Notes from the urbanAPI project

Dear Reader

The project urbanAPI commenced on September 1, 2011 for a duration of three years. Its main goal is to develop tools for interactive analysis, simulation and visualisation for urban agile policy implementation.

I am delighted to announce that the project has successfully started in its third year and I take this opportunity to highlight the progress and results so far.

urbanAPI has already been presented at numerous conferences and events. Wherever we introduced the project, it found positive resonance. We hope that you will find it interesting as well. Enjoy reading and please do not hesitate to send us your feedback.

Dr. Joachim Rix
Co-ordinator of the urbanAPI Project

urbanAPI in brief

The 7th Framework Programme of the European Commission fosters ICT enabled governance transformation in Europe, funding projects contributing to this objective. urbanAPI - Interactive Analysis, Simulation and Visualisation Tools for Urban Agile Policy Implementation – is one of these projects. Led by Fraunhofer IGD (Germany) and supported by development partners UWE, Bristol (UK), AIT (Austria), GeoVille (Austria) and city partners Vienna (Austria), Bologna (Italy), Ruse (Bulgaria), and Vitoria-Gasteiz (Spain), it is investing €3 million in the development of ICT applications supporting the management of European cities.

urbanAPI provides ICT enabled solutions adapting governance models to deliver more effective decision making, supporting stakeholder engagement and citizen participation, in order to enhance sustainable urban policy development and delivery. The urbanAPI applications can be used for decision support, conflict management, analysis and visualisation and rely on innovative interaction platforms. They support policy makers, planners and stakeholders at different governance and spatial levels – urban quarter level, municipal level, and urban region level. urbanAPI web applications make use of state-of-the-art web technologies such as X3DOM to display 3D contents over the WebGL API.

urbanAPI adopts an agile development methodology with cyclic and multiple tasks running in parallel, developing a toolset that creates advanced ICT-based intelligence in three urban planning contexts:

- The **3D Scenario Creator** application directly addresses the issue of stakeholder engagement in the planning process through the development and provision of enhanced 3D virtual reality visualisations of neighbourhood development proposals.
- The **Mobility Explorer** provides mobile phone based ICT solutions that permit the analysis and visual representation of socio-economic activity across cities and in relation to the various land-use elements of the city.
- The **Urban Development Simulator** prototype provides ICT simulation tools for interactive city region development simulation addressing urban growth and densification as a result of planning interventions.

A major added value of the urbanAPI toolset is the ability for these smart applications to support transformational governance, facilitating the shift from a purely top-down planning approach, to one which is fully engaged with bottom-up initiatives supported by public intervention and stakeholder involvement.

Project news

Project status update

After the review meeting in December 2013 a three month extension of the urbanAPI project was agreed between the Commission and the urbanAPI consortium to complete all the work specified in the Description of Work (DoW). Based on the amendment, urbanAPI has focused on the second iteration round and improvements of all three tools and applications following the feedback from the users, including additional functionalities according to the requirements have been provided to the cities.

urbanAPI @ 50th ISOCARP Congress in Gdynia

urbanAPI partners (Fraunhofer IGD, AIT, UWE and AEW) presented urbanAPI solutions at the **50th ISOCARP (International Society of City and Regional Planners) Congress in Gdynia** 22-26 September 2014. The Congress offered a unique opportunity to showcase the full range of urbanAPI ICT enabled tools and methodologies to an international audience of 600 city and regional planners.

The Congress provided a special workshop session for urbanAPI at which Jens Dambruch, Jan Peters-Anders and David Ludlow demonstrated the various ways in which urbanAPI ICT enabled tools and methodologies support the development and delivery of urban policy for smart sustainable cities. In addition a dedicated urbanAPI promotion stand, supported by Maria Paola Mauri, offered live interactive demonstrations of the full range of urbanAPI products throughout the 4 day period of the congress.

Beyond this the 2014 Gdynia Congress, focused on the relationship between cities and water, offering the opportunity to explore different aspects of urban development, and the relationship between urban design, economic development, social and environmental sustainability, and governance. urbanAPI tools directly address The challenges arising from the effective management of this urban complexity are the prime target of urbanAPI tools and so the Congress provided the ideal testing ground for urbanAPI solutions.

ISOCARP as an international organisation of urban and regional planners, policy makers, and architects promoting city development also provides an ideal forum for the development of dialogue on smart city governance solutions with international leaders of city planning. Large delegations from China, Africa as well as Europe, together with other organisations represented, such as OGC (Open Geospatial Consortium) urban planning working group, offer the critical range of global urban planning expertise essential to the development of the generic smart city planning applications that are transforming city governance and management worldwide.

urbanAPI made many new friends with the ISOCARP community in Gdynia and is now looking to further develop these relations with the global community of smart city planners at the forthcoming ISOCARP Annual Congress in the Netherlands (2015) and South Africa (2016).

Urban Policy Model

Full exploitation of the smart tools and methodologies developed by urbanAPI is a fundamental project objective. Achieving this exploitation potential requires substantial understanding of the wider urban governance context in which urbanAPI tools and applications connect with urban governance processes, and how they contribute to the flow of intelligence necessary to support plan making and decision taking. Such understanding permits the further development of these tools and the identification of application commonalities in the urbanAPI partner cities, which can then be translated into generic applications applicable to a wide range of cities throughout Europe.

