

CITI-SENSE

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

24th October, 2013,
CDMA Building - Rue du Champ de Mars, 21, Brussels.

Citizens' Observatories Project Coordination Meeting

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CITI-SENSE consortium**



Presentation Outline

- **General info of the CITI-SENSE**
 - Basic data
 - Objectives
 - CO implementation
- **Summary of the work carried out so far**
 - Progress to date
 - Barriers encountered/current challenges
- **Next steps**
- **Main dissemination**
- **Cooperation with other CO projects**

Basic data

Starting date: 01/10/2012

Duration: 48 months

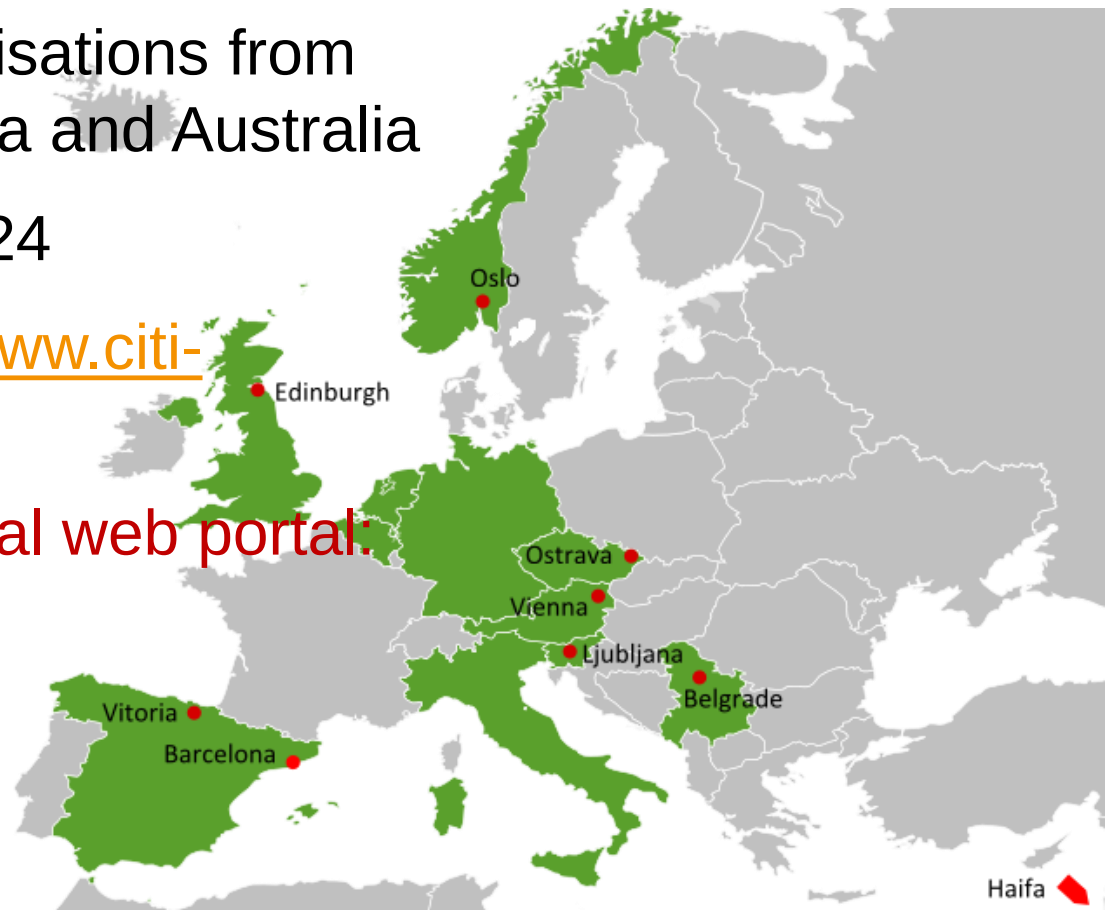
Budget: 12M€

Partners: 28 partner organisations from Europe, Israel, South Korea and Australia

