CITI-SENSE: Development of sensor-based citizens' observatory community for improving quality of life in cities

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Introduction

CITI-SENSE Collaborative Project:

- Starting date: 1 October 2012
- Duration: 48 months
- Partners organizations: 28
- Grant agreement n°: 308524
- Project web portal: http://www.citi-sense.eu
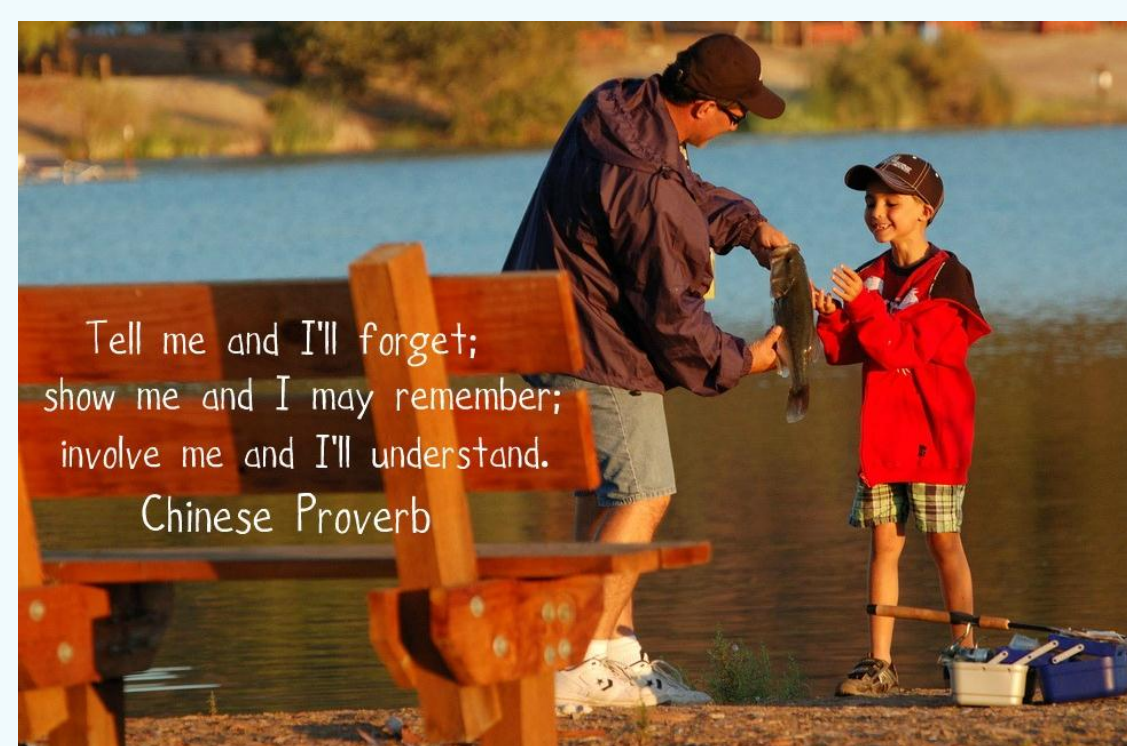- Citizens' observatory central web portal: http://co.citi-sense.eu

Objectives:

- Develop Citizens' Observatories with a variety of micro sensors
- Integrate data analysis across data types and cities
- Empower citizens' to influence community policy & decision making
- Contribute to GEOSS

Expected products and services:

- Support participatory sensing
- Provide GEOSS compatible data
- Provide environmental information tools
- Relate project data with other data sources
- Enable volunteered geographic information
- Tailor data to the needs of the users
- Input from the public to environmental governance

> Tell me and I'll forget;
> show me and I may remember;
> involve me and I'll understand.
> Chinese Proverb

Expected impacts:

- Raise environmental awareness in citizens
- Raise user participation in societal environmental decisions
- Provide feedback on the impact that citizens had in decisions
- Improve citizens' environmental behavioral change
- Improve urban eco-planning and environmental management

Project phases:

- Month 1-18: Prototype & pilot phase for selected sensors/locations
- Month 18-24: Pilot evaluation
- Month 24-36: Full implementation for all sensors and locations
- Month 36-48: Finalization and dissemination

Partners:

Cluster projects:

R&D Questions

- How can sensor data complement other data sources?
- How can sensors lead to a greater involvement of citizens?
- How can citizens' data be used in science?
- How will raised citizens' awareness of pollution affect behavior?
- How will CITI-SENSE contribute to improved urban life quality?

R&D Challenges

- Alignment across a variety of R&D disciplines
  - Natural science, social science, sensor technology, ICT
- Efficient dialogue with citizens
- Efficient citizens participation and empowerment
- Bridging information demand and supply
- Technological development
  - Sensors modified for CITI-SENSE
  - Citizens' mobile apps
  - Real-time information
  - Cutting edge visualization
  - Innovative monitoring approach
- Integration across data types and cities
- New knowledge on how urban pollution affects citizens

Barriers to reaching the goal

- Lack of common understanding of what is a Citizen's Observatory
- Communication barriers
  - Between social and natural/technological scientists
  - Between scientists and citizens
  - Citizens and policy makers
- Complexity of data flows
- Lack of models for integrated analysis across data types/cities

Citizens' observatories Facebook page

facebook.com/int.cit.obs

Citizens' Observatories

Facebook Group "Citizens' Observatories" is a communication channel to the public and engaged stakeholders of the CITI-SENSE project and other Citizens' Observatories around the globe.

