

Smart Cities

The VI-th Edition of the Research Conference on Constructions, Economy of Constructions, Architecture, Urbanism and Territorial Development, 18th of October 2013

National Institute for Research and Development URBAN-INCERC, Bucharest, Romania

“Challenges for Romania within HORIZON 2020 – The EU Framework Program for Research and Innovation 2014-2020: Preparing European Partnering in Research and Technological Development for Sustainable Constructions and Built Environment”

The main purpose of the conference consisted in presenting current trends in urbanism, architecture, construction and related fields, in relation to the challenges set out by the HORIZON 2020 EU Strategy. The conference aimed to provide a highly professional discussion platform, by facilitating the dissemination of ideas and the most recent research results within the area. The event, which took place in the INCDC URBAN-INCERC headquarters in Bucharest, hosted around 160 participants representing research, education, professional associations, public administration and private sector institutions.



Photo of the Plenary session – INCDC URBAN-INCERC 18 Oct. 2013 – Sabina Dimitriu (Urbasofia) introducing the Smart Cities session

18 Oct. 2013 Smart Smart Cities

During the „Smart Cities” session, valuable input has been disseminated by [Ms. Sabina Dimitriu](#), general manager in Urbasofia (Bucharest, RO), [Mr. Fabrizio Napoleoni](#), Business and Technology Consultant (Roma, IT), [Ms. Iiunca Mărgineanu](#) and [Ms. Jianca Ștefan](#), on behalf of INCDC URBAN-INCERC (Bucharest, RO), [Mr. Michele Gubert](#), representing SOFCPower (Trento, IT), [Mr. Giuseppe Conti](#), CTO and EU projects manager for Trilogis (Rovereto, IT) and [Mr. Pietro Elisei](#), director of Urbasofia (Roma/Bucharest). Headcount for Smart Cities public dissemination: 45 – 50 interested professionals.

A series of presentations sequenced as follows, for leading towards the initiative of elaborating such a platform, in scope of which we further disseminate:

- [Fabrizio Napoleoni](#), [Sabina Dimitriu](#): *Smart City, heading somewhere or wandering in circles ?*





- [Alina Băileșteanu](#), [Ilinca Mărgineanu](#), [Jianca Șefan](#): *Cities of Tomorrow: Action Today - The six new URBACT thematic reports*
- [Michele Gubert](#): *Smart grids through micro-cogeneration with fuel cells*
- [Giuseppe Conti](#), [Nicola Giuliani](#): *Hybrid indoor / outdoor location for smarter cities: a forthcoming EU project*
- [Giuseppe Conti](#), [Nicola Giuliani](#): *GPU: a new smarter urban planning tool based on geospatial technologies*
- [Pietro Elisei](#), [Sabina Dimitriu](#): *Smart cities in the making: the importance of an overarching strategic urban agenda for Romanian cities*

Mr. Fabrizio Napoleoni pointed out the main transportation collapse as an urban challenge, together with higher energy demands for the continuous rise in demography, especially within the developing countries, while particularly for Romanian Smart Strategies, the stringent issues regarding Water Treatment. Main on the agenda, ICT could act as disruptive enabler for smart cities, throughout the insertion of the ubiquitous systems' trilogy of everywhere: any device, anytime, anywhere. **(Smartest) practices** so far, exemplified by Ms. Sabina Dimitriu, include [Santander](#) (ESP), [Amsterdam](#) (NL), [Vienna](#) (A) and [San Francisco](#) (USA). Conclusion of the first part of Smart Cities presentation point out the need for **policy framework for consistent long term deliverables**.



