



D-NOSES

Distributed Network for Odour Sensing,
Empowerment and Sustainability

D-NOSES

Events 2

D7.5

M25, April 2020

Deliverable

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D-NOSES Events 2

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With contributions from all D-NOSES Partners



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STATEMENT OF ORIGINALITY

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Summary

This document lists the 42 events attended or organized by the D-NOSES consortium to promote, disseminate and engage with different audiences in the second year of the project.

The main thrust of the events remained focused on the four target audiences defined in the previous events report. They correspond to the quadruple helix model of stakeholders - the public, the industry, the scientific community and the policy makers. The choice of events has been strategically made to offer the most effective use of the limited resources that are available. At the beginning of the project, citizen engagement is crucial to get some results. Participating in public events and other citizen science events is useful to reach the general public in the former and a more engaged public in the latter. As the project matures, the focus will have to shift gradually to more exposure towards policy makers and odour experts that may be persuaded to adopt and act on the results. Attending these events represents a strategic approach to raising the profile of this project and potentially reaching policymakers at the different levels (local, regional, national, European and global). Also, we believe that creating more opportunities for outreach via schools can be an effective mechanism to gain engagement from the kids at local level, invest in the children's interest for science (specially attracting more girls towards STEM careers), as well as reaching their parents with information on odour issues.

In this period, there has been a shift to favour more scientific events compared to the last period. This is due to the consideration that the scientific community is still some way off from fully accepting Citizen Science in general, and certainly its application in odour management in particular. This lack of acceptance is considered a barrier to wider uptake and opportunities to use the D-NOSES model. Without acceptance from the scientific community, the data generated will never have enough credibility to be used effectively in managing odour issues. This is also combined with the fact that right now all interventions based on the D-NOSES methods must rely on scientists guiding the process. For the model to gain acceptance, scientists must be exposed to, and convinced of, the validity and the opportunities of the method. In other words, to try to replicate the method we must encourage and inspire scientists to take part and start their own case studies/interventions. Moreover, presentation at scientific conferences is directly linked to the publication of peer-reviewed scientific papers, which will contribute to the dissemination of the project results to the wide scientific community, and increase credibility to overcome barriers and recognise the validity of the D-NOSES methodology.

The focus on more scientific events has come at the cost of a slightly reduced number of industry events attended. This is a necessary compromise due to the limited resources available. However, it is not considered to be particularly harmful as the industry will take cues from the scientific communities on what are the acceptable and useful methods for odour studies. At least the experience so far has shown that the industry does not easily volunteer to take part in these interventions, and so pressure must come from either the policy or scientific community. We also believe the scientific community can also play a key role in moving and informing policy. Moreover, important policy events have also been held in this period including policy makers and government stakeholders, as shown throughout this deliverable.

- **Events for Public Audiences**

Engagement with the general public remains important to generate volunteers and enough data to make the odour maps. It is important for the odour observatory to be filled with as much data and information as possible. The D-NOSES team has been to **9 events** in the second year to engage with the general public and get them mapping. This of course is separate from the local events and co-creation workshops related directly to case studies which are presented in the actions taken for each case in the corresponding deliverables.

- **Events for Scientific Audiences**

Events such as scientific conferences were used to spread the message of citizen science in general and network with other researchers to promote the acceptance and use of these types of methods. In this second period, D-NOSES was present at **19 scientific events**, presenting the methods and plans for the pilots and the new methodology to the odour experts' community. In some cases preliminary results from the case studies were also presented. In some other cases, the scientific events were promoted and/or organized by the D-NOSES partners themselves.

- **Events for Policy Audiences**

To reach out to policy makers, D-NOSES was also present at **9 events** that included policy makers and government stakeholders. These events are aimed at educating policy makers on the issues of odour pollution and their significant health, social and economic effects. Since it has been observed that policy makers tend to react more to issues that they are in some way linked to, the [D-NOSES policy brief](#) has been translated and adapted to include local details when used for this purpose to all the partner countries and languages.

- **Events for Industry Audiences**

Facility operators and industrial representatives are specifically targeted at more commercial exhibitions. D-NOSES was present at **7 industry related events**, to provide a friendly face to a usually contentious issue and communicating the value of the method to the industry in being able to provide a low cost alternative to environmental odour monitoring.