Grant agreement n°: 308524

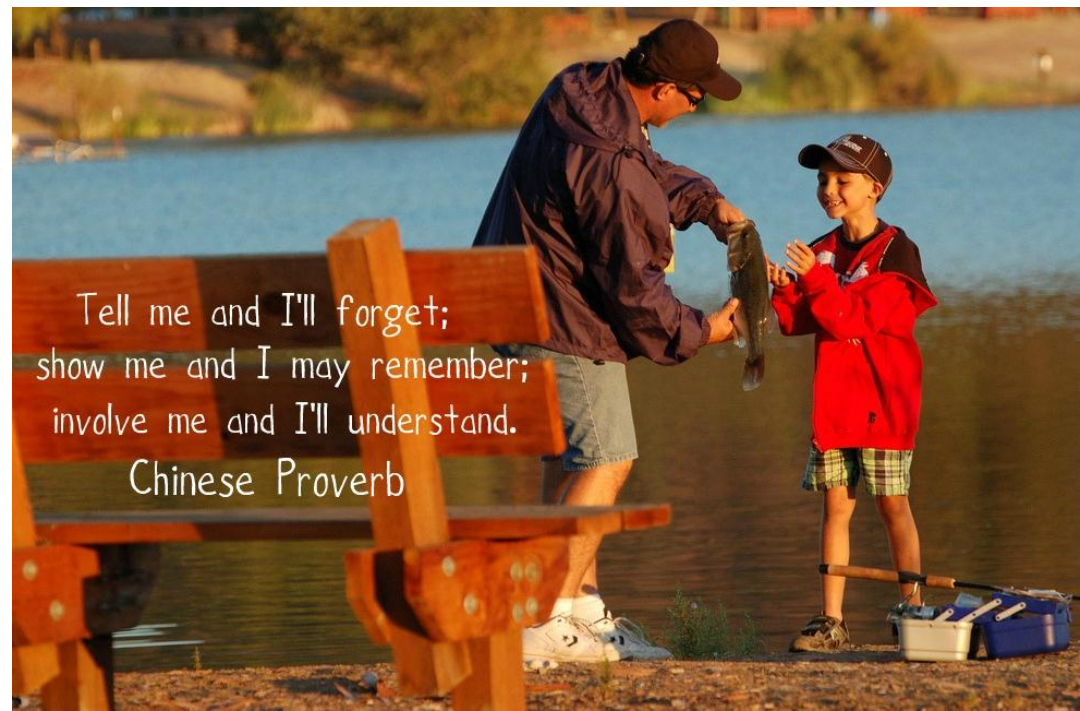
Project web portal: <http://www.citi-sense.eu>