Acknowledgement

Contact Information

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Our Approach

To answer the R&D questions, and conquer our challenges, CITI-SENSE has launched the following initiatives:

Three empowerment initiatives

- Outdoor AQ
- Indoor AQ in schools
- Personal comfort in public spaces

More than 20 citizens' observatories across nine cities

- Eight for outdoor AQ
- Up to ten for indoor AQ in schools
- Four for comfort in public spaces
- Nine cities: Barcelona, Belgrade, Edinburgh, Haifa, Ljubljana, Oslo, Ostrava, Vienna and Vitoria
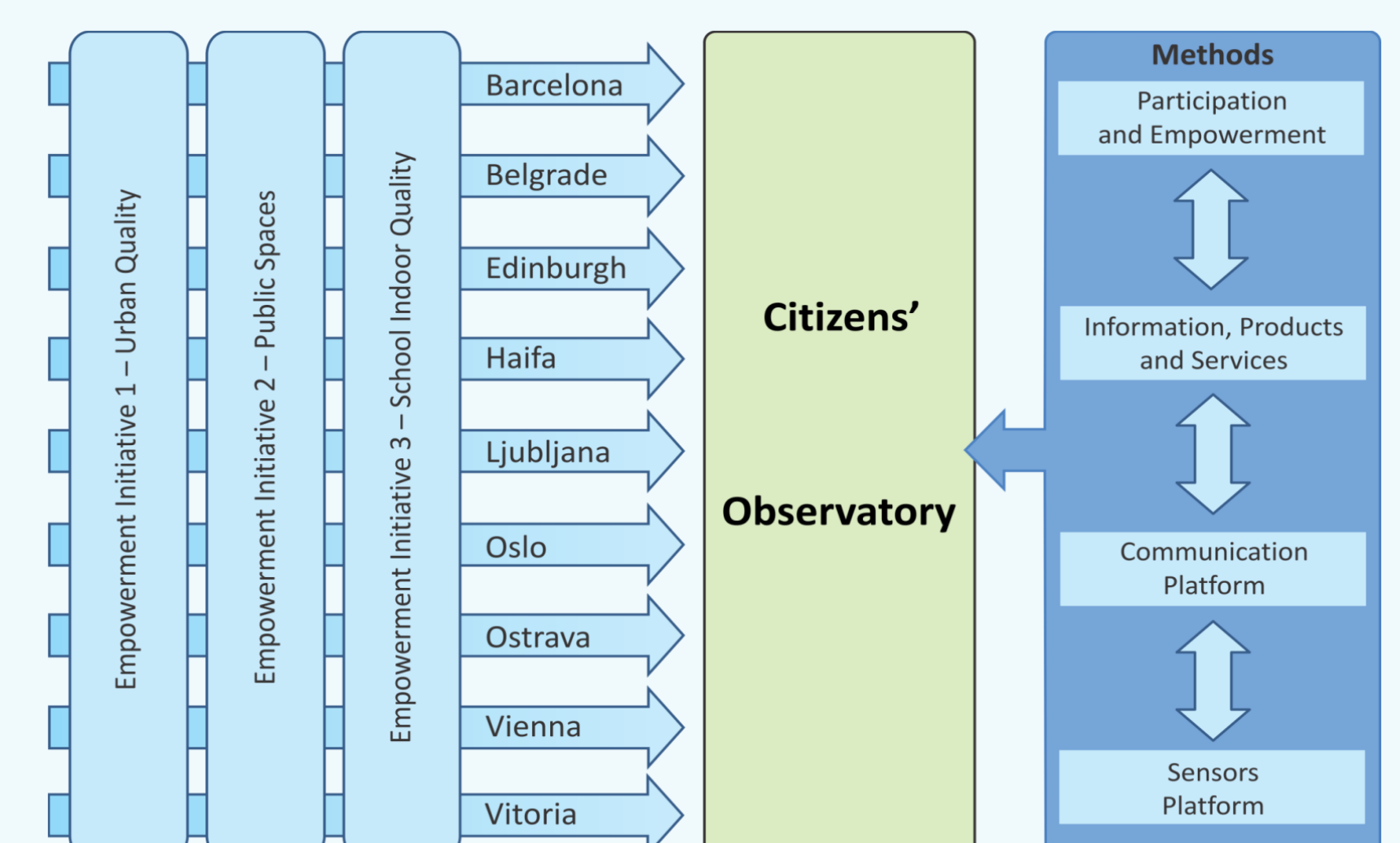
New sensor-platform-products-users information chain

- High technology environmental sensors, innovative data fusion and communication paired with scientific analysis and efficient communications with users and the public

- Deploy static (fixed) and mobile (personal) sensors to monitor various environmental components.

- Combine new sensing technology, ICT platforms and participatory methods into useful products.

Data Storage
Data format

Data Services
Processing raw data, fusion, modelling

Products
Web, Apps

For more information please visit http://www.citi-sense.eu and http://www.co.citi-sense.eu