D-NOSES

Distributed Network for Odour Sensing, Empowerment and Sustainability

You've got the buzzwords, have you got the people?

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Coordinated by: ibercivis

IDEAS FOR CHANGE

mapping for change

ecsa

MIO-ECSDE

ISWA International Solid Waste Association

AMIGO

POLITECNICO MILANO 1863

apea

ENVIROMETRICS

ecoTEC

S. João da Madeira Câmara Municipal

lipor

Founded by the Horizon 2020 programme of the European Union
Grant Agreement No 789315

#dNosesEU #odourObservatory

D-NOSES

Distributed Network for Odour Sensing, Empowerment and Sustainability

Agenda for this workshop

The D-NOSES project

The D-NOSES inclusive engagement model

The example of Barcelona

Stories about inclusiveness

Zoom discussion - hear from our community champions

#dNosesEU #odourObservatory

About D-NOSES

D-NOSES

Distributed Network for Odour Sensing,
Empowerment and Sustainability

Odour Pollution

Odour

- Can affect our quality of life
- Difficult to measure
- Second cause for environmental complaints after noise

→ **good and bad smells can lead to nuisance**

Odour monitoring methods

- Expensive
- Inefficient and / or long process
- No information on odour NUISANCE

Disparate regulations

The D-NOSES approach

Instead of relying on traditional ways to monitor odours…

Citizen Science for odours

- There is no better sensor than our nose!
- Enabling citizens to monitor odour themselves
- Using accessible online tools

Advantages

- Cost-effective
- Accessible to all
- Enables the identification of patterns of odour episodes across space and time
- Enables the identification of potential sources of odour

