

# CITI-SENSE

Development of sensor-based Citizens' Observatory Community  
for improving quality of life in cities

**Newsletter N° 3**



**August 2013**

Dear CITI-SENSErs!

Every one of us goes through our daily routines, sensing the environment around us, and responding to it. Our responses depend on our awareness of our surroundings and of their complexity, and on our equally complex needs. CITI-SENSE has inspired us to relate to our natural environment, to “sense” for us some of its properties in our nearest surroundings, in a systematic and scientifically defensible way. This knowledge should help us to make the environment good for all. How far have we travelled in the first 10 months of the project – are we on the right path?

Since the start of the project, there was an encouraging amount of activity. Meetings and e-meetings, discussions bilaterally and multilaterally, contacts with potential users and team reflections have helped us to come up with one prototype and a detailed plan of action for pilot testing for all use cases (later in this newsletter, see a graph of project phases).

What do we wish to achieve through the pilot? As each location has different needs, there is a variety of things to design, build and test. In the pilot, we will be able to verify the suggested solutions: own data collection using sensors, the functioning of data repositories and data harvesting from other sources, new information products as well as the public involvement angle of each use case. The pilots will be assessed to help us in defining the best way forward, and to share experiences across the different location teams. In this way, our final implementation has a better chance to go smoothly, bringing both scientific value and benefit for the users.

Our first prototype of a sensing device for indoor environment has been presented at the Green Week Conference in Brussels (04-07 June 2013). It comprises three elements: own physical indoor monitoring, crowd-sourcing of perceptions of indoor quality, and harvesting related official data. This information is then provided in near real time through a web portal - we can now display the indoor and outdoor physical and chemical parameters and view them together with the occupants perception of environmental quality, all soon be made public and not only for the Green Week participants' benefit.

Alena Bartonova, *Project Coordinator*

## CivicFlow – Civic engagement for environmental mobile sensing (*Andrei Tamilin & Daniele Miorandi, U-Hopper*)

The CivicFlow platform ([www.civicflow.com](http://www.civicflow.com)) developed by U-Hopper, will be used as an engagement platform within the project. Citizens will perform various sensing tasks on their surroundings and make this information available via widgets or mobile web applications to the CivicFlow platform.

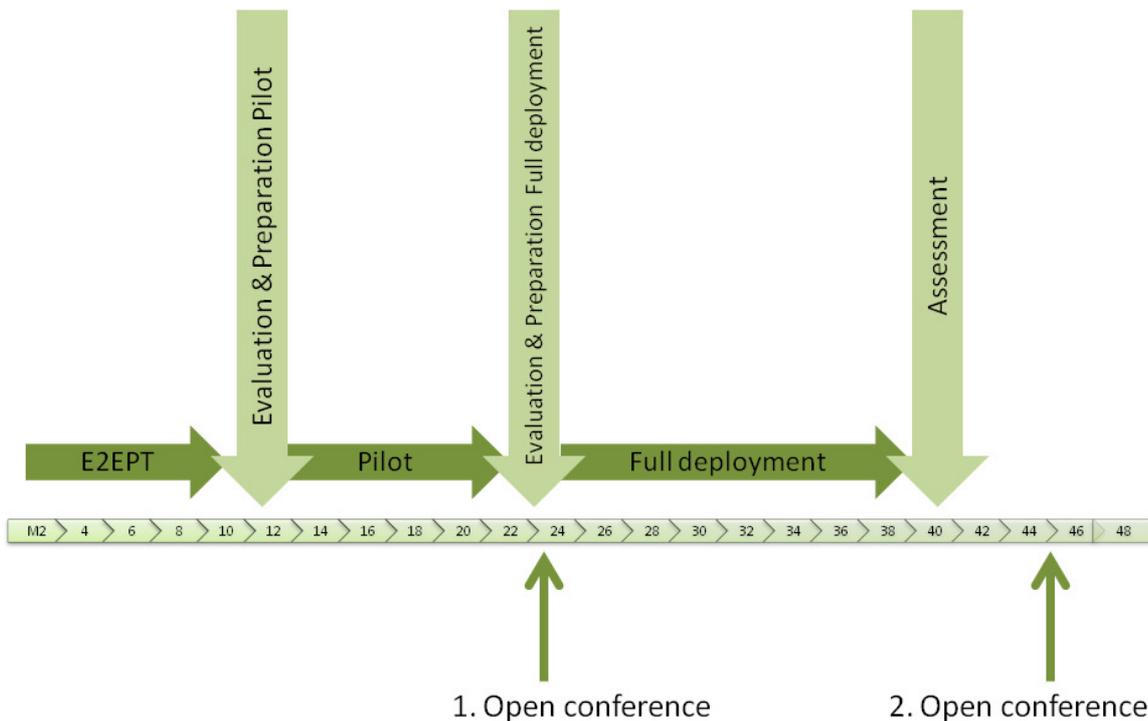
During the Green Week, a CITI-SENSE demo allowed Green Week participants to provide their perception about room temperature, air quality and noise. The demo was extremely well received, with 68 attendees who accessed the CITI-SENSE questionnaire by scanning a QR code with their smartphone.

The collected information may be used by building managers to optimize the heating/air conditioning/ventilation systems. The respondents, many of them never considering indoor environment as something they may influence, became aware of the indoor characteristics and how they relate to their well being.

The demo proved a useful experience also for the CITI-SENSE consortium. In particular, it provided a better understanding of how citizens of different age groups perceive the usage of innovative technologies for collective sensing. The U-Hopper team received feedback useful for validation of the underpinning CivicFlow platform.