COVID-19 Effects on D-NOSES attendance to events

This second year has also seen a huge disruption to the normal public events due to the COVID-19 pandemic which has caused widespread lockdowns from March 2020 (M24 of the project). This has produced the cancellation and postponement of events at the start of 2020 and is expected to keep on causing disruption to event planning until at least the last quarter of this year. Some events which were planned for the end of this period, such as the WEF Odours and Air Pollutants Conference 2020 in March were cancelled. This is also affecting other industry events planned for later in the year, such as the IFAT 2020 in May, which was initially postponed until September 2020 and now cancelled, and the Ecomondo 2020 event as far out in November which is now likely to be cancelled. Other highly relevant events for D-NOSES, in which D-NOSES had already presented several proposals for oral presentations and co-creation workshops, such as the ECSA Conference 2020 (to be originally held in June 2020) and the NOSE Conference 2020 (to be originally held in September 2020), have been postponed. At least six scientific papers were planned to be produced for the NOSE Conference, showing the results of the more advanced D-NOSES pilots. Since pilot implementation has also been delayed at least to an estimated maximum of seven months (from February to September 2020), due to the lockdown in all D-NOSES countries, and the NOSE Conference is now planned to be held in April 2021, our attendance and publication of papers will be postponed accordingly.

Even once normal events are allowed, they will most likely have to adapt to a new normal in which international travel will be very limited and event attendance will have to observe safe interpersonal distances. This will severely limit the options available to effectively promote D-NOSES at physical events, and perhaps digital events or alternative promotional methods will be needed to achieve the goals of the project. While there is no definite plan yet on how to deal with this situation, the team is considering this before making any plans for future events.

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1

EVENTS

Events are a crucial component of the D-NOSES project and its aim to create a citizen science backed odour observatory. This requires engagement from the quadruple helix stakeholder sets, and they are targeted through these events. The aim is to spread the word of the new methodology among citizens, odour emitting industries, odour scientists and the citizen science community, and regulators

1. D-NOSES Events

There are four main audiences that have been targeted by the events, which correspond to the quadruple helix model of stakeholder engagement - the public, the industry, the scientific community and the policy influencers. For each of these stakeholder groups, we present here a few reports from sample events.

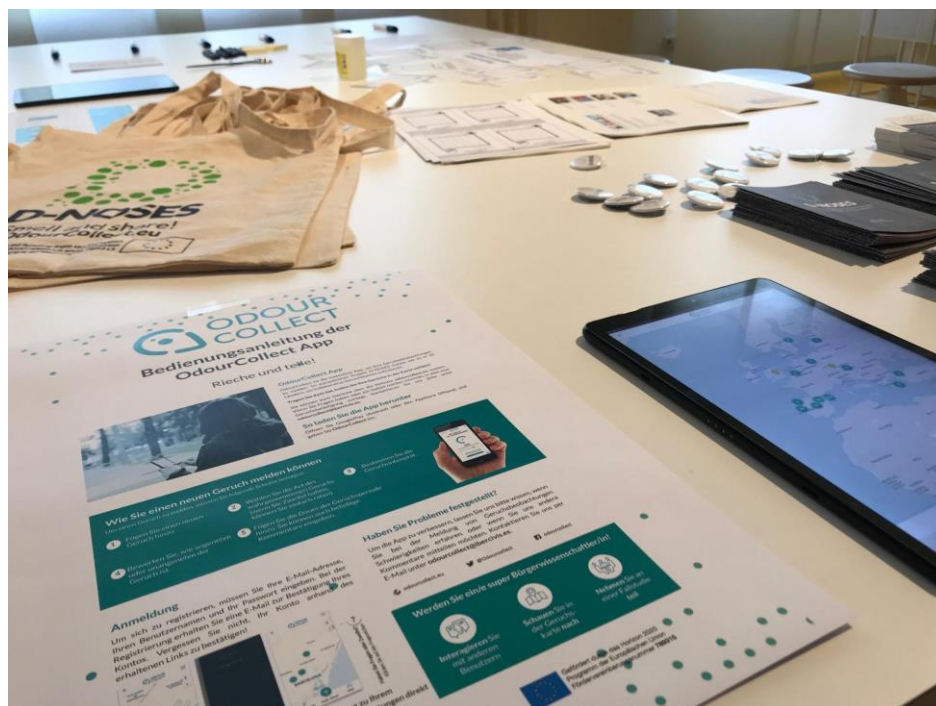
- **Events for Public Audiences**

For the general public, the events were largely focused on presenting the project and getting people to start using the App OdourCollect to map odours. These events fall outside of those that are organised to engage residents for specific case studies, and are aimed at the general public to increase awareness and help fill the odour map with representative rather than strictly scientific data.