A bottom-up approach

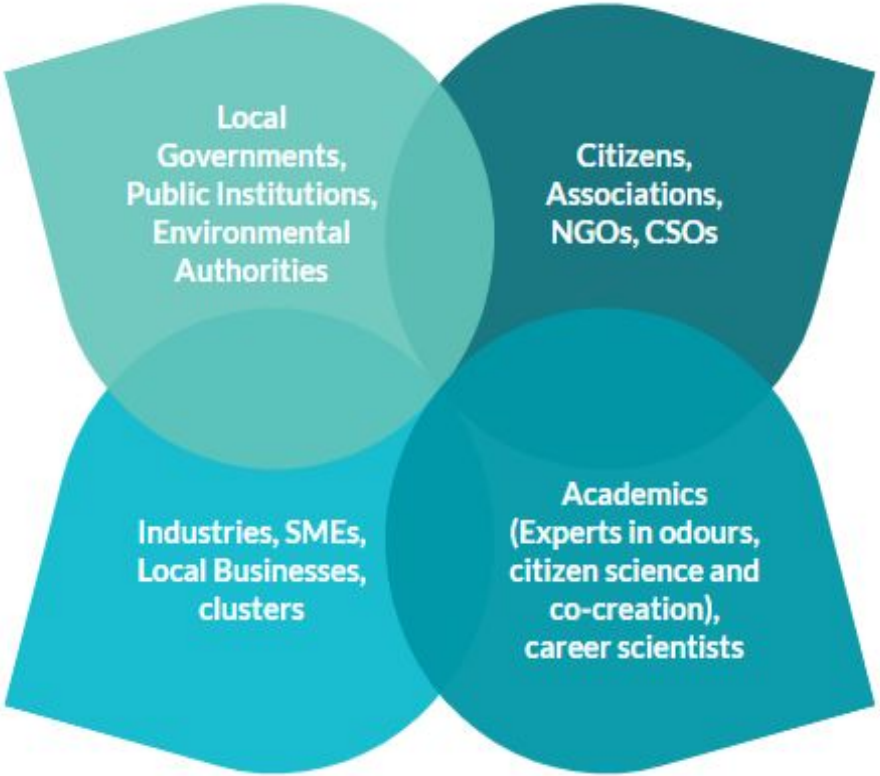
Principle 10 of the Rio Declaration

- *Access to information*
- *Public Participation*
- *Environmental Justice*

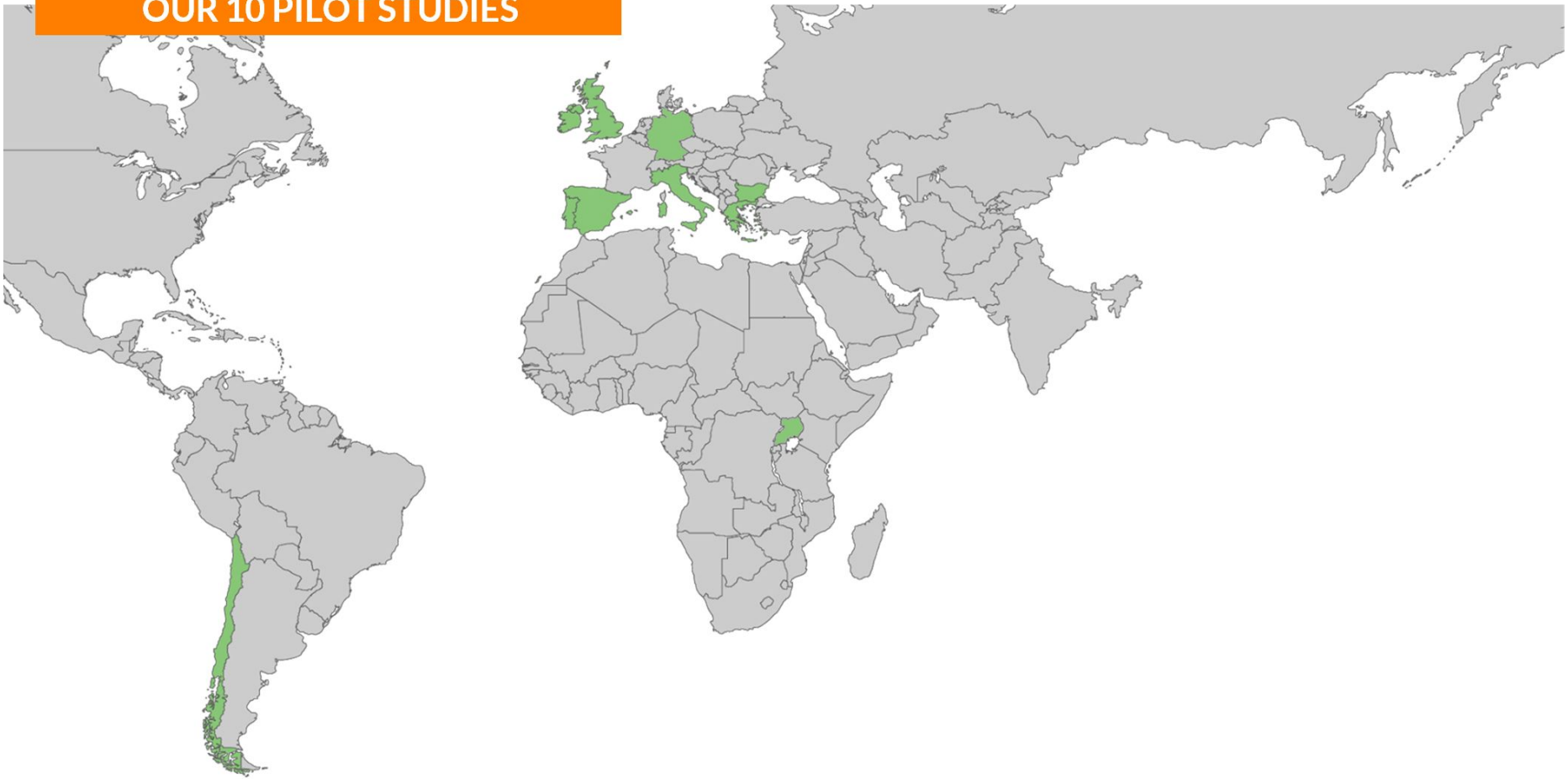
Sustainable Development Goals

- *Good health and wellbeing*
- *Sustainable communities*
- *Partnerships / "Leave no one behind"*

The quadruple helix model - “Leave no one behind”



OUR 10 PILOT STUDIES

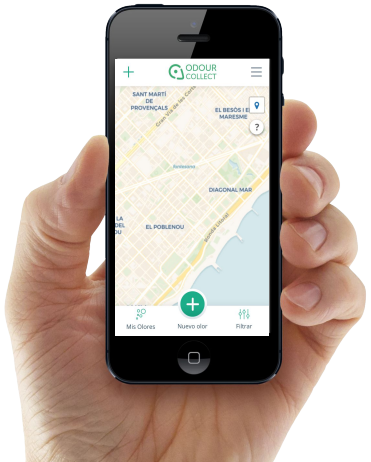


From local to global

ODOUR OBSERVATORY .com

dnoses.communitymaps.org.uk

ODOUR COLLECT .eu



D-NOSES

ODOUR POLLUTION
A GROWING SOCIETAL CONCERN

HIGHLIGHTS

- Odour nuisances, being the second cause of environmental complaints after noise, lead to a significant decline in our quality of life and must be urgently addressed.
- Odour regulations across Europe and within countries differ significantly from each other. In many places they are even completely lacking. There is a need for bottom-up, multi-level governance in Europe in order to protect its citizens.
- Odorous gases are commonly measured at the source (emission). The level of the odours in surrounding residential areas (immission) is more complex to determine, but also much more relevant to measuring the impact on residents.
- The Distributed Network for Odour Sensing, Empowerment and Sustainability (D-NOSES) project will reverse the way in which odour pollution is commonly tackled, through a co-creative citizen science approach.

MAIN ODOUR ISSUES IN EUROPE

The sources that generate odours in European communities are numerous and diverse; in many cases the same community is exposed to more than one odour source. Industrial activities, waste management and agriculture/livestock represent the main challenges regarding odour emissions within Europe.

HOW TO CITE

D-NOSES consortium (2019) Odour Pollution - A growing societal concern. D-NOSES Policy Brief #1

The D-NOSES inclusive engagement model

The D-NOSES inclusive engagement model

1. IDENTIFY THE ISSUES
2. STAKEHOLDER MAPPING
3. FRAME *(THE PROBLEM)*
4. PILOT DESIGN
5. DATA COLLECTION
6. DATA ANALYSIS
7. ACTION
8. OUTCOMES

Ensuring Inclusiveness

1. IDENTIFY THE ISSUES
2. STAKEHOLDER MAPPING
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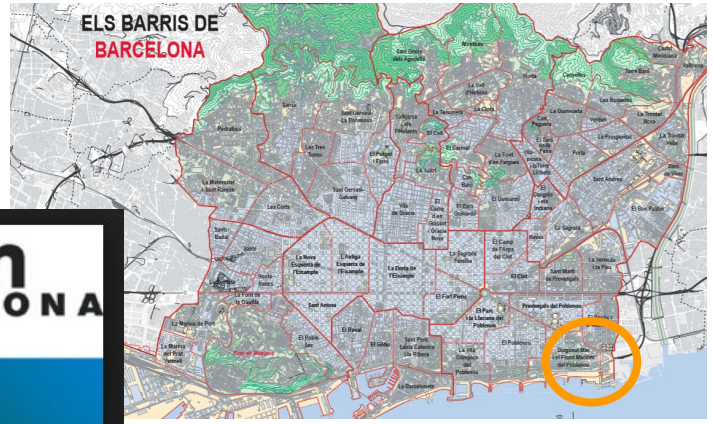
Once we have got the model, how do we get the people?

The example of the Barcelona case study

The D-NOSES methodology in action!

