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## interoperable Smart City services through an Open Platform for urban Ecosystems

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### OVERVIEW

The large use of technology in everyday life, ranging from education to industrial applications, requires highly customized services that will help to improve the quality of people's lives. The society has become highly connected, and such connectivity is affecting our personal lives, access to information, communication paradigms and social relationships, professional capacity, business approaches, as well as social services and governing styles.

A new approach to technology and the benefits of its deployment in cities has opened path towards the smart cities. A city could be called *smart* if it fulfills four conditions: sustainable, connected, innovative and equitable. Sustainable means that the growth of the city is organized and natural resources and waste are well managed. Connected implies that the city promotes an efficient mobility and inter-modality, inhabitants are well connected through generalized access to Internet, the city is linked with other distant urban centers etc. Innovative cities promote a suitable environment for entrepreneurship, support the development of the private sector and use technology to improve the quality of life. Equitable means that the city promotes social cohesion among citizens, creating opportunities for all.



The rising role of smart cities is clearly transforming the way users discover, access and interact with data, and it is bringing to a brand new generation of commercial and

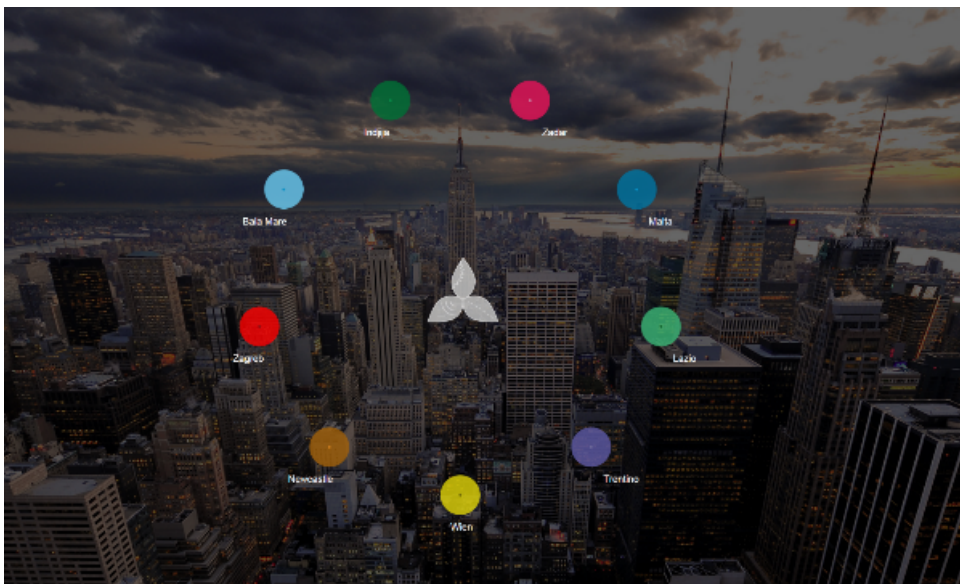
community services both for professional and personal use. Citizens in smart cities are considered as sources of data, but also as partners in making the city become smarter. They are the best sensors for collecting real and useful data that can improve decision making for city managers. Thus, in smart cities, citizens, companies and public bodies have to collaborate in real-time to support the operation of cities and optimize the use of resources.

The i-SCOPE project uses the potential of ICT and collected information in order to improve the decision-making on issues related to urban planning, policy design and city governance. The project delivers an open platform on the top of which it develops three smart city services that address improved inclusion and personal mobility of elder and diversely abled citizens, optimization of energy consumption, and environmental monitoring through a real-time environmental mapping service.

## PROJECT PROGRESS

During the last six months, the validation of all involved pilots has been performed. Suggestions from the pilot partners and various testers have been collected and the i-SCOPE platform has been improved. A new version has been released and the platform is multilingual now. It is still a beta version but provides major reliability and efficiency. Furthermore, the i-SCOPE routing app for Android has been released and made available (free of charge) to the public on [Google Play Store](#).

The i-SCOPE consortium has also been very active in disseminating the project results achieved so far and trying to involve a wide community of stakeholders. The partners have given a lot of presentations and published a number of articles in local, national and international magazines. The final i-SCOPE conference has been organized on 4 June 2015 in Rome, Italy and brought the project to a successful conclusion.



VISIT THE i-SCOPE WEB PLATFORM

WATCH THE i-SCOPE PLATFORM TUTORIAL

## KEY PAST EVENTS

### **CONVENTION: THE DIGITAL FOR THE GROWTH AND COMPETITIVENESS OF A TERRITORY**

The convention entitled "The digital for the growth and competitiveness of a territory" was organized by Informatica Trentina S.p.A. on 13 March 2015 in Trento, Italy. The aim of the convention was to promote the importance of digital and media civic, especially in support of democratic participation. The event gave special attention to the women in science and technology, to encourage them to enhance their skills and take an active role in digital society. GraphiTech took part in this event, giving a multimedia presentation on the theme of "The digital future of a territory: examples of innovative projects and services for the public administration, citizens and businesses" where the i-SCOPE project was presented.

### **ZAGREB SCIENCE FESTIVAL**

The i-SCOPE project was presented during the 13th Zagreb Science Festival, held from 20-25 April 2015 in Zagreb, Croatia. Special attention was given to the solar irradiation and noise mapping scenarios. The NoiseTube application was presented to the audience and they were invited to test it, collect the data and participate in the project.