Photo of the Smart Cities session – INCD URBAN-INCERC 18 Oct. 2013 – Sabina Dimitriu (Urbasofia) on the premises of what constitutes a Smart City

Following, the **URBACT**¹ team – Ms. [Ilinca Mărgineanu](#) and Ms. [Jianca Șefan](#) – presented the outputs of the programme implemented so far in Romania²: Alba Iulia (City Logo) » Metropolitan Governance; Iași (RE-Block) » Disadvantaged Neighbourhoods; Baia Mare (USE ACT) » Urban Renewal; Baia Sprie (4D Cities) » Innovation & Creativity; Suceava (Urban Markets) » Urban Renewal; Vaslui (Sustainable Food in Urban Communities) » Low Carbon Emissions. They also shed light upon URBACT being promoted in Romania on another platform, called the European Urban Knowledge Network (www.eukn.ro/Romania), whilst the URBACT NDP (National Dissemination Point) in Romania is INCD URBAN-INCERC.

¹ **URBACT** = 500 cities, 29 countries, 7000 active participants; ERDF & EU27 exchange programme (learning & sharing); <http://urbact.eu/>

² <http://www.incd.ro/urbact/parteneri-urbact-din-romania>



Photo of the Smart Cities session – INCD URBAN-INCERC 18 Oct. 2013 – Ilinca Mărgineanu and Jianca Șefan (INCD) preparing to present “*Cities of Tomorrow: Action Today - The six new URBACT thematic reports*”

With respect to **energy efficiency** in the smart cities’ movement, **Mr. Michele Gubert** emphasised the benefits of **cogeneration** with a high **efficiency of 80-90%** compared to the classical model of centralised generation (only 35%) which bears losses starting from the power station and also throughout the transmission stages.



Photos of the Smart Cities session – INCD URBAN-INCERC 18 Oct. 2013 – Michele Gubert (SOFCPower) explaining the **SolidOxideFuelCells** concept

Discussions rounded up on the actual relevance / purpose of what does seem another ‘reinventing the wheel’ concept, based on the similarities ‘smart’ and ‘sustainable’ / ‘efficient’ / ‘innovative’ strategies share in between, establishing the fact that current needs just have to focus on **reassessing all available means** in order to **create functional synergies**. This can be done pro-actively by **steering the progress** in support to sustainable initiatives, fed by a more accurate perception of human environments / surrounding reality(ies). Following this, **Mr. Mircea Enache, EMI Systems** (Maryland, USA) invited interested professionals to send out contributions due to be published in January 2014 by the Centre for Excellence in Planning (USA, Maryland).





Mr. Giuseppe Conti presented the concept of **Paperless Urban Planning** based on **geospatial technologies** targeting **Workflow Management**, while getting the civil society involved as **co-designer**. Afterwards, he introduced the **i-locate³ project** involving integrated indoor/outdoor location, tracking & management of assets (human, material) based on open **GI** as key drivers for innovation & business activities in several value added scenarios, such as: hospitals, museums, research centers / laboratories, transportation hubs.

Rounding up, Ms. Sabina Dimitriu and Mr. Pietro Elisei introduced the importance of an overarching strategic urban agenda for Romanian cities, for which emphasis was put on developing SMART(Iy) the smart cities (platform): without strategy, everything would result in a financial burden rather than a solution; clear reference was made towards retrofitting infrastructures.

A few **Romanian isolated initiatives** were presented as actively involved in an EU smart cities platform⁴, starting with Timișoara, which focuses on a **smart transport** approach (**adaptive control system for traffic management, video surveillance⁵, intermodal public transport stations, integrated urban transport development⁶**), followed by Sibiu, which is aspiring for Smart City pilot in Romania by aiming at implementing the **smart grid concept** (an integrated energy system optimized both in terms of energy efficiency and the reduction of carbon dioxide emissions)⁷, and lastly, Craiova. Next to these, Brașov⁸ is currently **piloting new telemetry system** for public lighting (saving up to 35% during nighttime) and Bucharest has been elected to receive the **IBM Smarter City Challenge grant⁹**, focusing on developing an **Integrated Operations Center** and **business analytics**.