Citizens' observatory central web portal: <http://co.citi-sense.eu>



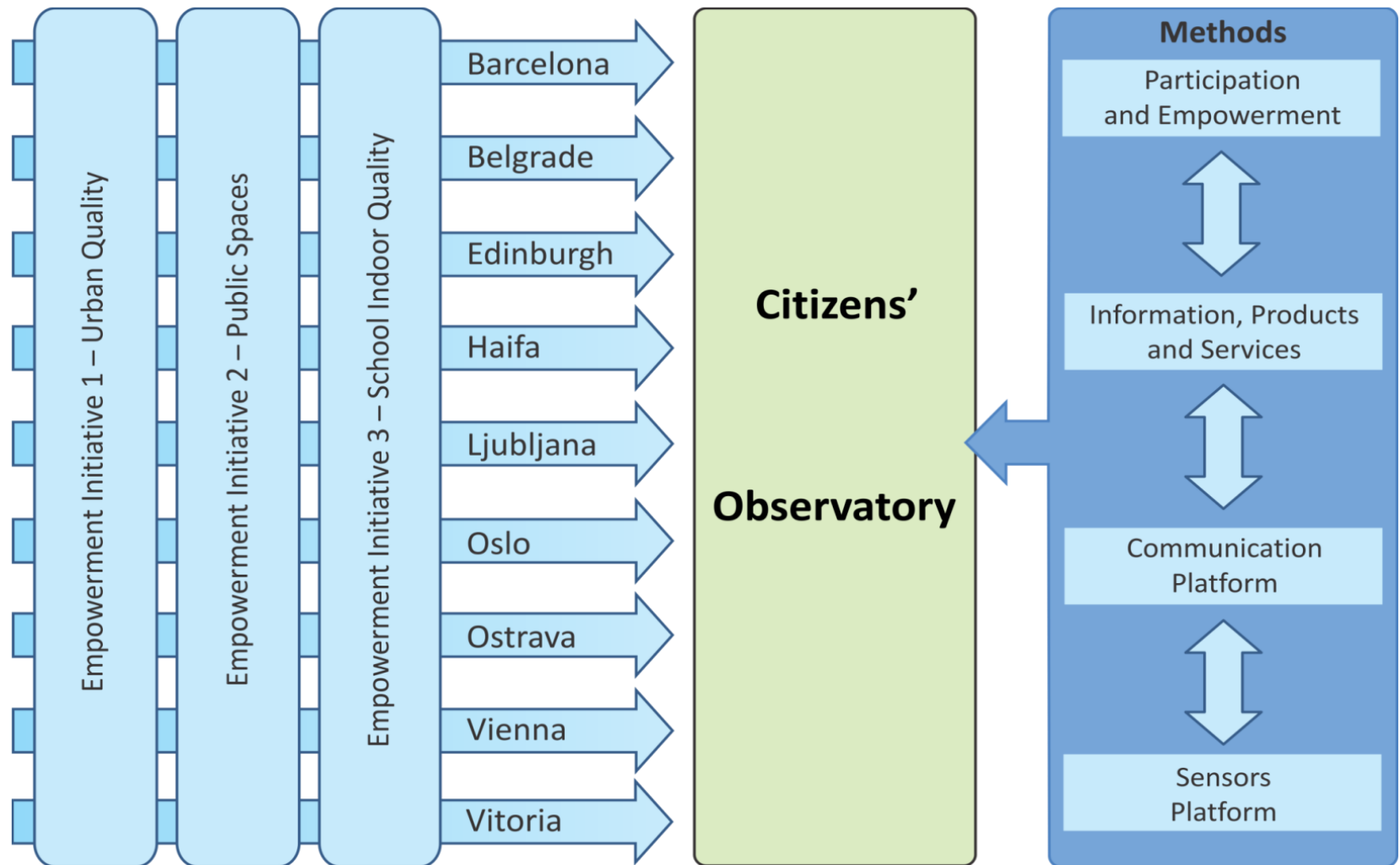
Objective

- **To develop Citizens' Observatories to empower citizens to**
 - Contribute to and participate in environmental governance
 - Support and influence community and policy priorities and associated decision making
 - Contribute to Global Earth Observation System of Systems (GEOSS)



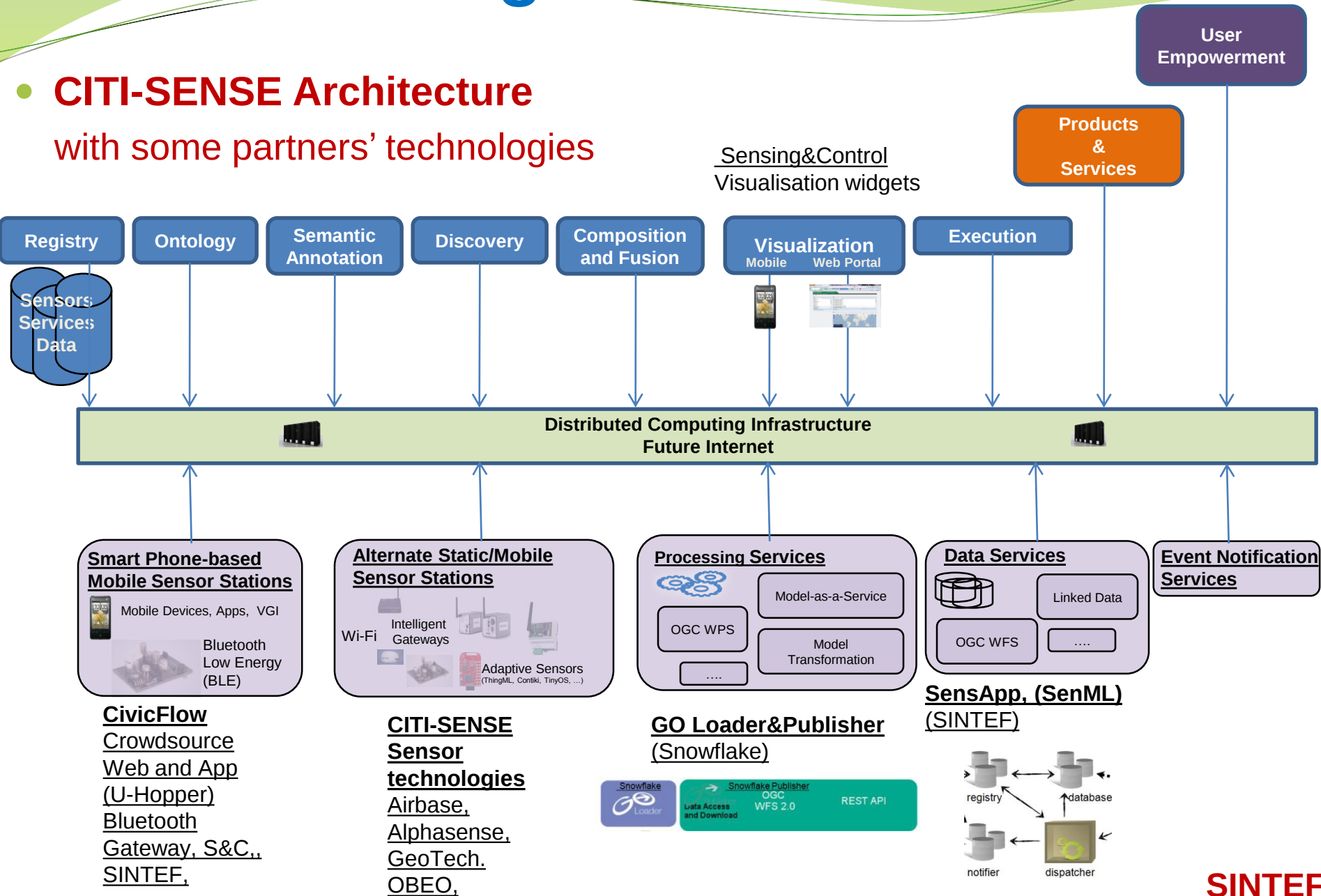
Tell me and I'll forget;
show me and I may remember;
involve me and I'll understand.
Chinese Proverb