European Clean Air Day: Promotion Activities (Germany)

D-NOSES Stand in the Museum für Naturkunde in Berlin

On the 20th of June 2019, live events were organized in eight cities across Europe, raising awareness about air quality and citizen science. This was the first year of this campaign drawing attention to air quality issues. It is planned to take place every year and help engage people so that they become active and take responsibility for their own environment - just like D-NOSES. Live events were held in 7 EU countries: in Berlin, Amsterdam, Budapest, Ispra, Katowice, Oslo, Porto, Utrecht and Zwolle.



Partner ECSA created their own stand at the Museum für Naturkunde in Berlin for visitors during the European Clean Air Day event. ECSA members presented the App, information on D-NOSES, and run small experiments on air quality monitoring and odour sensing. People were invited to smell odour sample sticks and guess the associated odour as a fun way of increasing participation and engagement. The sticks smelled like waste, waste water, chemical, and brewery odours, all of which are common odours near emitting facilities in Europe.

The D-NOSES project was presented to visitors, including the OdourCollect app. The app was presented as a tool that they could use to add their own odour observations to a collaborative map. By identifying odours and where they occur, this data can be used to better manage the air quality for residents near the impact area of odour emitting facilities.

Talent Woman 2019 - Workshop (Spain)

The Talent Woman 2019 conference was held in Malaga on the 28th and 29th of November 2019. This is an event from an inclusive movement that seeks to recognize and promote the talent of women and contribute to innovation, making use of science and technology as a business and lifestyle. This was an excellent opportunity to showcase the D-NOSES project which is a great practical example of women taking part in a highly technical and innovative project. The project is also characterised by its highly inclusive principles, which matched perfectly with the aim of the event. Partners MfC and IBERCIVIS sent some of their top talent to promote the project and inspire other women.



Nora Salas Seoane and María Alonso held a workshop titled “*What does Málaga smell like? Co-creating collaborative odour maps using Citizen Science to create social change*”. The workshop explained the science behind our human sense of smell and introduced the project. They also presented the OdourCollect application and encouraged attendees to use it to map the smells they encountered in Málaga.



Citizen generated data – A lever for social change: Workshop (Chile)

This workshop was organized by D-NOSES consortium member ECOTEC in Santiago de Chile on the 25th of November 2019 in cooperation with the local university, Universidad de Santiago de Chile. Initially focused on students and the scientific community, it was also open for public attendees. Partners IFC and ECOTEC presented their experience with citizen science and odour studies. Lucía Errandonea presented on citizen generated data and Gerhard Schleenstein focused on questionnaire methods to measure annoyance due to odour, and promoted also the D-NOSES methodology and the OdourCollect app. Unfortunately, the assistance was lower than expected due to students and professors striking during the social riots that took place in Chile since mid-October 2019.



Datos generados por ciudadanos: una palanca para el cambio social

Relatores:

Lucía Errandonea, Investigadora en Ideas for Change, Barcelona
Gerhard Schleenstein, Ecotec, Santiago

Lunes 25/11/2019 de 15:00 a 17:00

USACH Vicerrectoria de Vinculación con el Medio | Auditorio A
Av. Las Sophoras 175, Estación Central