'Smart' during the next programming period (2014-2020) appeals for a comprehensive investment strategy, access towards national funds and EU financial instruments (HORIZON 2020, COSME, CF, CEF, ERDF, ESF), especially the **Integrated Territorial Investments (ITI)**, which bundle funds from multiple priority axes of operational programmes for multi-dimensional and cross-sectoral interventions.

Few initiatives worth mentioning:

- **SUNSHINE (Smart Urban Services for Higher eEnergy Efficiency)¹⁰** delivers innovative digital services for automatic large-scale assessment of building energy behavior, optimize energy consumption of heating/cooling systems and interoperable control of public illumination systems, targeting to develop a smart service platform accessible from both a web-based client and an App for smartphones and tablets, while its technology will be piloted in 9 city sites for 12 months, aiming at the reduction of energy consumption and emissions by 10-30%.
- **i-SCOPE (Interoperable Smart City Services through an Open Platform for Urban Ecosystems)¹¹** focuses on personal mobility of disabled people, energy

³ Indoor/outdoor **LOC**ation and **A**sset management **T**hrough open **gE**odata

⁴ <http://www.smart-cities.eu/>

⁵ Official information on starting the Project, hyperlink: http://www.primariatm.ro/epress.php?epress_id=8288

⁶ Official information on starting the Project, hyperlink: http://www.primariatm.ro/epress.php?epress_id=8298

⁷ Muntean, Dana (2012), „Energy Efficiency – Sibiu aims at the status of a Smart City”, article published in Mesagerul de Sibiu, hyperlink: <http://www.mesageruldesibiu.ro/politica-administratie/8046-eficienta-energetica--sibiul-face-demersuri-pentru-obtinerea-statutului-de-smart-city>

⁸ Popescu, Adrian (2010), „Brașovul vrea să devină „smart city”. A introdus un sistem de telegestiune a iluminatului”, article published in Gândul online, hyperlink: <http://www.gandul.info/stiri/brasovul-vrea-sa-devina-smart-city-a-introdus-un-sistem-de-telegestiune-a-iluminatului-7458397>

⁹ https://smartercitieschallenge.org/city_bucharest_romania.html

¹⁰ <http://www.sunshineproject.eu/>

¹¹ <http://www.iscopeproject.net/iscopeNew/index.php/about/abstract>



dispersion and solar energy potential assessment, noise mapping and simulation, being piloted in 8 cities and developed as an end product within the consortium ready for wider deployment.

- **STATUS (Strategic Territorial Agendas for „Small and Middle-sized Towns” Urban Systems)**¹² touches upon both a co-designed Strategic Agenda and a smart platform. The project is tackling the problem of incoherent urban and regional development in South Eastern European and neighboring countries by jointly developing an approach that can help cities and regions in making integrated and sustainable urban agendas and place based strategies by participatory planning tools, while, at the same time, follows upon cross-cutting constructive interferences among partner cities’ planning processes, facilitating the design of effective and efficient urban tools, by creating the SEE Web Platform as an online smart toolkit of practices, solutions and services targeting the European urban settlements.

Conclusions of the second part of Smart Cities presentation mainly referred to the social component. Smart implies **Joint Capitalization** (“piggy-banking” concept), means not just a(nother) prêt-a-portrait concept, and triggers a **multifaceted** approach (“**quick & dirty**” ideas / solutions). Drawbacks in Romania so far relate to **fragmented territorial intelligence** and the need for a **certain critical mass** willing to get involved. The main proposals were:

- A Strategy for Smart Strategy: thinking (smart) for/on long-term developments, yet focusing on short-term impacts / results to keep governments interested
- A Smart National Strategy for Cities in Romania needs focus on **assessment & recalibration of the regulatory framework** for future effective development of solutions, a clear roadmap and **tools** for promoting intelligence & innovation aiming – above all – at **effective procurement procedures**, steering away from barriers
- Smart Strategic Agendas, co-designed by citizens whilst raising self-awareness, in order to sort out the still-fuzzy demands for smart services