Citizens' Observatory Implementation



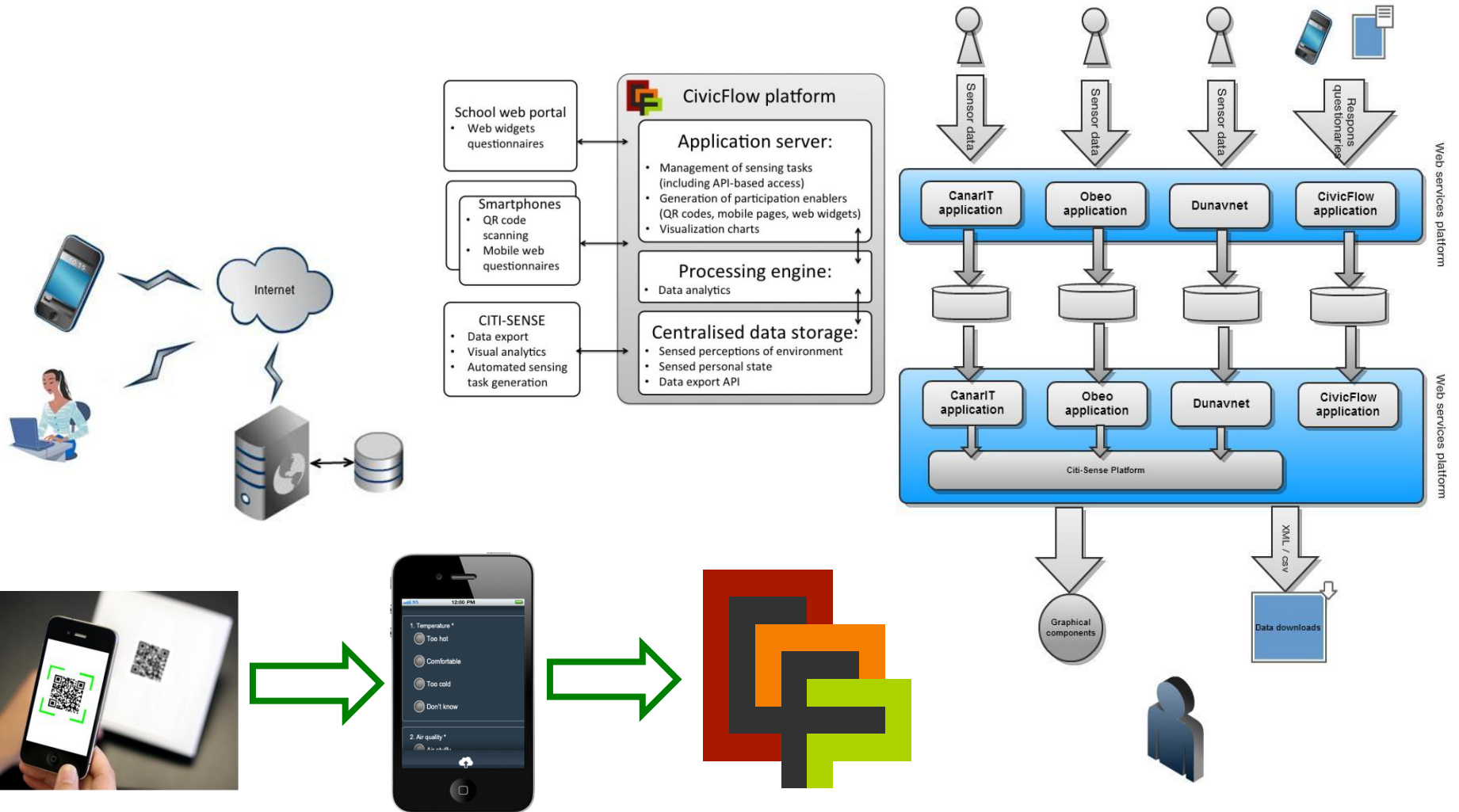
Progress to date

- CITI-SENSE Architecture**
with some partners' technologies



Progress to date

- CITI-SENSE E2E pilot implementation prototype –IAQ in school**



Progress to date

- El Urban Quality (empowerment initiative)**



Barcelona (Spain)