The pioneer Pilot in Barcelona: The Forum Area

- Complex and challenging area for community engagement -> diversity of social realities
- Historical problem of odour issues -> Multiple odour emitting sources (W and WWT plants)
- Feasible collaboration with the Regional Authority (D-NOSES AB) -> manages most of the odour emitting activities



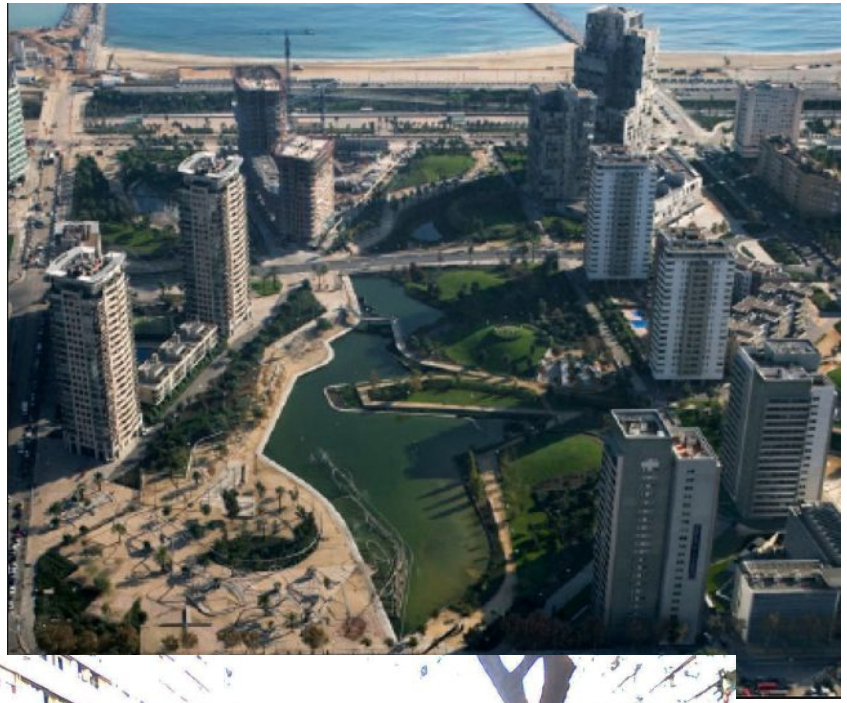
Ferum
BARCELONA
2004

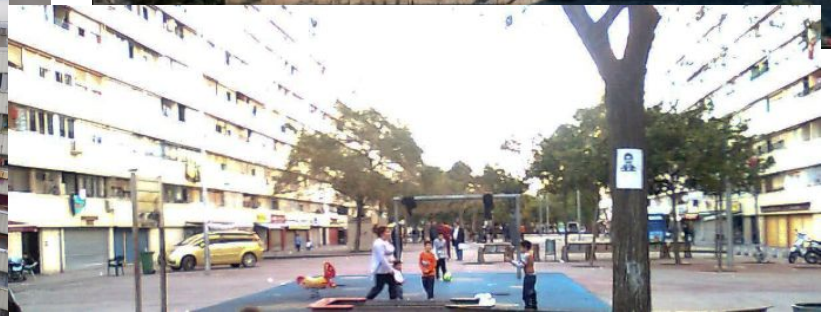
IDENTIFY THE ISSUES

Multiple odour emitting sources:
Waste, Wastewater & Sludge treatment plants
Incinerator

1 2 3 4 5 6 7 8

IDENTIFY THE ISSUES





1 2 3 4 5 6 7 8

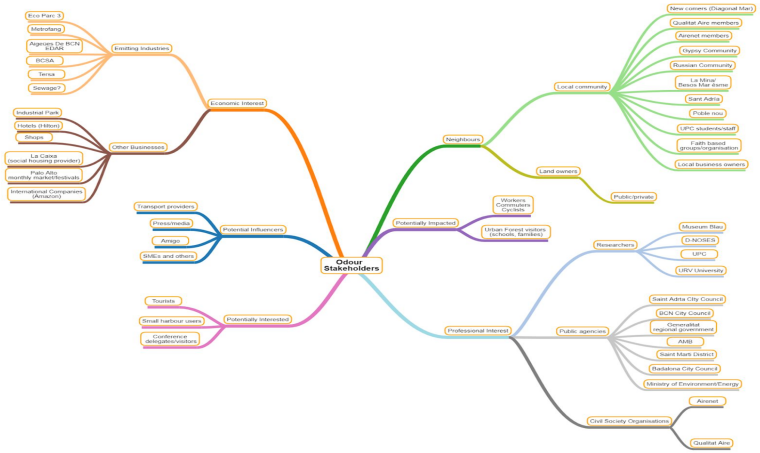
IDENTIFY THE ISSUES

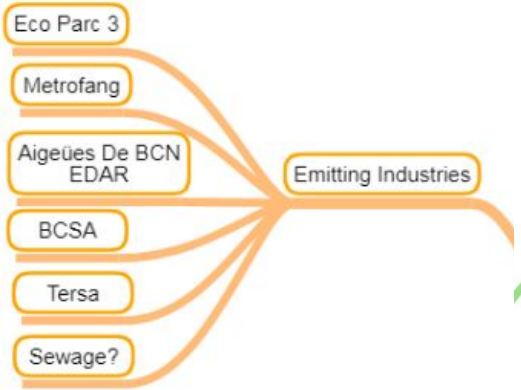
STAKEHOLDER MAPPING

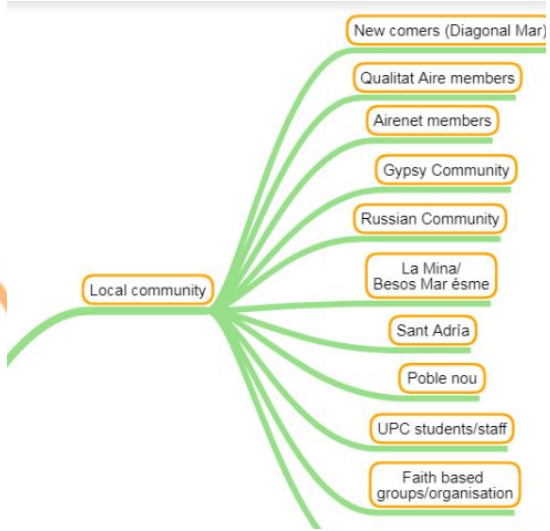
Identifying:

- *Odour emitting activities*
- *Communities/CSOs*
- *Public sector*
- *Research*

-> [Potential motivations, barriers and mitigation strategies]

