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Internal training plan

Work Package 9

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| Leading Beneficiary: | NILU |
| Editor(s): | Alena Bartonova (NILU), Hai-Ying Liu (NILU), Mike Kobernus (NILU) |
| Author(s) (alphabetically): | Sonja Grossberndt (NILU) |
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Executive Summary

The complexity of interdisciplinary topics dealt with in CITI-SENSE requires a number of training sessions for the CITI-SENSE consortium. Internal training is done through sessions at face-to-face meetings as well as through other means. The plan will be updated annually, in relation to annual meetings. The following topics have been defined for internal training for the duration of the project

- Participatory Methods and use of WP5 tools
- Evaluation of project activities and outcomes
- (Risk) Communication
- Use of Social Media
- Privacy issues and data security
- Confluence as a tool for internal communication
- Use of sensors and sensor platforms
- Use of Citizens' Observatories web portal
- Modelling of air quality
- Evaluation of sensor performance and data correction
- Land use regression models to assess spatial and temporal variation of outdoor air pollution and noise
- Exploitation of project results

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1 Introduction

Internal Training of the project consortium is a necessary tool to improve the quality of the work and reach the aims that have been expressed in the Description of Work (DoW). The internal training activities planned for the course of the project are described in this document, indicating partner in charge, mode of presentation and a short description of the training activity.

The Training activities described here give an indication, but are still flexible in mode and time of performance and may be adjusted according to the specific situation of the project.

2 Plan for Internal Training

The following different topics will be taken up during the course of the project to instruct and equip the consortium partners with necessary knowledge to fulfil their tasks. Internal expertise will be used in this context.

2.1 Participatory Methods and use of WP5 tools

Leading partner: EV INBO (WP5)

Mode: GoToMeeting and/or face-to-face meetings, both between the WP5 contact person and each location officer, and within the whole EI group (enhance social learning).

Time: if possible before the beginning of the pilot study, latest before the start of the implementation phase

Description: Citizen and stakeholder engagement is a crucial element within the CITI-SENSE project. Tools developed in WP5 (mainly a set of questionnaires) will be demonstrated in order to equip location officers and other participants that are involved in participating activities to engage with stakeholders and to motivate them to participate in the project. Other issues relevant to the participatory approach will also be dealt with, such as how to collaborate with participants in a participatory manner, decision making within the EI, decision support, joint interpretation of research results, ethical issues related to citizen science. This might involve some role-plays.

2.2 Evaluation of project activities and outcomes

Leading partner(s): CREAL/NAAF, NILU and EV INBO (WP2/3, 4 and 5)

Mode: Face-to-face meeting

Time: during the pilot phase

Description: Evaluation of activities and outcomes is another important part of the project. This training will inform about different evaluation criteria and tools, not only for evaluating the operation of the sensors and mobile applications, but especially with respect to participation and empowerment of citizens and other stakeholders

2.3 (Risk) Communication

Leading partner: PVDH, INBO, NILU (WP5)

Mode: Information material, workshop at a face-to-face meeting, private communication

Time: during the pilot phase, latest at the beginning of the implementation phase

Description: Communicating results from the measuring campaigns is not easy. Results should be communicated openly, but without crying “wolf”. Citizens need to be empowered to interpret the results obtained and behave accordingly. Training in the art of communicating risks in an integrated manner will be carried out in this session.

2.4 Use of Social Media

Leading partner(s): S&C, NILU (WP4 and 9) and WP5

Mode: Information material, session at a face-to-face meeting, private communication

Time: During the pilot phase

Description: Social media (e.g., facebook, flickr, twitter) offer new modes of communication and participation. This training will provide information on the possible use and application of social media and the challenges that may arise in their use and application with regard to CITI-SENSE.

2.5 Privacy issues and data security

Leading partner: CVUT

Mode: Information material, session at a face-to-face meeting, private communication

Time: Soonest possible

Description: Data security has recently received increased attention. Thus, issues of privacy and data security need to be addressed and dealt with at an early point in the project.

2.6 Confluence as a tool for internal communication

Leading partner(s): NILU and SINTEF (WP7)

Mode: GoToMeeting, Face-to-face meeting during a project meeting

Time: First project year

Description: Confluence has been selected by the consortium to store online all working documents within CITI-SENSE. Every consortium member has access to Confluence and can upload or modify deliverables, working documents, meeting minutes, etc. Although this is a very useful communication tool it requires some basic training to become familiar with its functionalities.

This has largely been done on an ad hoc basis at CITI-SENSE meetings, although there have been several large scale demonstrations to the consortium. These demonstrations were intended to inform the consortium members of the potential usability of the system, and enable them to incorporate its functionality into their plans for their work packages.

Examples from these demonstrations include the ability to edit documents live, without first downloading them to a local drive. Also, the ability to create Vision style diagrams, UML and other technical design formats to support the development of specifications

Since Confluence is template driven, custom templates were created to enable users to easily and quickly create use cases in the system.

In addition to the live demonstrations of the system, which were performed by members of WP4 and WP7, there has been support and individual training as required. This is usually done one-on-one, or in small groups, via Skype or GoToMeeting.

Typical training of this type comprises a general introduction to the system, main functionality and addressing any specific needs from the users.

The essential point of this training is to enable the system users to become quickly productive.

Major demonstration activities have taken place during the project kick-off meeting and again at the annual consortium meeting, in Belgrade, Sept 2013.