Entrada liberada, cupos limitados,
Inscripciones al whatsapp +56966166318

 **D-NOSES**
Distributed Network for Odour Sensing,
Empowerment and Sustainability

- Events for Scientific Audiences

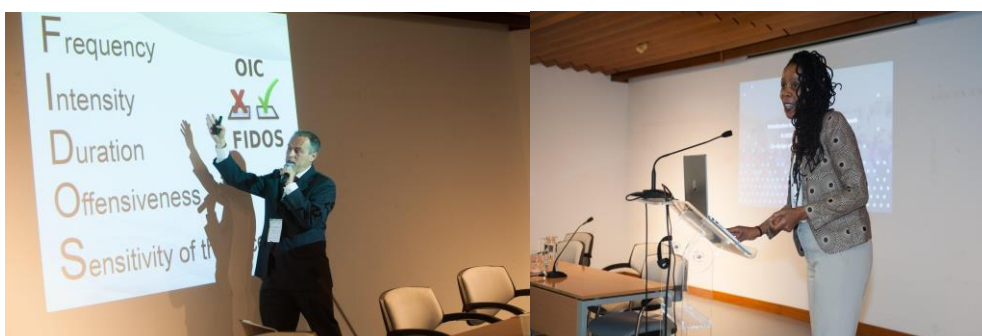
Events for scientific audiences include presentations of scientific papers based on the results of the project, but are mostly used to present the project and engage with other scientists on the suitability of the D-NOSES method to measure odour impact and resolve odour management issues through stakeholder engagement and co-creation models. Where possible, the attending D-NOSES delegations have also used the opportunity to get feedback and co-creation input on the OdourCollect app and International Odour Observatory platform.

ODOURS 19 - International Conference on Odours - XIV CNEA - National Congress of Environmental Engineering (Portugal)

The University of Aveiro hosted, on May 16th and 17th 2019, ODOURS 19 - International Conference on Odours, in parallel with the XIV National Congress of Environmental Engineering, organized by D-NOSES Partner APEA. The program included two oral presentations of the D-NOSES project: “The D-NOSES Project: an innovative bottom-up approach based on citizen science for improved odour pollution management” (Rosa Arias, Ibercivis, D-NOSES Project Coordinator) and “The Odour Observatory as an informative tool for citizens: overview of odour impact assessment methods” (Laura Capelli, Politecnico de Milano, D-NOSES Scientific Manager).

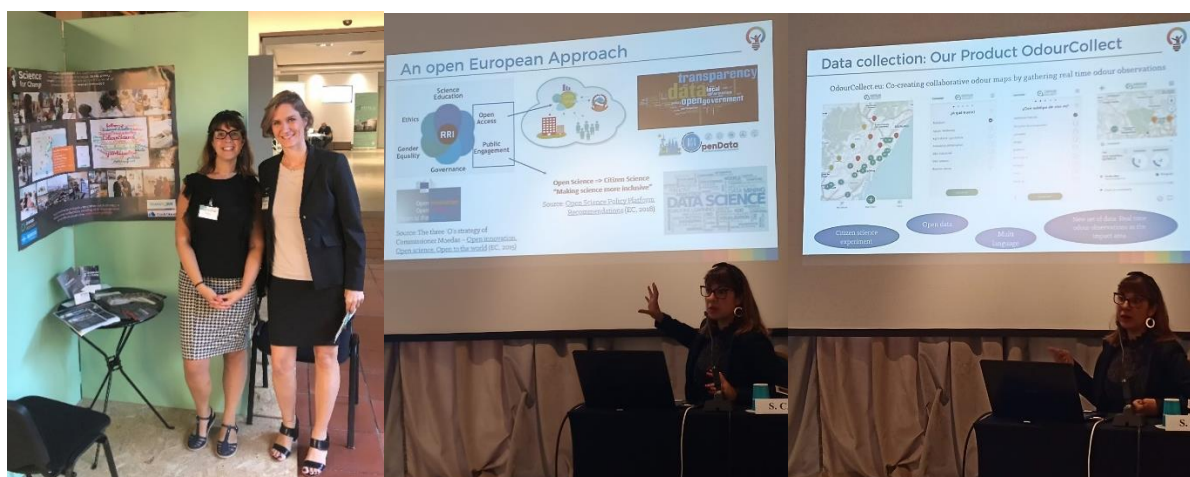


During ODOURS 19, three other D-NOSES partners participated with oral presentations in the plenary sessions, covering the following topics, related with the work being done in the D-NOSES project: “What about a single odour emission limit for any kind of activity?” (Carlos Díaz, AMIGO), “Participatory Tools for Citizen Engagement in Odour Pollution Monitoring” (Louise Francis, Mapping for Change), and “Odour treatment at Portuguese waste and wastewater management sectors - challenges and opportunities” (Luís Marinheiro, APEA).



Sardinia Symposium 2019 - 17th International Waste Management and Landfill Symposium (Italy)

The Sardinia Symposium is one of the world's leading conferences on landfills and waste management. Since odour is a persistent problem in Waste Management installations, and particularly in landfills where odour can be difficult to control, some D-NOSES partners (Ibercivis and POLIMI) were invited to present two papers on the project and the relevant results. A presentation was also done to introduce Science for Change as the startup created by Rosa Arias, D-NOSES coordinator, to exploit the project results. A small stand was also available to distribute materials and information from the project.