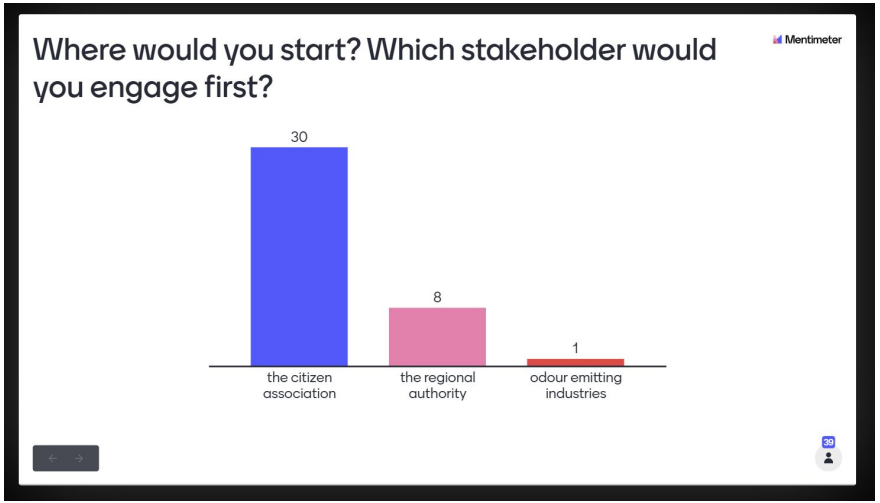






FRAME THE PROBLEM

- Meetings with the Regional authority (AMB) -> which manages most of the emitting industries (W & WWTP)
- Meetings with the Citizen Association (AireNet) -> including more than 50 CSOs within, very active with the odour issue
- Visits to the emitting industries to better understand the problem



1. Where would you start? Which stakeholder would you engage first?
Regional Authority, Citizen Association, Emitting industries?

Go to menti.com
Enter the code 19 65 18 4

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1 2 3 4 5 6 7 8

FRAME THE PROBLEM

Barriers

Regional Authority: Concerns and fear of dissemination of a bad odours map of Barcelona

CSO: Defiance to be another project promising solutions with little effect

Industries: defiance to share any data available

Opportunities

Presentation of an innovative scientific methodology based on previous successful initiatives

Involvement of all actors from the quadruple helix

Promoting dialogue & transparency -> strengthening relationships amongst actors

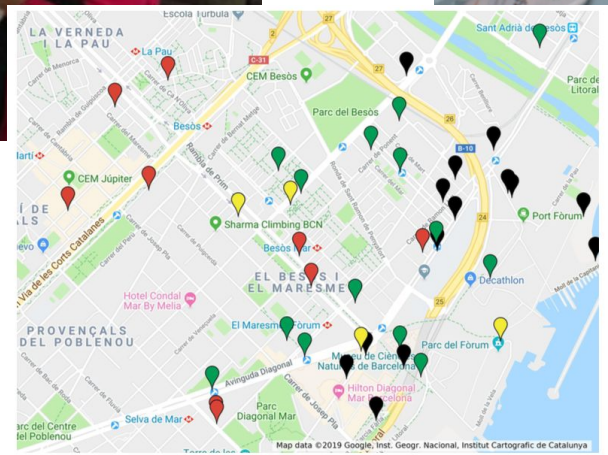
1 2 3 4 5 6 7 8

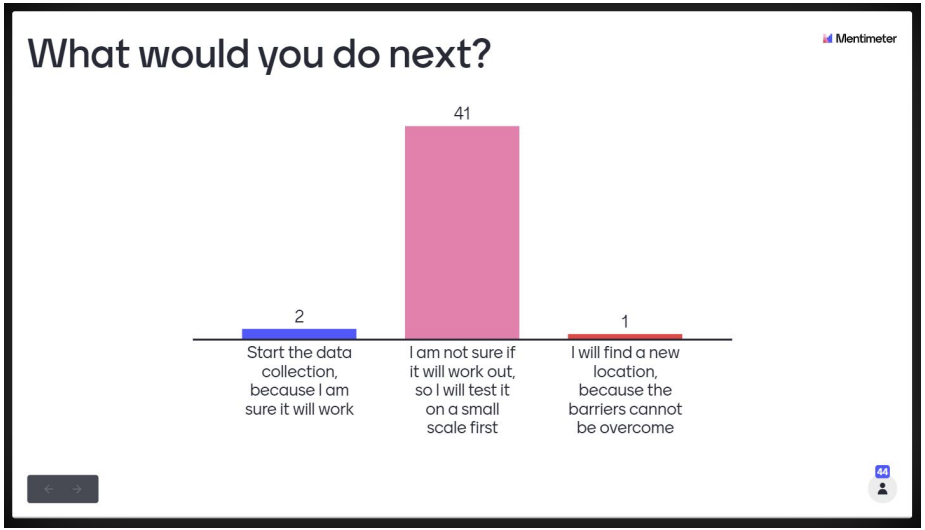
FRAME THE PROBLEM

Going where the community is

1 2 3 4 5 6 7 8

FRAME THE PROBLEM





2. What would you do next?

Go to menti.com

Enter the code 20 00 22 0

The Beta Pilot

Aim: *the aim of the Forum Beta Pilot is to* ***test the engagement methods, training materials and mobile app*** *that have been developed for the project, along with real users and in the context of a real world situation. The results will help us in designing the next pilot actions*

Pre-Pilot	Pilot
1 month	A year

Benefits

- To get to know the odour problems in the area
- To improve data collection and test the App
- Identification of Community Champions
- Hypothesis formulation and research questions
- Pilot design

The calendar of the Beta Pilot: 4 sessions

Workshop 1
25th April

Meeting and understanding the issue

Workshop 2
8th May

Odour training and the OdourCollect App

Interviews
8th May to 4th June

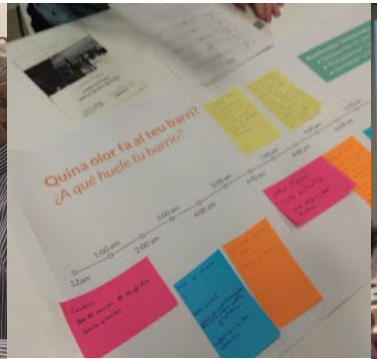
Data collection and interviews for doubts and feedback