Typical training topics include, but are not limited to the following:

- General introduction
- Overview of functionality
- Working with pages
- Export to Word, or PDF
- Using Templates
- Importing content
- Wiki markup
- Using Gliffy
- Using Balsamiq

2.7 Use of sensors and sensor platforms

Leading partner(s): ATEKNEA, Alphasense, UCAM, Geotech, DNET (WP8)

Mode: Preferably face-to-face meeting; if not possible interactive tutorial with online videos (eg, youtube)

Time: As soon as possible, in any case before the pilot phase

Description: After sensors and sensor platforms have been completed, the location officers will undergo a basic training in handling and application of the sensors. Some of the officers have not much experience with the set up and maintenance of sensors, so therefore the sensor providers (WP8) will offer some basic instructions. In addition to some information documents, some face-to-face trainings will be held.

2.8 Use of Citizens' Observatories web portal

Leading partner(s): WP4 and 6 (NILU)

Mode: GoToMeeting or Skype

Time: Before and during the pilot phase

Description: An interactive web portal to be used by citizens to engage with each other, scientists and other stakeholders will be established. An internal training is foreseen to

demonstrate the different functions to the consortium members to understand the set up and functionalities of the portal and to enable them to support citizens in case of requests.

Training in the Content Management System (CMS) DotNetNuke (DNN) has occurred at regular intervals during the course of the project from initial dissemination requirements for project information to creating the empowerment initiatives for the various work packages.

In particular training has been performed for the Horten School initiative, which included both design, implementation and training sessions.

Basic training includes:

- General introduction
- Users and Security
- Pages and Modules
- Commonly Used Modules
- Best Practices of Editing Content
- Tips and Tricks to be Highly Productive
- Adding content
- Managing Images
- Custom modules
- HTML
- File Management
- Modules and Containers

Training is usually performed remotely with the trainer demonstrating his computer screen via shared screens in either GoToMeeting or Skype.

Within the project so far two major training sessions have taken place for the Vitoria and Horten initiatives. In the case of the Vitoria training session, this was not 1on1 but trainer plus five students.

2.9 Modelling of air quality

Leading partner: CREAL (LUR), NILU (data assimilation), + others

Mode: 1-2 seminars during a face-to-face meeting

Period: Summer 2014

Description: Locations capable and interested in using data collected for creating city-wide estimates of urban air quality, noise, etc, will learn how to produce and improve various types of modelling methods.

2.10 Evaluation of sensor performance and data correction

Leading partner: UCAM

Mode: Seminar during a face-to-face meeting or online tutorial

Time: February-March 2014 (after the first data from the pilot phase have been collected)

Description: Electrochemical sensors have cross-sensitivities that can affect the performance of the sensor and the quality of the data derived. However, it is possible to post-process the raw data from the sensor to correct the signal and get a better data quality.

To correct the sensor signal, it is necessary to consider the effects of ambient temperature and relative humidity, as well as interferences with other ambient gases. For instance, it is well known that the NO₂ sensor data needs a correction for temperature effects as well as for O₃ interferences.

The aim of the workshop is to present the techniques to correct sensor data based on the known cross interferences with meteorology and other ambient gases used in previous studies, as for instance the one conducted by the University of Cambridge.

2.11 Land use regression models to assess spatial and temporal variation of outdoor air pollution and noise

Leading partner: CREAL

Mode: Seminar during the next face-to-face meeting in Bilbao

Time: May 2014

Description: Observations of air quality and noise are conducted in pre-determined spatial locations and temporal periods. For instance, classical monitoring networks have a discrete number of observation stations distributed throughout a city, for example up to 10 stations in Barcelona and Oslo. New technologies based on lower-cost sensors will complement the classical monitoring network by increasing the spatial coverage and temporal frequency. While it is still necessary to use a model to cover the gaps in-between observations, a denser monitoring network will increase the accuracy of a model.

Current approaches to evaluate the inter-spatial variability of air pollutants include interpolation methods, data assimilation methods, dispersion models and land-use regression models (LUR).

LUR combines monitoring of air pollution at monitoring locations, spread over the study area, and development of stochastic models using predictor variables usually obtained through geographic information systems (GIS). Some of the predictor variables commonly used are for instance: altitude, land zoning, population, road proximity and traffic density.

The course conducted in Barcelona by experienced researchers and technicians will showcase LUR model applications (such as those validated in Barcelona and other European

cities for the ESCAPE study) and its potential for location case studies in the framework of the CITI-SENSE project. The course will also explore the possibility to use a LUR model to produce near-real-time air quality maps for air quality advice provided in products or services such as Google Map 'clean' routing.

2.12 Exploitation of project results

Leading partner: U-Hopper and S&C

Mode: Face-to-face meeting at annual meetings (plenary session) or GoToMeeting for groups of partners having similar exploitation strategies

Time: After M24

Description: The aim of the exploitation training is to describe to the partners the possible exploitation strategies (commercial or open free service), approaches (individual exploitation strategies vs common exploitation strategies) and tools (List and characterization of the exploitable results; Strengths, Weaknesses, Opportunities & Threats analysis SWOT; Political, Economic, Social and Technological analysis PEST and business model for the most promising exploitable results). Aim of the exploitation session will be to discuss with partners and find answers to two main questions: How to manage the different exploitation strategies? - How to maintain and manage the "after project" work?