Belgrade (Serbia)

Edinburgh (UK)

Haifa (Israel)

Ljubljana (Slovenia)

Oslo (Norway)

Ostrava (Czech Republic)

Vienna (Austria)

Vitoria-Gasteiz (Spain)

Progress to date

- **CO Portal, gateway to the various COs**

Phase I: current ideas for the CO

- Main page
- Access to various COs
- Examples of potential user involvement
- Internal review and discussion
 - ✓ Schools WP3b
 - ✓ Urban Air Quality WP2
 - ✓ Pubic spaces WP3a

PHASE II: GEOSS Integration Future ideas for the Citizens Observatory

- Access all project sensor data in one interface
- Open API enables GEOSS functional integration into CO portal

The screenshot shows the CITI-SENSE public portal. At the top, there is a logo for CITI-SENSE and a quote: "Tell me and I will forget. Show me and I will remember. Involve me and I will understand. Ancient Chinese proverb". Below the quote is a navigation bar with links: HOME, ABOUT US, COMMUNITY, EMPOWERMENT INITIATIVES, and CONTACT US. The main content area features a large image of hands holding mobile phones with the text "Make a contribution". Below this is a paragraph explaining the portal's purpose: "The CITI-SENSE public portal is designed to enable citizens to not only have access to real-time environmental information provided by a wealth of sensors, including personal sensors, mobile sensors and static stations, but also to provide a forum for discussion, debate and sharing of YOUR own personal observations on the environment, and how it affects and impacts you in your daily life. Your contributions are important and the Citizens' Observatory is yours!". The main content area is divided into two columns. The left column features a globe with a map of Europe and a search bar. The right column displays search results for "special charts UPPER AIR, pressure level 850 hPa". At the bottom, there are four featured sections: "Indoor Air Quality in Schools", "City Air Quality", "Public Spaces", and "Decision Making". The footer contains the copyright information: "Copyright 2013 by Citi-Sense | Prof. Dr. Mike Kobernus" and a login button.

CITI-SENSE

Tell me and I will forget.
Show me and I will remember.
Involve me and I will understand.
Ancient Chinese proverb

HOME ABOUT US COMMUNITY EMPOWERMENT INITIATIVES CONTACT US

Make a contribution

The CITI-SENSE public portal is designed to enable citizens to not only have access to real-time environmental information provided by a wealth of sensors, including personal sensors, mobile sensors and static stations, but also to provide a forum for discussion, debate and sharing of YOUR own personal observations on the environment, and how it affects and impacts you in your daily life. Your contributions are important and the Citizens' Observatory is yours!

Restart Toggle Time Legend

Search Go

Total Results: 46

Alerts, RSS, and Information Feeds

Learned

special charts UPPER AIR, pressure level 850 hPa
UPPER AIR 850 hPa sensor: standard time of observation/teasing: 6 hourly/00:06:12:18 00:04: part of Global Data Set (essential date and product) ...
Click to read more...

special charts UPPER AIR Temperature and Humidity
UPPER AIR Temperature and Humidity: standard time of observation/teasing: 12 hourly/00:12:00:04: part of Global Data Set (essential date and product) ...
Click to read more...

special charts UPPER AIR, pressure level 300 hPa
UPPER AIR 300 hPa sensor: standard time of observation/teasing: 6 hourly/00:06:12:18 00:04: part of Global Data Set (essential date and product) ...
Click to read more...

analyses
Surface weather charts come with plotted stations in different geographic areas in the TSP format: ...
Click to read more...

special charts Surface observations (SYNOP)
Surface observations (SYNOP): standard time of observation/teasing: 6 hourly/00:06:12:18 00:04: part of Global Data Set (essential date and product) ...
Click to read more...

Indoor Air Quality in Schools
Test schools are studying indoor air.

City Air Quality
View data on air quality in our European cities...