Special papers were written with the partners from POLIMI and IBERCIVIS and submitted for the conference. One of the papers presented the learnings from the scientific review on odour assessment methods - *“Odour impact assessment methods overview: the odour observatory as an informative tool for citizen science based approaches to odour management”*. This paper was presented by Laura Capelli at the Symposium, and it was also submitted and accepted by the Detritus Multidisciplinary Journal for Waste Resources and Residues.



Rosa Arias from IBERCIVIS also presented a paper detailing the first results of the pilot case in Barcelona and the initial conclusions on the development of the methodology. The paper - titled *“Citizen science for odour impact assessment considering the real perception of the receptors: the case of Barcelona”* - presented the methodology used, and some of the key findings from the first few

months of data collected from the OdourCollect application. The data was largely in line with the expected outcomes concerning the types and intensities of odours already detecting by traditional odour studies (involving olfactometry and dispersion modelling and field panels), demonstrating the apparent reliability of the data collection method. One of the main discussion points and key learnings from the pilot was presented as the difficulty encountered in getting the policy makers and industries on board. This paper was also accepted to be published in the Detritus Journal.



8th IWA Odour & VOC/Air Emission Conference (China)

The organization committee of the 8th IWA Odour & VOC/Air Emission Conference that took place in Hangzhou, China, arranged a couple of pre-conference workshops for the 13th October 2019, a day before the event started. These workshops were aimed at people wishing to have some introduction to odour management before the conference. The first workshop dealt with "Measurement Techniques". The workshop was deployed by several experts and Mr. Carlos Díaz, president of the AMIGO Association, presented about the use of Citizen Science to monitor odours, the use of surveys and the mapping of odours collaboratively.



According to the organizers, around 150 people attended the conference for three days to discuss the latest development on odour and VOC control. There, Mr. Díaz also presented a keynote on Odour management, community engagement, social media and citizen science, action with a special focus on the D-NOSES project.

5th International Conference on Environmental Odour & VOCs Management (Chile)

D-NOSES partner AMIGO, together with Olores.org and the backing of the Ministry of Environment of Chile, organized the Olores 19 - V International Conference on Environmental Odour and VOCs Management on the 26-27 of November 2019 in Santiago, Chile. The program of the Fifth Conference of Odour emission in the Environment focused on the estimation and evaluation of odour emission in the environment as a critical issue to odour and VOCs management. During the conference, the D-NOSES team was given the chance to present and promote the project and the scientific learnings from the case studies, and a stand was set for the project. The D-NOSES team (Ibercivis, ECOTEC, AMIGO, IFC, CMSJM) set up a stand including roll-up banners to describe the project as well as the different brochures and branded materials to promote the project during the conference. The travel was also useful to initiate the engagement actions for the pilot in Chile.



The project was presented already during the *Basic Training on Odour Management* the day before the conference (November 25th, where data was gathered to co-create the Odour Observatory) and during the session for *Calculation of the odour impact*, as an innovative methodology based on Citizen Science to improve environmental odour management. Chilean partner ECOTEC also presented some of the work for the Chilean case study of the project under the title “*Evaluation of Odour Annoyance through Repetitive Surveys – Evidence From a case study*”.



International Seminar on Odour Management (Colombia)

In agreement with the Chilean Conference, a parallel event was also organized in Colombia by partner AMIGO. Even though both events were affected by the general strikes that took place in both countries at the time of the events, even with violent incidents and last minute change of locations, there was a high success in the number of attendees to each conference (around 150 people per country), representing odour emitting industries, but also relevant environmental authorities and representatives of the Environment Ministries in both countries. Both in Colombia and Chile there are specific odour regulations and standards, an opposite situation to some consortium countries such as Spain, Portugal or Greece, and the level of interest was thrilling. Partners AMIGO and IBERCIVIS gave several presentations during the congress, on International odour regulations, Odour mapping through citizen science, and a D-NOSES workshop, where the co-creation of the Odour Observatory was encouraged.



● Events for Policy Audiences

2nd Meeting of the Mediterranean Committee on Education for Sustainable Development (Greece)

This event brought together approximately 60-80 officers of Ministries of Education and/or Environment, who follow the Action Plan of the Mediterranean Strategy on ESD processes; Representatives of UNESCO, UN Environment/MAP, UNECE, UfM, LAS; ESD experts of the formal and non-formal sector: Universities, NGOs, etc.



