

Different engagement strategies in Citizen Science Projects

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Citizen Science and Air Quality

- Air pollution affects the health and well-being of **millions of people** around the world.
- **Air quality monitoring** is crucial for understanding and assessing the impacts of pollution on human health and the environment in general.
- Reliable data about the levels of pollution in the air is acquired using **expensive** and certified equipment installed in the so-called reference air quality monitoring stations

Citizen Science and Air Quality

- The **spatial density** of such air quality monitoring stations is very **low**.
- **Compact field sensors:**
 - are less expensive
 - can cover a bigger area
 - can be used by anyone after a brief training

Citizen Science and Air Quality



- They are projects funded by the EU H2020.
- Their aim is to empower citizens to measure the air quality around them
- Have strong technical elements such as apps and dashboards
- Support the development of new wearable technologies for air quality monitoring



Eighteen (18) partners from seven (7) European countries



The SOCIO-BEE Project has received funding from the European Union's Horizon 2020 Framework Programme for Research and Innovation under grant agreement No. 101037648

Queen Bee	A knowledgeable citizen that is interested in leading CS-based activities (Teachers, activists, science students or people interested in what-if testing)
Working Bee	Citizens who lack the knowledge to lead, but are willing to collaborate, learn, and help (citizens with interest in science or in societal change in general, people with spare time)
Drone Bee	Citizens who do not care or are unaware of the potential of CS fighting against Climate Change, but they can be informed and consulted (lay citizens, well-off citizens, over 40+ with children)
Bear	Stakeholders that sponsor, launch, set the common strategy (in a neighborhood, city, etc.), and are willing to support societal and pro-environmental behavior change (Municipalities, Schools, Businesses, Elderly associations)
Hive	A CS action group, led by at least one Queen Bee and including a set of Working Bees (Citizen observatories, volunteering groups, affiliation groups)





Zaragoza

Challenge: Boost a change of behaviour in children (8 to 16 yo) on environment issues through a technological, agile and joyful approach based on citizen science

Targeted Population: Kids and teenagers



Ancona

Challenge: Motivate the elderly (>65 yo) to be active outdoors in a non-polluted and non-crowded environment, promoting a healthy lifestyle

Targeted Population: Aged population



Marousi (Amaroussion)

Challenge: Commuters to actively contribute in understanding their individual exposure to air pollution through CS campaigns - Feedback to citizens on most/less polluted neighborhoods

Targeted Population: Commuters and general population

COMPAIR

DIGITAAL
VLAANDEREN

iS-practice
Program Management in Information Society

ATC
ATHENS TECHNOLOGY CENTER

inter3
INSTITUTE FOR RESOURCE MANAGEMENT

21c
Work Smarter

CITY OF ATHENS
Δ Α Ε Μ

ЕНЕРГИЙНА АГЕНЦИЯ ПЛОВДИВ
ENERGY AGENCY OF PLOVDIV

ecsa | European Citizen Science Association

Fraunhofer
HHI

imec

sofia development association
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асоциация за развитие на софия

SODAQ

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Athens

Challenge: Creating a greener city by measuring and understanding the environmental impact of everyday habits e.g. wood burning, smoking, recycling, heating, etc

Targeted Population: **general population**



Berlin

Challenge: Making school streets safer, assessing the impact of parking bans in the city, assessing the bike commuter's exposure to pollution

Targeted Population: **cyclists / general population**



Flanders

Challenge: Making school streets safer, helping citizens navigate the city in the best possible way.

Targeted Population: **Children and general population**



Sofia and Plovdiv

Challenge: Making school streets safer, championing sustainable behaviours of young people, creating awareness of our behaviours.

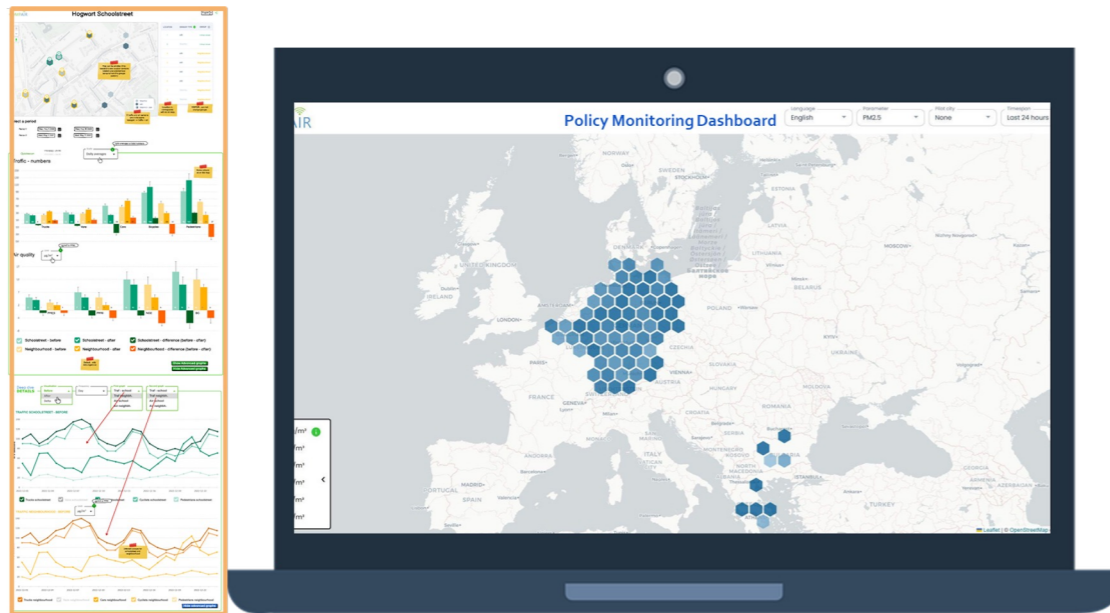
Targeted Population: **Children and young adults**