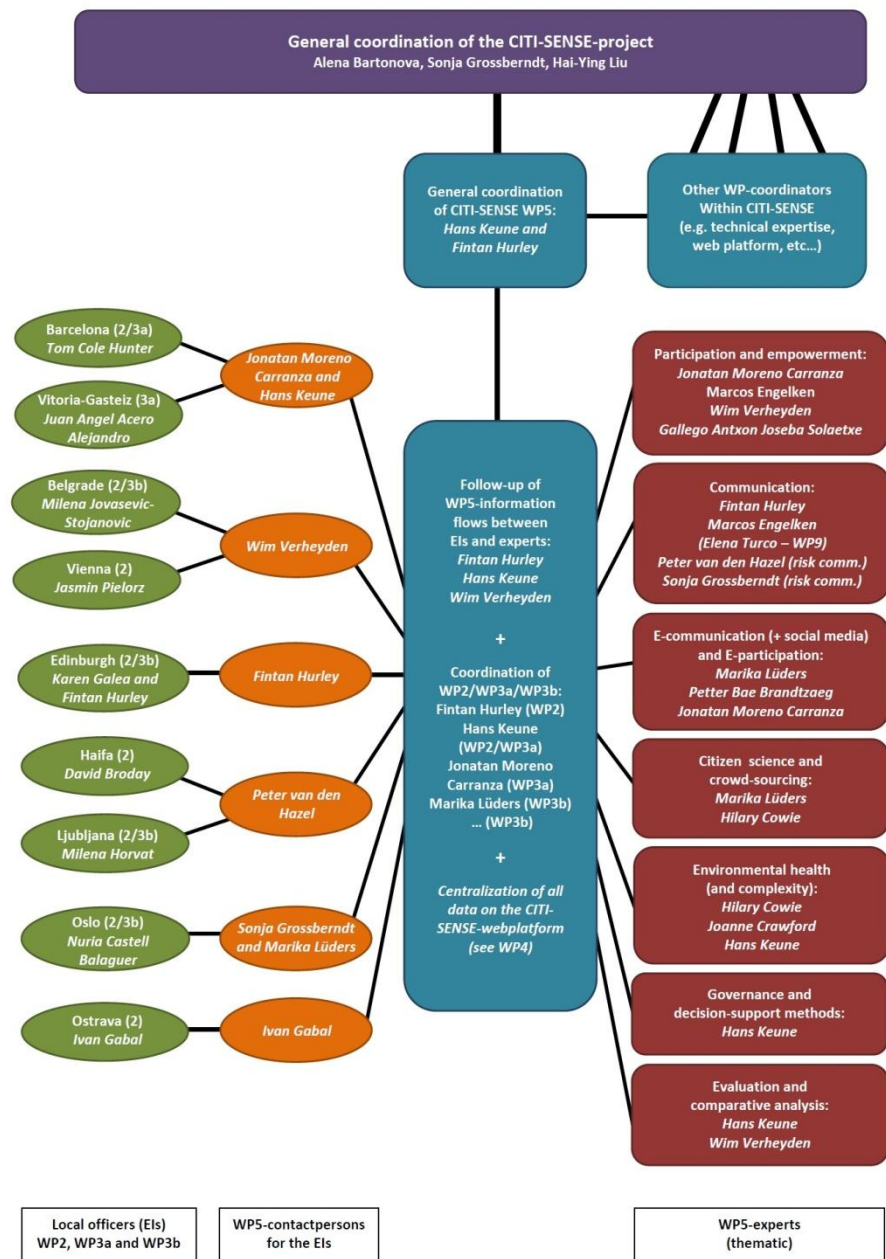
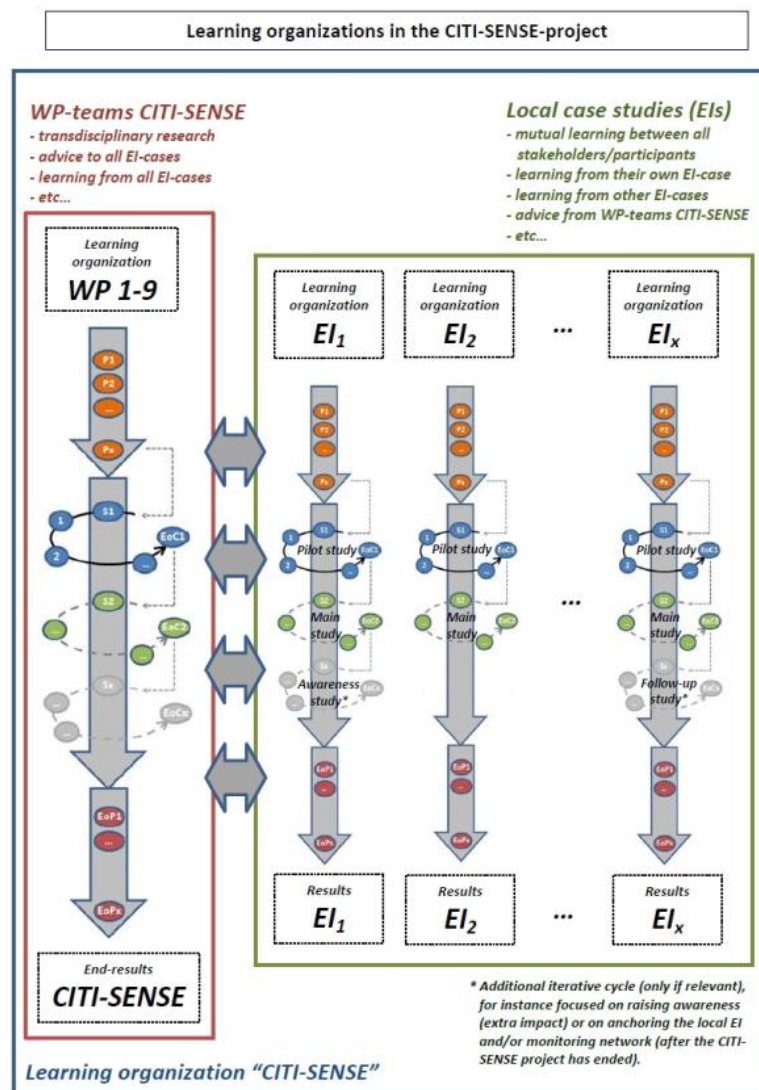
Public Spaces
Urban public spaces in these test sites...