Workshop 3
4th June

Data analysis and co-design of hypothesis and actions

Workshop 4
25th June

Co-design of next actions for the pilot continuation



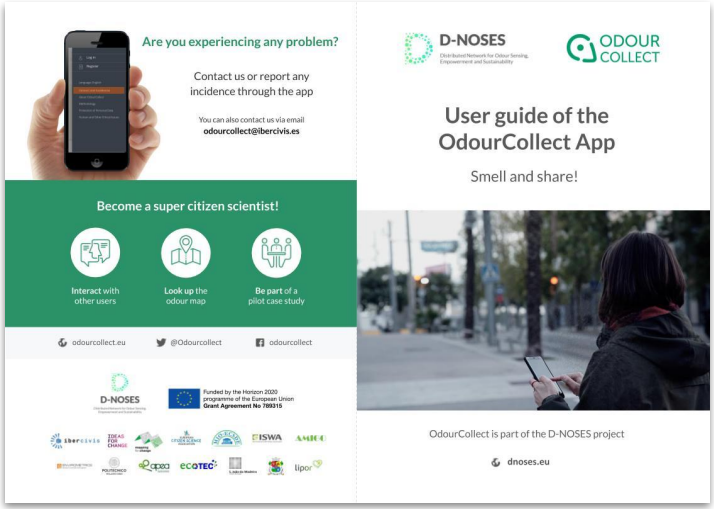
PILOT DESIGN

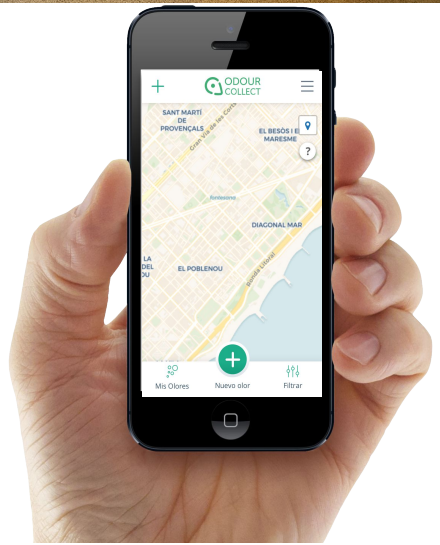
The Barcelona pilot design was based on the beta pilot participants inputs and co-creation activities:

- *To be where the people are:*
  - *Joining the community events agenda with the D-NOSES initiative*
  - *Decentralized strategy for odour trainings and co-creation actions: each area has different needs and people attend workshops in their area*

PILOT DESIGN

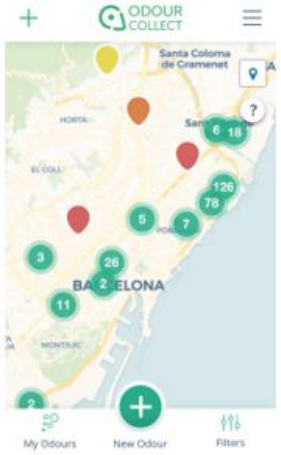
- *Organisation of odour training + OdourCollect App training + Sensory Walks to feed the data collection phase and improve odour observations*

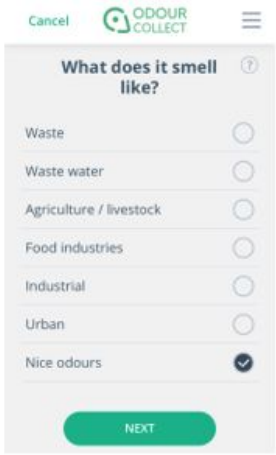


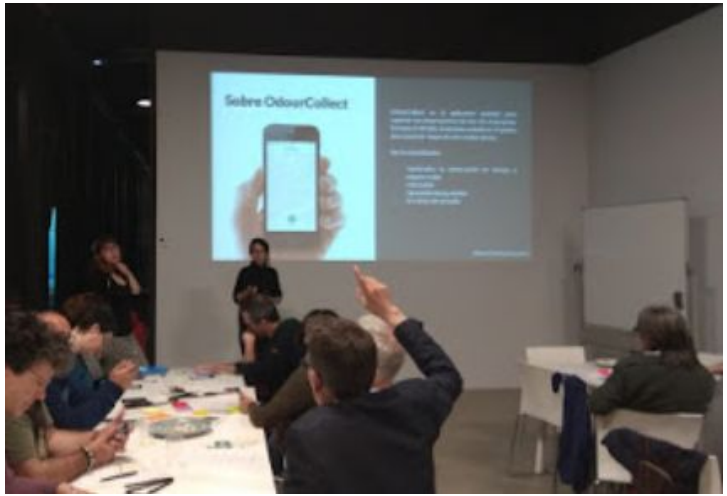


PILOT DESIGN

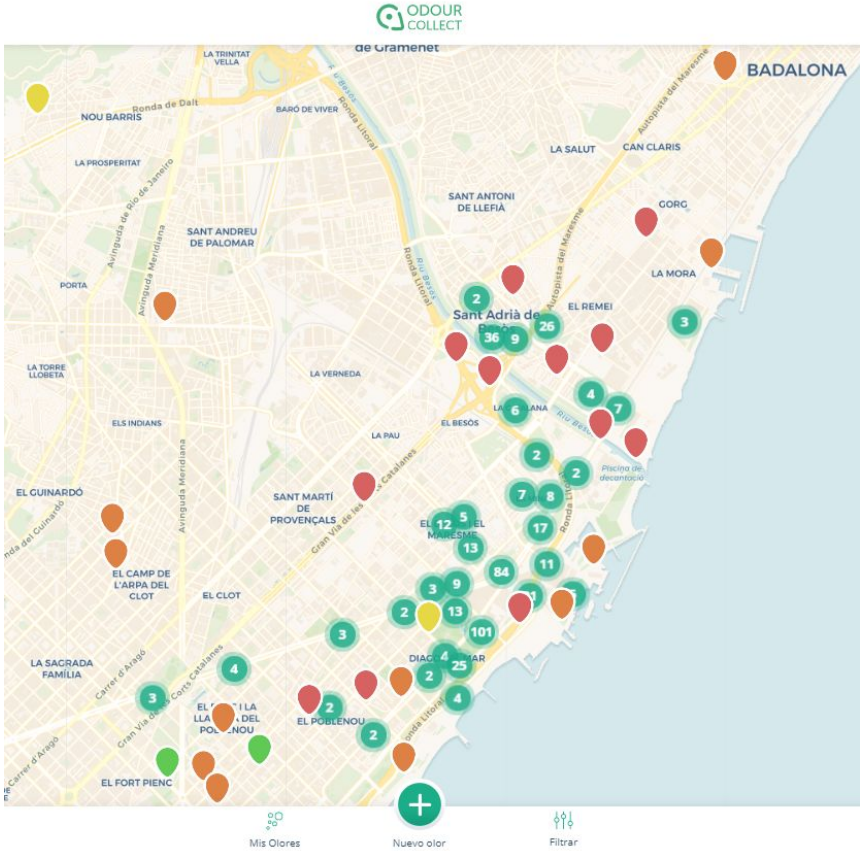
- *Improvements of the features and functionalities of the OdourCollect App through a co-creation process*