QR code scanning for opening mobile questionnaire on the smartphone



Timeline for the different project phases within CITI-SENSE

## Showcasing indoor at the Green Week Conference 2013 in Brussels (Dejan Drajić, DNET)

Dejan Drajić of DunavNET joined Britt Ann Kaastad (NAAF), William Lahoz and Alena Bartonova (NILU) at the Green Week Conference 2013, showing off the prototype indoor environment instrument. William presented the project to the public, Britt Ann shared the latest news within indoor and outdoor environment monitoring and Alena recruited visitors of the Green Week to participate in the CITI-SENSE mobile survey on indoor environment. Dejan, the technical expert who knows everything about the prototype device and communication, had a great time talking to the press, and got also to shake hands with the Commissioner for Environment. Here is his account of the event:

In Belgrade, DunavNET has built the first working CITI-SENSE prototype for monitoring the indoor environment. Because of that, I was asked to participate in the exhibition, and to demonstrate the EB700 prototype device. It allows real

time monitoring of environmental parameters using GPS/GPRS technology. I have displayed the equipment and discussed its opportunities and the real time results of measurements and monitoring of local environment parameters with all the stand visitors. The web application for visualization of the results of real time measurements was running on the monitor, and the visitors were able to see, understand and discuss both hardware and software capabilities of the system.



*CITI-SENSE Co-ordinator engaged in conversation with Mr. Janez Potocnik*



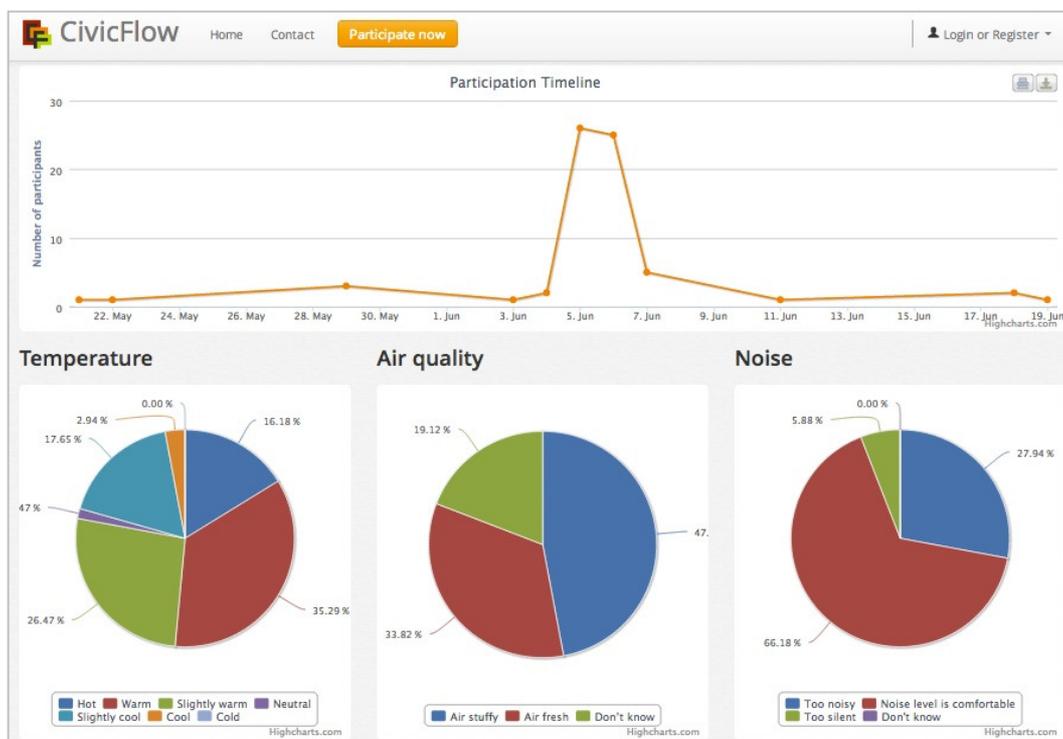
*Dejan Drajić of DunavNET presenting CITI-SENSE to the media*

The exhibition attracted a huge number of participants from government, business and industry, non-governmental organizations, academia and the media. This provided us with an excellent opportunity for debate and exchanges of experience and best practice. Discussions with researchers and representatives from different areas gave us a unique chance to spread our knowledge and to get a broader picture of how does our part fit in the complex and important area of environmental monitoring.

Many journalists and TV reporters attend the exhibition and made interviews. It was a pleasure to present CITI-SENSE and our preliminary results to TV companies from Serbia and China, and to

journalists from Belgium! I am looking forward to more exhibitions like this on: they would give us more opportunities to enrich our society.

On the third day of the exhibition, Mr. Janez Potocnik, European Commissioner for Environment visited exhibition stands, and discussed the exhibits and proposed solutions. It was a great pleasure to meet him and present our work and ideas. This event has been a strong motivator for me since it has shown that our work is valuable, recognizable and applicable in real life.



Aggregated Green Week questionnaire results

## Upcoming events

Activity/event	Where	When
Bridging South, North, East and West - Conference of ISEE, ISES and ISIAQ	Basel, Switzerland	19-23/08/2013
CFP:RGS-IBG Annual International Conference	London, UK	28-30/08/2013
8th Summer School on Applications of IoT and Wireless Sensor Networks	Palić, Serbia	2-6/09/2013
ENVIROINFO 2013	Hamburg, Germany	2-4/9/2013
AAAR Special Symposium "Portable and Inexpensive Sensor Technology for Air Quality Monitoring: The Future is Now"	Portland, OR, USA	30/09-04/10/2013
WeBIOPATR IV conference	Belgrade, Serbia	2-4/10/2013

### Contacts

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