### **i-SCOPE WORKSHOP IN INDJIJA**

The Municipality of Indjija and Evrogeomatika organized the i-SCOPE workshop on 28 April 2015 in Indjija, Serbia. The last version of the i-SCOPE solar service for the Indjija pilot was presented and the training was provided to the high school students, teachers and NGOs. At the end of the workshop, the participants were interviewed in order to collect feedback.



## ZAGREB ENERGY WEEK

The 6th Zagreb Energy Week was organized by the City Office for Energy, Environment and Sustainable Development from 11-16 May 2015. The i-SCOPE project was presented within the Seminar of the Croatian Chamber of Mechanical Engineers and Croatian Chamber of Electrical Engineers. The main focus of the Seminar was the introduction of new technologies in application of conventional and renewable energy sources.

The i-SCOPE promotional material was also available to the general public on the Main Square.



## TECHNICAL MEETING IN MUNICH

The i-SCOPE technical meeting was organized on 13 May 2015 at the M.O.S.S. premises in Taufkirchen near Munich, Germany. The overall project progress and the progress of each task were presented during the meeting. The focus was on the pilots' deployment and assessment, as well as on raising citizens' awareness about the project outcomes. Valuable feedbacks were collected, especially from the pilot partners, that will enable the improvement of the final system.



### **i-SCOPE WORKSHOP IN BELGRADE**

On 19 May 2015 the i-SCOPE workshop was hosted by the Institute of Architecture and Urban and Spatial Planning of Serbia (IAUS) within the framework of TR36035 project, funded by the Serbian Ministry of Science. Twenty researchers from the Institute of Architecture and Urban and Spatial Planning of Serbia, Faculty of Architecture and Faculty of civil engineering of the University of Belgrade participated and answered the questionnaire before and after the workshop. The aim of the workshop was to investigate the potential usability of the i-SCOPE services in research, urban and spatial planning and architecture.

### **i-SCOPE FINAL CONFERENCE IN ROME**

The i-SCOPE final conference was successfully organized on 4 June 2015 in Rome, Italy. Renowned researchers from Germany, Italy, Croatia and Greece provided their expertise on the aspects of developing integrated geographical information systems and crowdsourcing solutions, as well as innovative visualization tools. The i-SCOPE Smart City 3D open platform and three different i-SCOPE scenarios were presented during the conference. The comparison among European projects i-SCOPE and SUNSHINE, as well as energy saving results achieved within the SUNSHINE project, and development of the CityGML use in the energy field were also presented in the conference.

Participants enjoyed the exchange of ideas and expertise, and the conference brought the i-SCOPE project to a successful conclusion.



## **i-SCOPE INFO DAY IN INDJIJA**

The i-SCOPE Info day was organized on 18 June 2015 in Indjija, Serbia. During the official program a short overview of the project was given and the functionalities of i-SCOPE solar service for Indjija pilot were demonstrated, followed by presentations on the various aspects of application of the solutions held by experts in spatial and urban planning and architecture. In addition, the representative of the Ministry of Mining and Energy presented the current government policy and strategy towards solar energy, while the representative of solar industry presented the state of solar technology business in Serbia and the potential of the i-SCOPE solution to improve the sector. After the official program, there was an open discussion with various stakeholders.



## i-SCOPE PRESENTATIONS

The i-SCOPE consortium continuously disseminates the project idea and results on conferences, workshops and meetings. Here are listed some of the events where the i-SCOPE project was presented in the last six months:

- M.O.S.S. co-organized, participated and presented the results of the i-SCOPE project on different workshops since the beginning of the 2015, such as Saxon GIS Forum in Dresden in January 2015, GI-Runde in Munich in February 2015 and Workshop on Environmental Information Systems in Kassel in May 2015.
- On 20 February 2015 the i-SCOPE services were demonstrated to the representatives of the Republic Geodetic Authority, Serbian government agency responsible for official spatial data bases and cartographic products. The standardization of 3D UIM in Serbia was also discussed.
- The 3rd workshop with presentation and testing of the integrated system was organized on 24 April 2015 in Zadar, Croatia. The aim was to present improvements in the platform and to collect more feedback from various users.
- The paper on the theme of "*i-SCOPE: A CityGML Framework for Mobile Devices*" was presented at the MOBILESoft 2015 - 2nd ACM International Conference on Mobile Software Engineering and Systems (authors: B. Simoes, F. Prandi and R. De Amicis), held from 16-17 May 2015 in Florence, Italy.
- The paper on the theme of "*The role of technology and citizens' involvement in smart, inclusive and sustainable urban development*" was presented at the 7th International Scientific Conference "EU Future Perspectives: Innovation, Entrepreneurship and Economic Policy" (authors: R. Bukša Tezzele and R. De Amicis), held from 21-23 May 2015 in Pula, Croatia.

There was also published an article in specialized magazine "[Gradimo Zadar](#)" ("Building Zadar") where the web application for calculation of the roofs' solar energy potential was presented.

## UPCOMING EVENTS

### **i-SCOPE FINAL REVIEW MEETING**

The i-SCOPE final review meeting will be hosted by European Commission on 15 September 2015 in Brussels, Belgium. During the meeting will be presented the project achievements and socio-economic impact.

### **i-SCOPE AT EUROPEAN DATA FORUM 2015**

The paper entitled "*3D city data management, integration and exploitation - The i-SCOPE project experience*", written by GraphiTech, has been accepted for a poster presentation at the European Data Forum 2015 that will be held on 16-17 November 2015 in Luxembourg.

## THE CONSORTIUM





## i-SCOPE PROJECT

*interoperable Smart City services through an Open Platform for urban Ecosystems*

The project is supported by the CIP/ICT Policy Support Programme Pilot Type B of the EC

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