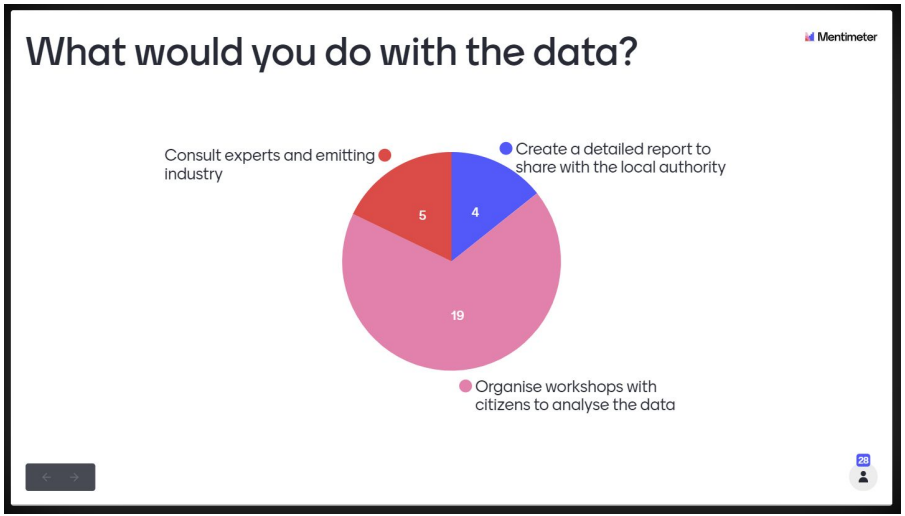


DATA COLLECTION



480 odour observations gathered using the OdourCollect App in the Forum Area during 12 months

The frequency of odour observations have varied depending on the engagement actions with communities as well as intense odour episodes



3. What would you do with the data?

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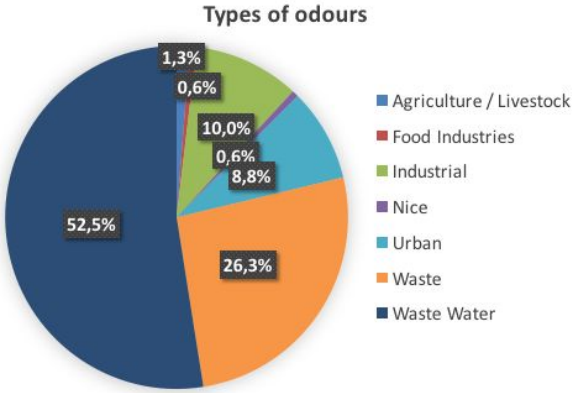
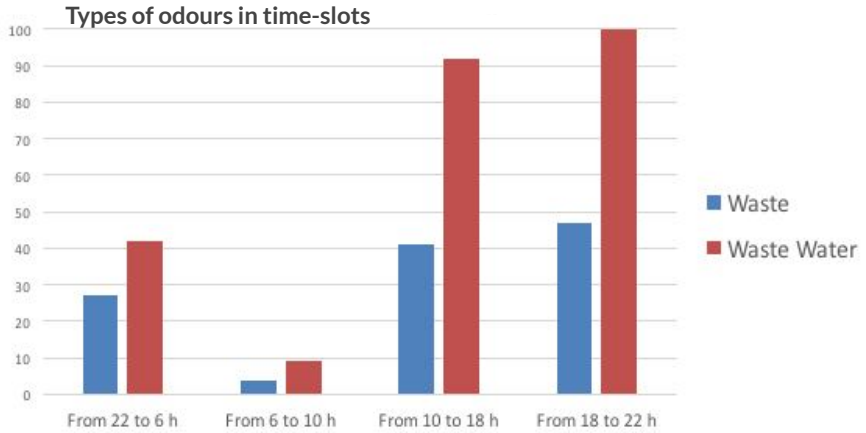
DATA ANALYSIS





- Most reported odours by citizens correspond to the odour emission activities in the area: Waste water (52.5%) and Waste (26.3%)
- Similar % throughout data collection (consistency)
- As citizens suggested, observations proved that odour episodes were concentrated during night hours

What's next?

- *Data Analysis has been visualized and shared with communities to make sense of it -> a preliminary report has also been sent to them*
- *We want to correlate odour observations with industrial operations to look for improvements*
- *We have now gained the approval of the Regional Authority -> even if we have struggled*
- *We are now creating a working group with the emitting activities in order to correlate the data and look for improvements*
- *All these will be reflected in a Report for the communities*

Questions?

Stories about inclusiveness

D-NOSES Engagement - Citizen Science

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Goggles & microphone

1 IDENTIFY THE ISSUES | 2 STAKEHOLDER MAPPING | 3 FRAME *(THE PROBLEM)* | 4 PILOT DESIGN | 5 DATA COLLECTION | 6 DATA ANALYSIS | 7 ACTION | 8 OUTCOMES

Finding participants in *mysterious* ways

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Take a walk on the wild side

1 IDENTIFY THE ISSUES

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Team up

Londoners claim toxic air from gasworks damaging their health

Walking by the river..