Photo of the Smart Cities session – INCD URBAN-INCERC 18 Oct. 2013 – “The Smart Approach (II): expensive investments in creating, retrofitting infrastructure, digital agenda; without strategy: financial burden rather than solution; SMART smart cities: supported through an ecosystem of participation; upgraded to attractive, affordable, livable spaces; well-led – increased administrative capacity and vision”

¹² <http://seecityplatform.net/>





Photo of the Smart Cities session – INCD URBAN-INCERC 18 Oct. 2013 – Pietro Elisei (Urbasofia) emphasising the need for a National Framework for Smart Cities in Romania and the first steps in order to achieve clear objectives on a first basis

19 Oct. 2013 **Smart National Strategy** for Smart Cities in Romania

Following the Conference held on the 18th of October, Urbasofia hosted a workshop at its headquarters in Smârdan Street No. 9 in the Old City of Bucharest, to further discuss on the topic of Smart Initiatives in Romania, and in the scope of creating a framework for the development of a National Platform. We gladly benefitted from valuable input from the participation of **IND SOFT** (Sibiu, RO) represented by **Mr. Cătălin Popa** and **Ms. Ramona Fălămaș**, **Mr. Teodor Leopa**, Urban Planner (Bucharest, RO), **Mr. Claudiu Pătruțoiu**, Urban Planner (Constanța, RO), **Trilogis** (Rovereto, IT) represented by **Mr. Nicola Giuliani** and **Mr. Giuseppe Conti**, **Mr. Michele Gubert** on behalf of **SOFCPower** (Trento, IT) and **Mr. Fabrizio Napoleoni**, Business and Technology Consultant (Roma, IT), together with the Urbasofia Team: **Mr. Pietro Elisei**, Director (Roma / Bucharest), **Ms. Sabina Dimitriu**, General Manager (Bucharest, RO), **Ms. Wendy Laura Cînța**, Communication & Projects Design (Bucharest, RO) and **Ms. Ana Toma**, Assistant General Manager (Bucharest, RO).

The workshop brainstormed on shifting the education process of the population towards changing its perception upon the use of technology by proposing smart solutions for urban spaces; targeting standardized method(s) applicable on a range of urban settlements / zoning; city grid approach on infrastructure, energy and water; integrated concept merging multiple specific solutions (energy, transport, etc.) based on optimized management; and rural identities targeted through 'smart cities => smarter villages' concept, as branch direction which might be followed.

At the end of the day, several conclusions have been agreed upon by the participants:

- The need for a Smart City platform in Romania is clear, and the first steps will be jointly undertaken in the near future in order to create such a platform;
- The platform's main purpose will be to bring together researchers, city administrations and private companies developing smart solutions;
- The first ("core") group of the platform is currently being shaped, and all interested parties able and willing to contribute are invited to do so.

We therefore wish to extend the participants in the Smart City event on the 18th of October – experts and town planning practitioners, representatives of enterprises, civil servants and city managers – a warm invitation to become part of what will soon become the platform for Romanian Smart Cities.



Photo of the Smart Cities session – INCD URBAN-INCERC 18 Oct. 2013 – from left to right: Nicola Giuliani and Giuseppe Conti (Trilogis), Dorin Pașca (Mayor of Baia Sprie), Iulian Furnea (FIDA Solutions), Sabina Dimitriu (Urbasofia) and Sorin Pop (FIDA Solutions) after the successful dissemination on Smart Cities in Romania

key-words: urban competitiveness; Innovation City, open data initiatives, co-design / co-housing; policy framework; consistent long term deliverables; Paperless Urban Planning; smart grids; recalibration of regulatory framework; smart toolkit; Integrated Territorial Investments; effective procurement procedures; Joint Capitalization; multifaceted approach; short-term focus; standardized methods; customization / retrofitting processes;