In support of the above urbanAPI partners are working to map out the procedures of plan making and decision making in relation to the various city agencies and actors involved in urban management in the project partner cities of Vienna, Bologna, Vitoria-Gasteiz and Ruse. From this analysis it is possible to discover what information is used and required, by which organisations/actors, for what purpose, at what time, and thereby identify the information and intelligence management relationship between these organisations/actors. In this way the project can elaborate the potentials for the development of common tools that can be usefully applied in a wide variety of city and member state contexts throughout Europe, and indeed globally.

Consortium Meeting

The most recent urbanAPI consortium meeting took place on the 18-19 September 2014 in Vienna, hosted by the City of Vienna. During the meeting the planning for progression of the project in the last two month was reviewed and the final meeting in Gdynia (ISOCARP World Congress 2014) prepared. Furthermore, further engagement, dissemination and exploitation of the urbanAPI knowledge and products after the project end were discussed.

Training and Evaluation

Final evaluations for all applications started in September 2014. E-Training and hands-on training sessions are organised for participating cities and evaluation results are being recorded using online evaluation portal. First of these remote training and evaluation sessions started with Vitoria-Gasteiz on 8th September 2014 followed by hands-on training and evaluation in Vienna on the 17 September 2014. The results are currently being analysed and will be documented in Deliverable D5.4 by end of October 2014.

Bologna and Ruse evaluation are expected in first week of October 2014.

Papers and scientific publications

The following papers and scientific publications were published or will be published in the upcoming month:

Peters-Anders, J.; Loibl, W.; Züger, J.; Khan, Z. & Ludlow, D. (2014), *Exploring population distribution and motion dynamics through mobile phone device data in selected cities – lessons learned from the UrbanAPI project*. In: realCORP 2014. Proceedings. *[published]*

Gebetsroither-Geringer, E. & Loibl, W. (2014*), Urban Development Simulator: An interactive decision support tool for urban planners enabling citizen's participation*. In: realCORP 2014. Proceedings. *[published]*

Krämer, M. & Stein, A. (2014), *Towards Automated Urban Management Processes: Integrating a Domain-Specific Graphical Editor into a 3D GIS*. In: realCORP 2014. Proceedings. *[published]*

Dambruch, J. & Krämer, M. (2014), *Leveraging public participation in urban planning with 3D web technology. In:* 14 Proceedings of the Nineteenth International ACM Conference on 3D Web Technologies, p. 117-124. *[published]*

Winkler, A. (2014), *Faire Mobilität für eine smarte City*. In: Perspektiven, Issue 03/04-2014 „Smart City Wien", p.63-70. *[published]*

Lemper, M.; Rix, J.; Dambruch, J.; Krämer, M.; Peters-Anders, J.; Loibl, W. & Gebetsroither, E. (2015), *urbanAPI - Towards more sustainable European cities*. In: GeoConnexion. *[submitted]*

Ruppert, T. et al. (2015), *Visual Decision Support for Policy Making - Advancing Policy Analysis with Visualization*. In: Janssen, M.; Wimmer, M. & Deljoo, A. (Eds.), Policy practice and digital science: Integrating complex systems, social simulation and public administration in policy research. [*in print]*

urbanAPI at conferences and events

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We cordially invite you to visit urbanAPI at the following conferences and thank all our visitors at past events for their valuable contact and feedback:

- **InterGEO** on 7-9 October 2014 in Berlin, Germany
  urbanAPI team presents the applications developed in the project at the INTERGEO 2014, the worldwide largest event and communication platform in the field of geodesy, spatial information and land management.
- **50th ISOCARP International Planning Congress** on 23-26 September 2014 in Gdynia, Poland
  urbanAPI was presented at the 50th ISOCARP International Planning Congress to generate discussion on integrated data and monitoring with participants from throughout the world.
- **REAL CORP** on 21-25 May 2014 in Vienna, Austria
  urbanAPI was presented during 20th International Conference on Urban Planning and Regional Development in the Information Society to support the development of a common understanding of system sciences in response to global challenges.

urbanAPI Consortium

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The project was initiated by nine partners from six European countries. The partners include representatives from four application cities, two urban planners and policy modellers, and three development groups. The project partners include:

- Fraunhofer Institute for Computer Graphics Research IGD, Darmstadt, Germany (Coordinator)
- University of the West of England, Bristol, United Kingdom
- Austrian Institute of Technology GmbH, Vienna, Austria
- GeoVille GmbH, Innsbruck, Austria
- AEW srl, Rome, Italy
- City of Bologna (COBO) – Environment Sector, Italy

- Agency for Sustainable Development and Eurointegration "Ecoregions" – ASDE, City of Ruse, Bulgaria
- City of Vienna, Municipal Department 18 – Urban Development and Urban Planning, Austria
- Environmental Studies Centre (CEA), City of Vitoria-Gasteiz, Spain

Learn more about urbanAPI by visiting our website **www.urbanAPI.eu**.

Contact & Imprint

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