Decision Making
Make it count. Let your voice be heard here...

Copyright 2013 by Citi-Sense | Prof. Dr. Mike Kobernus Log out

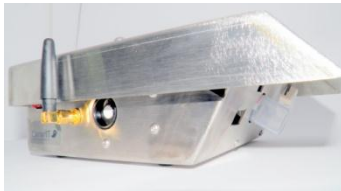
Progress to date

Collaborative participation



Progress to date

Sensor and sensor platforms

Sensor and sensor platform provider	Sensor platform type(s)	Basic descriptions and specs (for pilot)	Photos of the platform	End users in the project	Qty	Delivery to end users
GEOTECH	Static, battery powered 'pod'	NO (ppb) NO2 (ppb) O3 (ppb) CO (ppb) SO2 (ppb) Pressure (mB) Temperature (° C) Relative Humidity (%)		WP2, OAQ, Barcelona WP2, OAQ, Edinburgh WP2, OAQ, Haifa WP2, OAQ, Oslo WP2, OAQ, Ljubljana WP2, OAQ, Vienna WP2, OAQ, Edinburgh WP3a, PS, Vitoria	5 5 6 5 5 5 5 1	End Oct 2013 End Oct 2013 End Oct 2013 End Oct 2013 End Oct 2013 End Oct 2013 End Oct 2013 End Oct 2013
AIRBASE	Static sensors for school indoor/Outdoor & city outdoor networks	CO2/O3, No2, VOC, TSP, Noise, Temp and humidity The device sends every 20 seconds packet of measurements to the server		WP2, OAQ, Haifa WP3b, IAQ, Oslo WP3b, IAQ, Edinburgh WP3b, IAQ, Ljubljana WP3b, OAQ, Oslo WP3b, OAQ, Edinburgh WP3b, OAQ, Ljubljana	5 3 3 3 1 1 1	Mid Oct 2013 End Nov 2013 End Nov 2013 End Nov 2013 End Nov 2013 End Nov 2013 End Nov 2013
OBEO	Indoor radon sensor with GSM (type MMR)	Quad band GSM/GPRS capabilities and built-in antenna		WP3b, IAQ, Oslo WP3b, IAQ, Edinburgh WP3b, IAQ, Belgrad WP3b, IAQ, Ljubljana	3 3 3 3	Mid Nov 2013 End Dec 2013 End Dec 2013 End Dec 2013
DNET	---	---	---	---	---	---
CVUT	---	---	---	---	---	---
JSI	---	---	---	---	---	---
CRIC	---	---	---	---	---	---

Current Challenges

- **Common understanding**

- Multidisciplinary
- Terminologies
- Development of Ontologies

- **Citizens participation and empowerment**

- Building the bridge between what the user wants and what we can provide
- Need to manage the dialogue well

