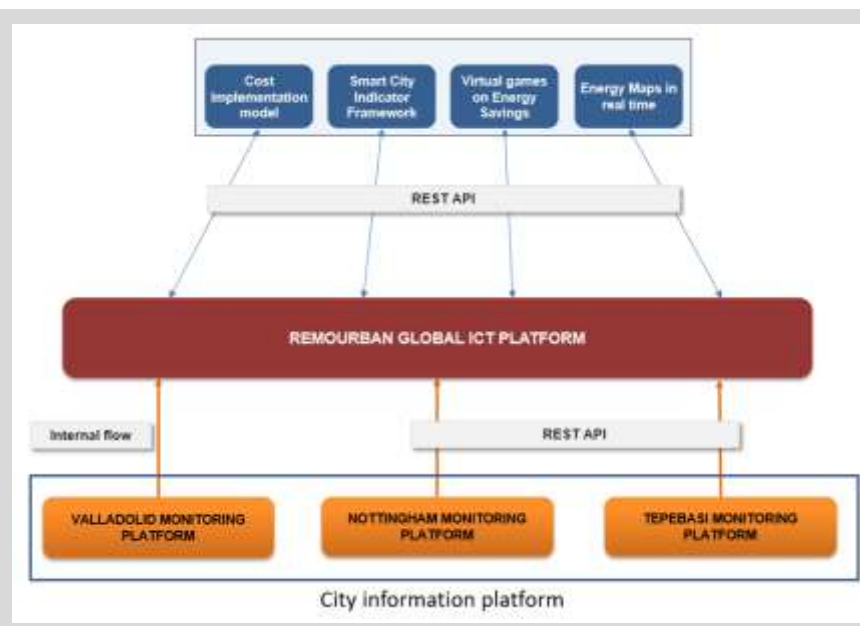
Goals

- A city information platform developed in REMOURBAN is considered an information management tool enabling the realisation of smart city. Therefore, the platforms must be developed with this key idea in mind.

- Gathering and analysing the different data coming from the city, specifically regarding energy, urban mobility and integrated infrastructures, local platforms are required to share data with the global platform, having this way a centralised storage system with the whole set of data of REMOURBAN project, continuously updated.

- Local and global information will be available to different actors involved in the project or external to it, to consult project's key information enabling knowledge sharing and decision-making among companies or municipalities interested in undertaking similar interventions in their cities to the ones carried out in REMOURBAN.

- Time series of variables tracked in the city platforms will be the basis to calculate efficiency indicators to assess the effectiveness of the interventions carried out in the cities within the ambits of energy, urban mobility and integrated infrastructures.

- Time series of variables tracked in the city platforms will make up the information repository within the global platform, and this information will be shared with four core services developed within REMOURBAN scope to provide end users (citizens, companies, municipalities…) with value-added services that will be fed with the data stored in the global platform (provided, in turn, by the city platforms).

- The platforms should facilitate citizen engagement when possible, by giving feedback about the energy use in their cities and inform and encourage them to change their behaviours for further energy savings.

Progress

Valladolid local platform is already developed, ready to keep track of the variables monitored locally and share them with the global platform.

Final testing on communication with the different local data sources to gather the time series of the monitored variables is currently in progress.

Nottingham local platform has been already developed. Upcoming work consists in testing the integration with the global platform through a REST API service to share data, locally monitored, with the global platform.

Tepebaşı platform is being developed as a cloud solution and bespoke development on this solution is being carried out currently to adapt it to REMOURBAN needs. In parallel, the communication interface with the global platform is also under ongoing development.

City Information Platform

ICTs

Lessons learnt

01	The key point during platform's design and deployment is to make sure that all measurements coming from different local IoT systems will reach the platform. In this sense, different resources for data gathering must be enabled (data files exchange, implementation of a set of protocols for direct connection with metering devices…).
02	Data stored in the platform must be sharable to make the most of it, so the development of a powerful communication API through some standard technology is essential. This is ensured by the Global ICT Platform that can exchange data through a standard REST API with other local platforms and also with external services in order to assure scalability, interoperability and replicability, which are core values of REMOURBAN project.
03	A city platform must be designed on the basis of interoperability, scalability and usage of standard technologies in order to enable different teams to develop independent systems while keeping the feasibility of integration of the different systems in a final global infrastructure, and scaling up whenever the smart city moves on to new solutions and services.
04	Data is the key value within city platforms. Selecting the right variables to be monitored and designing the proper set of indicators based on those variables will lead to the implementation of valuable analysis protocols that help to assess the effectiveness of a project.
05	Implementation of a smart city platform requires a lot of effort in planning and coordinating different teams from different disciplines, especially when there is customer development and integration is required. The delays in the field by these other teams will directly affect the implementation of the platform as it is the final part of the whole solution where data collected from the field will be sent to.

REMO URBAN

Produced for REMOURBAN by:

Murat Karabatur (Ölcsan), Evtim Peytchev (Nottiongham Trent University), Maria Luisa Mirantes (Xeridia)
murat.karabatur@olcsancad.com, evtim.peytchev@ntu.ac.uk, ml.mirantes@xeridia.com

www.remourban.eu