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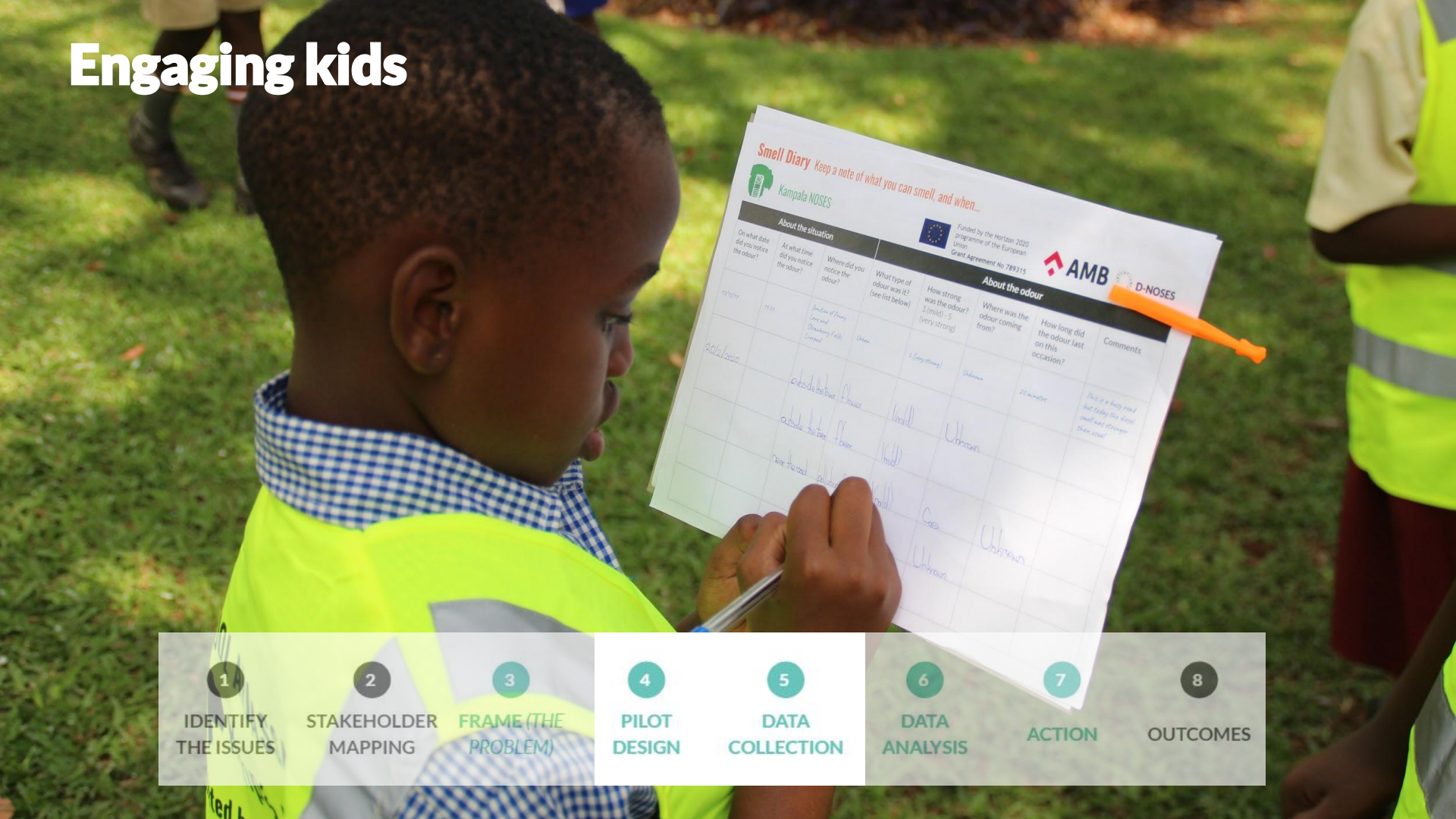
Engaging kids



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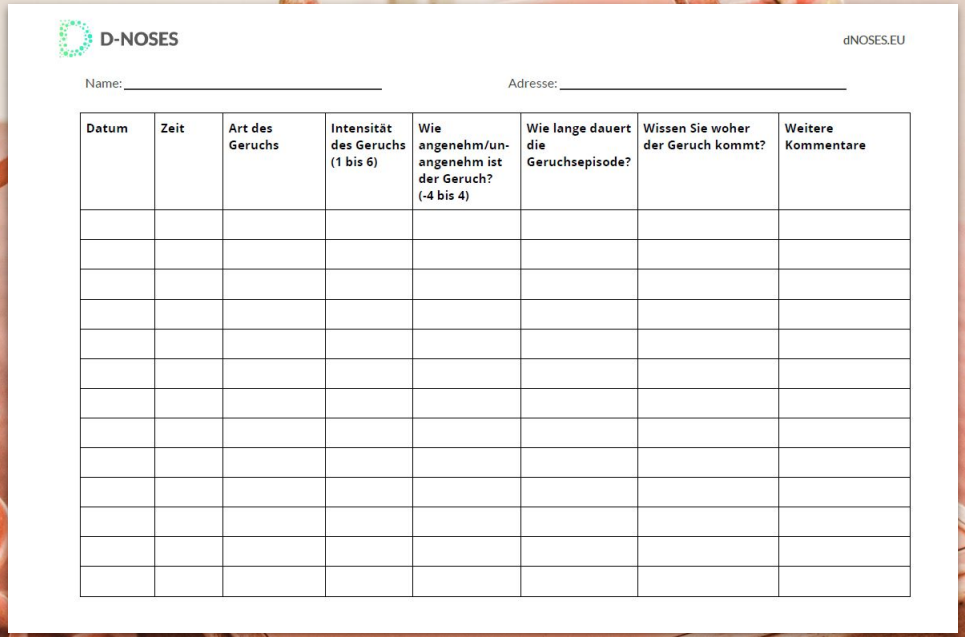
Could you repeat, please?