- **Sensor and sensor platform**

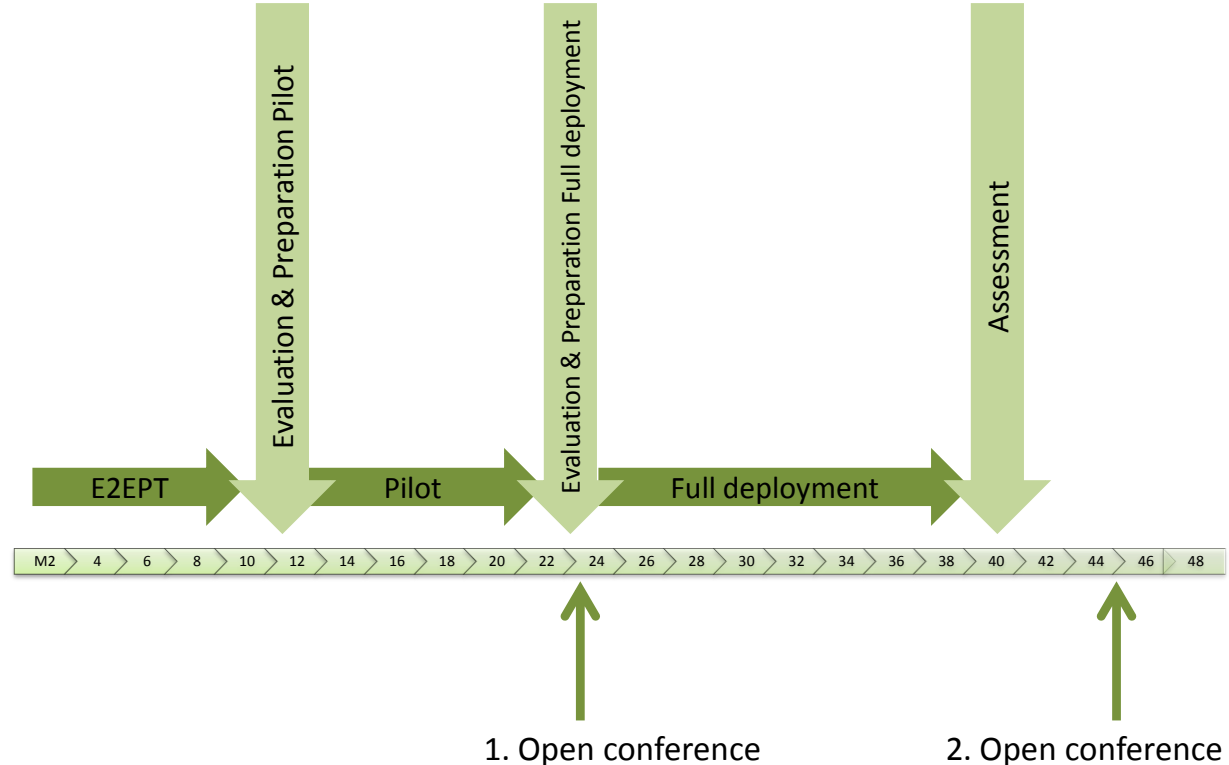
- Sensor provision
 - to whom
 - for which specific environmental parameters
- We can measure
 - NO₂ + O₃, NO, CO, H₂S, SO₂, VOCs (not specific), PM₁₀ and PM_{2.5}
- But we also what to measure
 - NO₂, O₃ separately; PAH's (e.g., Ostrava); Formaldehyde (IAQ); Ultrafines; Oxidative stress of PMs; Pollen; biophages; Benzene; separate from BTEX.

Barriers encountered

- Concept of Citizen's Observatories – common understanding
- Integration of citizens into the project
- Multidisciplinarity: keeping the project together
- Internal information flow
- Budget: detailed planning - technologies «fit for purpose»

Next steps

- M1-18: E2E prototypes and pilot phase for selected sensors at selected locations
- M18-24: Interim period – pilot evaluation
- M24-36: Full implementation for all sensors at all locations
- M36-48: Finalization



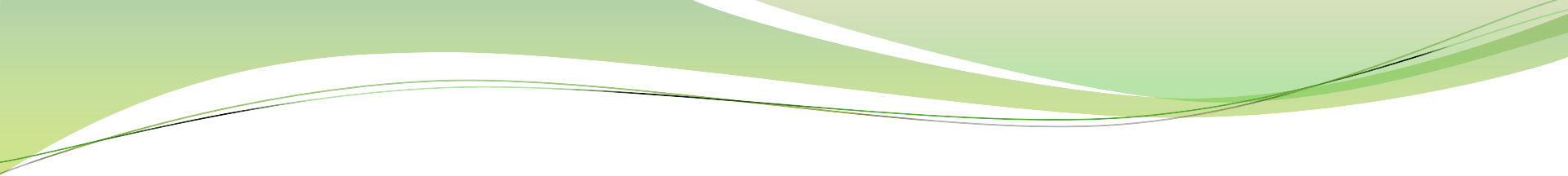
Main dissemination

- Elena

Cooperation with other CO projects

- **Tentative ideas**

- CO Infrastructure and architecture sharing
- Approach to integrate citizens
- CO article across the five CO clustering projects
 - Example idea: “Experiences in developing CO in five EU FP7 Projects”
- CO book across five CO clustering projects
 - Example title: “Citizen Observatories: Cross domain collaboration in the EU”
- Other: coordinated social CO media platforms, e.g., CO business page within facebook, CO group on LinkedIn and Flickr, etc
- <https://www.facebook.com/int.cit.obs>



Thank you for your attention!

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