The purpose of this committee, and its program, is to provide the necessary tools and information for policy makers to formulate effective environmental policies and measures that can tackle emerging environmental challenges. MIO-ECSDE set up a stand over the 2 days to introduce the project. They also demonstrated the OdourCollect app, and ran co-creation exercises for the Odour Observatory.



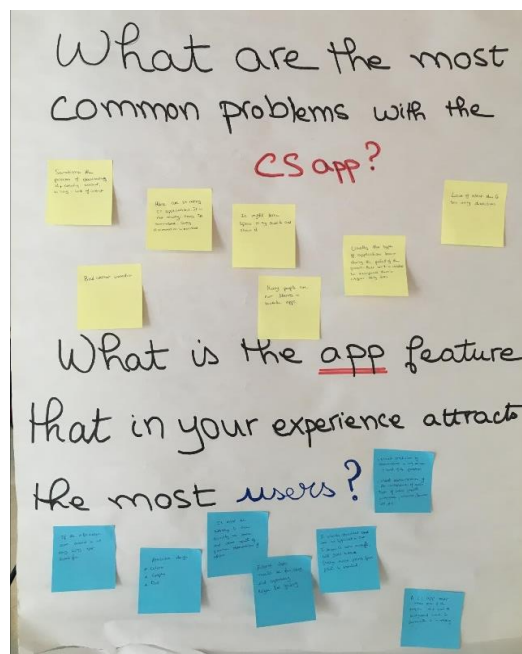
The team in Crete asked two questions in particular to their visitors which brought some interesting thoughts:

- Which are the most common problems with Citizen Science Apps?
- What is the app feature you think attracts the most users?

For the first question, the main problem of citizen science applications is one of sustainability. It is difficult to get people to install and use the app, and overcome the barriers of learning to use it. After installation, apps remain largely unused, perhaps after a short “honeymoon period”. The challenge is to maintain the interest of the user. For D-NOSES part of the answer lies in self-interest. Most people will not use the app for long if they do not regularly come across odours.

Those that do will be motivated to persist and help resolve the problem. The challenge is to communicate progress while building the necessary data to undertake action.

For the second question, the main point was accessibility and desirability. The app should be designed to be attractive and easy to use, and provide useful information in an easily digestible way. From an individual perspective, the more information the app can provide the better, about the sources of odours and their possible health effects. This would provide incentives as it would inform people of their own stake in the issue. Also, the more that the app can be coupled to success stories, the more likely it is that people will invest the time in installing, learning and using the app.



2nd Citizen Engagement Festival in Brussels (Belgium)

The festival was organised by the Joint Research Centre (JRC) in Brussels during the 9th and 10th of December 2019, in the framework of the 'EU Community of Practice' on Citizen Engagement. This inspiring event brought together over 250 practitioners to discuss and exchange good practices and invited European policy makers to understand the role of citizen engagement across the policy cycle. During her welcome speech, the Deputy Director-General of the JRC raised relevant points about how to enable co-designing policies with citizens, which included the need to engage more than a 'usual consultation' with the 'usual suspects' or to foster deeper forms of engagement. In line with these words, members of our engagement expert partner Mapping for Change were invited to contribute with a 90-minutes practical session about how to incorporate co-created solutions for citizen engagement in the different phases of the policy cycle. The D-NOSES example was used to illustrate. The session was coordinated by Violeta Cabello and done together with members of Decidim.org platform (Spain), all women.





14th meeting of Mediterranean Parliamentarians and Stakeholders (Morocco)

This meeting for 'launching a new decade of Sustainable Development in the Mediterranean' brought together members of parliament, non-governmental and intergovernmental organizations (NGOs and IGOs), media and journalists, scientists and civil society to discuss anchoring sustainable development in political agendas in the region. Representatives of the Union for the Mediterranean, the United Nations Environment Program / Mediterranean Action Plan, the League of Arab States and the Circle of Mediterranean Parliamentarians for Sustainable Development were also present for the event.



The event was co-organized by project partner MIO-ECSDE, the Global Water Partnership – Mediterranean (GWPMed), the “OFF YOUR MAP” campaign, the International Water Management Institute and the ‘Making Water Cooperation Happen in the Mediterranean’ project supported by the Swedish International Development Cooperation Agency (Sida).

