

CITI-SENSE

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

Newsletter Nº 7



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It's all about people (Alena Bartonova & Sonja Grossberndt, NILU)

Last month, CITI-SENSE completed its second year. The first half is behind us and after the summer break we are now back on track for the second half of the project. Much is ahead of us. So far, our focus was mainly on the technological part – i.e., testing the sensor platforms and developing (mobile) applications.

BUT the main aim of CITI-SENSE is after all to empower citizens to actively use the technologies to make changes within their own lifestyle, to engage with local authorities and to learn from each other. Thus, we now shift our focus towards the people side of the project and start looking in depth into how to engage with citizens.

CITI-SENSE is also about learning. Engaging with citizens is a process where we will learn from citizens, and together with them share and develop knowledge in order to reach our objectives. In addition, we will also learn from each other within the project consortium. So at the end of the project, we expect our pool of skills and knowledge to have increased significantly.

This newsletter issue gives you a glimpse of what that means in practice. Several locations have started to engage with people and share information and knowledge about CITI-SENSE. They started engaging with schoolchildren and interested individuals; you will read about some examples from Slovenia and Norway. Additionally, we use the preparation time to equip the project team internally and learn from each other, as another article describes.

We are looking forward to start engaging with people!

Nature day for the youngest stakeholders in Ljubljana



An outdoor event, *Nature day*, for 6-7 years old primary school children was organized in Ljubljana, Slovenia at the end of the school year. Some 50 children have been made aware of air quality issues through various activities. We used sensors to teach them about air pollution by for example testing how car exhaust actually pollutes the surrounding air. To point out the conditions in a class room, we demonstrated also how high density of people in a small closed environment affects the amount of measured CO₂.

Based on the demonstration with air quality sensors we emphasized the importance of outdoors exercise and the connection between air quality and plants to clear the air. The children also learned about researchers' field work by hands-on examples outdoors.

Before we started the *Nature day*, we asked the children some questions to find out about their knowledge regarding air pollution. At the end of the excursion, we gave them some more questions as homework. We hope the *Nature day* helped to make a positive influence on these children's lives!

Science fair in Oslo

In autumn, many European research institutes participate in activities around the Researchers' Night, initiated by the European Commission to engage citizens in science. In Oslo, a Science Fair in the city center has been organized in addition. NILU has used this occasion amongst others to promote CITI-SENSE amongst interested citizens. Through these activities, many school children and families have been brought into contact with the idea of using citizens to monitor urban environments. Static and mobile sensors could be explored and through applications for internet and smartphones their measuring data could be made visible. We even found a volunteer to carry a mobile sensor during the Oslo marathon and also the national broadcast was using this occasion to collect material for a documentary that will inform about CITI-SENSE.



Barcelona Workshops

After the finalization of the project phase, the project will soon enter the full implementation phase. The preparations are running at full speed. CITI-SENSE is a learning project, i.e. we are learning from the citizens, local authorities and other stakeholders, but also from each other. Thus, we had organized two internal training workshops at the premises of CREAL in Barcelona where we were learning from each other about urban air quality modelling and empowerment.

A group of nearly 20 CITI-SENSE participants met from 8-10 September for the first workshop to discuss opportunities and challenges related to modelling urban air quality within the context of the CITI-SENSE project. The participants presented background information about the two main modelling approaches for urban air quality (land-use regression modelling, LUR, and dispersion modelling) and introduced a data fusion approach for combining model output with CITI-SENSE observations.

Subsequently, the LUR approach has been discussed in detail and a summary of previous experiences has been provided. The theoretical approach has been complemented by a practical exercise demonstrating how a Geographical Information System (GIS) can be used for preparing the input data for LUR, and how the R statistical programming language can be used to select the optimally fitting model. Several in-depth presentations and discussions on data fusion techniques and the benefit of data assimilation for the CITI-SENSE full deployment followed. Discussions about the use and number of sensors in the full deployment phase completed the workshop.



In addition, a second group of CITI-SENSE participants gathered from 25-26 September to discuss the plans of WP5 (Participation and empowerment) for the full implementation in more detail. Since the project is focused on both, technologies AND people, we have to prepare the citizens' involvement very thoroughly. Thus, we took the time to discuss what has been happening in the individual locations so far and what challenges arose to be considered in planning the next steps in the capacity building process. Another topic of discussion was communication – both

internally within the project and with stakeholders outside of CITI-SENSE. Last but not least issues around empowerment data and perception monitoring have been taken up. This workshop showed the need for good communication between the individual initiatives and WP5. Subsequently, another workshop is under preparation where WP5 will meet with the Location Officers responsible for the case studies in each location to discuss their engagement strategies in more detail. This meeting will take place at the end of this year to equip the Location Officers for the full implementation.



→ **Save the date: Open Conference about Citizens' Observatories on 04.12.2014 at Brussels**

We invite you to participate in the Open Conference "Citizens' Observatories: Empowering European Society". CITI-SENSE is one of the five Citizens' Observatories projects that are organizing this event together with the European Commission. It will take place on 04.12.2014 in Brussels. This event will look at the opportunities of citizen science and the citizens' contribution to policy making. It will be a platform for experts and policy makers to get into contact with each other and discuss new ways of citizen engagement. Further information about the conference and registration can be obtained here: <http://ec.europa.eu/eusurvey/runner/CitObsEES2014>.

Upcoming events

Activity/event	Where?	When?
World Sustainable building Conference	Barcelona (Spain)	28-30.10.2014
GEO XI	Geneva (Switzerland)	13-14.11.2014
Smart City Expo World Congress	Barcelona (Spain)	18-20.11.2014
European Public Health Conference	Glasgow, Scotland (UK)	19-22.11.2014
Citizens' Observatories - Second Technical Workshop	Brussels (Belgium)	03.12.2014
Citizens' Observatories: Empowering European Society - Open Conference	Brussels (Belgium)	04.12.2014
2015 AAAS Meeting	San Jose, CA (USA)	13.-17.02.2015

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