D-NOSES

dNOSES.EU

Name: _____ Adresse: _____

Datum	Zeit	Art des Geruchs	Intensität des Geruchs (1 bis 6)	Wie angenehm/un-angenehm ist der Geruch? (-4 bis 4)	Wie lange dauert die Geruchsepisode?	Wissen Sie woher der Geruch kommt?	Weitere Kommentare

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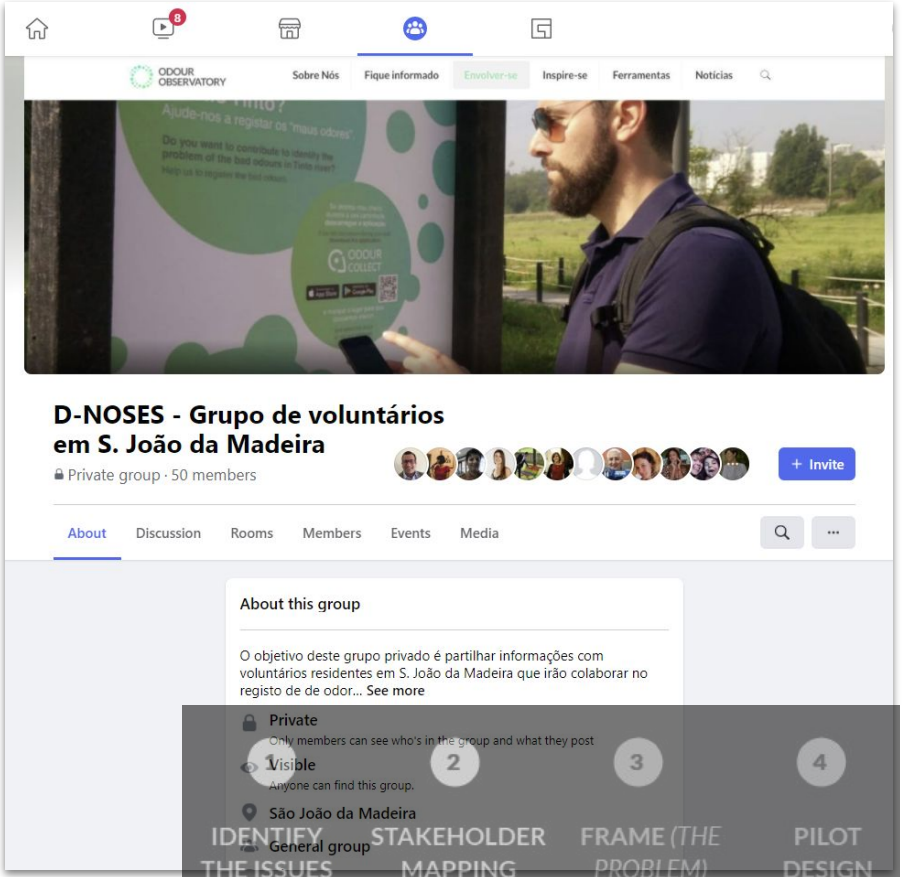
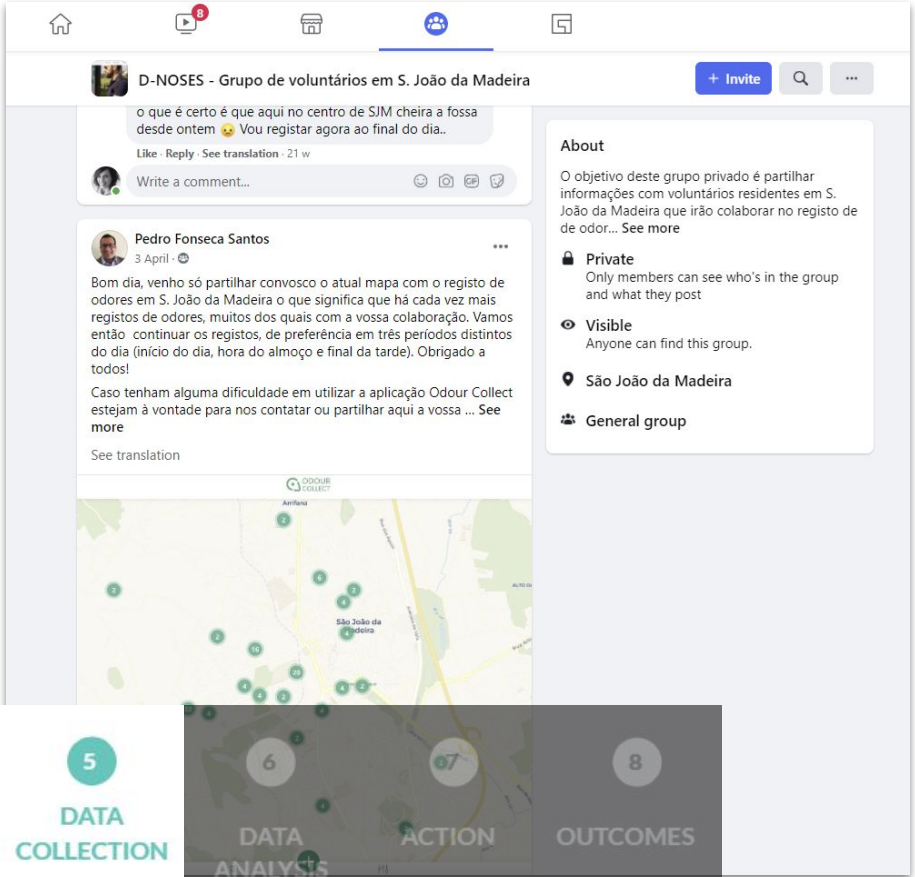
Reporting in times of COVID





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Community champions

D-NOSES

Distributed Network for Odour Sensing, Empowerment and Sustainability

Thank you!

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Coordinated by: ibercivis

IDEAS FOR CHANGE

mapping for change

ecsa

MIO-ECSDE

ISWA International Solid Waste Association

AMIGO

POLITECNICO MILANO 1863

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ENVIROMETRICS Business Consultants and Engineers

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