COMPAIR technologies

Policy monitoring Dashboard

Planned

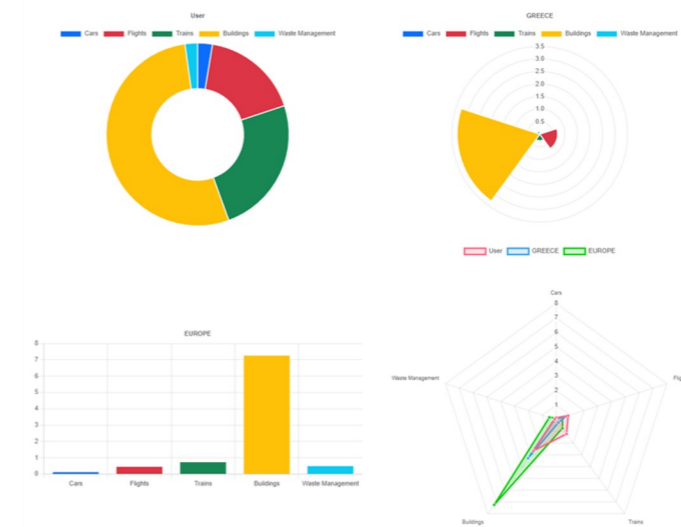
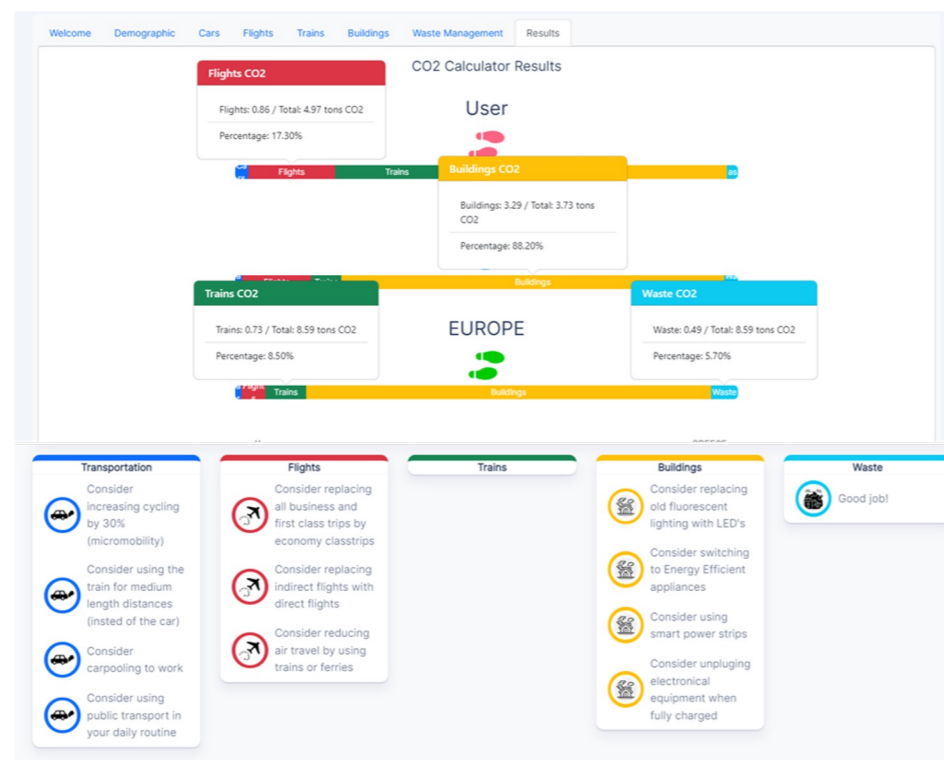


Dynamic Exposure Visualisation App

Dynamic Exposure Visualisation App



CO2 calculator



Key differences



- In SOCIO-BEE the first months were dedicated to design the engagement strategy.
- The strategy was validated by a panel of experts
- Actual engagement happens NOW
- Engagement happened from the beginning of the project with co-creation workshops
- Stakeholders and citizens are part of the project from the beginning
- Sampling happens NOW

Key differences



- inclusivity is an important issue: created the inclusion toolkit.
- Focused on behavioral change.
- Also uses drones for measurements.
- aims at reaching vulnerable groups, particularly LSES.
- Focus on digital twins and policy creation.
- We measure traffic, besides air pollution.

Conclusions



- Both projects work on the same topic, have similar overarching goals and rely heavily on technology.
- Their engagement strategies are completely different, however both seem to be having successful pilot operations.
- Due to the large overlap, there has been a lot of mutually beneficial exchange between the two projects.