At the meeting, our advocacy partner MIO-ECSDE set up a stand to introduce D-NOSES to the various Mediterranean stakeholders which were present. On separate days, environmental journalists and Members of Parliament learned all about the OdourCollect application, the MOOC Online Course on Odour Management and of course the International Odour Observatory. Over 180 people attended the 2 day event.



Workshop for Chilean ministries (Chile)

This workshop was organized by the Chilean Ministry of Environment and D-NOSES consortium member ECOTEC in Santiago de Chile on the 28th of November 2019. Attendees came from the different ministries of the central government (Environment, Public Health) and regional sections of the Ministry of Environment for whom the workshop was streamed by videoconference.

Partners IFC and ECOTEC presented their experience with citizen science and odour studies. Lucía Errandonea presented on citizen generated data and the Barcelona pilot. Gerhard Schleenstein focused on questionnaire methods to measure annoyance due to odour and also promoted the D-NOSES methodology, the OdourCollect app and the Chilean pilot study. The Chilean version of the D-NOSES policy brief was handed over to the Environmental Ministry and will be distributed to all their regional branches.



D-NOSES Project National and Regional Stakeholders Meeting at Lipor (Portugal)

The issue of odour pollution was on the table at a meeting held at LIPOR facilities, located in Maia Municipality (Portugal), on January 14th 2020. During this meeting, the Portuguese entities that integrate the D-NOSES project (APEA, CMSJM and LIPOR) presented this International initiative to entities linked to legislation, regulation and supervision in the field of the environment, including odour pollution, in Portugal.



National (APA - Portuguese Environment Agency), Regional (DRAN - North Regional Directorate of Agriculture and CCDR - North Region Coordination Commission) and Scientific (University of Aveiro) stakeholders attended this very productive meeting, presenting their vision regarding odour pollution in Portugal and in the North Region, in particular. It was the launch of a policy-society-scientific dialogues, coordinated by APEA in Portugal, which will continue during the following months.

'Effective local action on Odour for Kampala - introducing new and effective ways of tackling odour pollution' Conference (Uganda)

On 12th February, at a guesthouse overlooking Kampala city, Mapping for Change team members held the first workshop with local key stakeholders. The conference included a series of presentations and interactive sessions to identify and prioritise the key sources of odour across the capital. The current practices used to monitor and manage odour pollution were discussed along with exploring the potential to introduce the DNOSES citizen science methodology to either support or enhance existing practices or provide an opportunity to introduce new ones. The event was attended by National Environment Management Authority (NEMA); Kampala Capital City Authority (KCCA); Makerere University and Ministry of Water, among others.



European R&I Days (Brussels)

Rosa Arias, D-NOSES coordinator, was invited as speaker to the session “*Citizen Science: The Promise of Open Science for Society*”, together with other relevant experts in the field, such as Muki Haklay, Professor of Geographic Information Science, Extreme Citizen Science (ExCiteS) research group, University College London, co-ordinator of Doing it Together Science project, and partner in EU.Citizen-Science, and Carole Paleco, the International Relations/Projects Liaison Officer, Royal Belgian Institute of Natural Sciences. The session was co-organized by Linden Farrer, from RTD/G4 in the European Commission, and the SwafS unit from the REA. The session was fully booked in a room with a capacity for 100 people. Rosa Arias presented the D-NOSES Project: “*Improving odour pollution policies through local citizen science interventions*”. After all presentations, a lively debate was held with the audience, highly interested in the topic.



Organizers and speakers to the session “*Citizen Science: The Promise of Open Science for Society*” at the European R&I Days. Ms Colombe Warrin, on the left and next to Rosa Arias, is the Project Officer of D-NOSES. Mr. Linden Farrer, from DG Research, next to Rosa, was the main organizer of the highly successful session. Carole and Muki are next to him.

● Events for Industry Audiences

For industry stakeholders there were mainly presentations that focused on informing the audience as to the technical challenges of odour measurement and management, as well as the advantages offered by a citizen science based innovative methodology such as D-NOSES.

EU Water Innovation Conference 2019: Accelerating action to tackle water pollution and enhance EU preparedness to water-related climate change impacts (Spain)

In December, 2019, the 5th EU Water Innovation Conference took place in Zaragoza with the aim of accelerating action to tackle water pollution and enhance EU preparedness to water-related climate change impacts. Besides raising awareness about the need and urgency to improve water management across the European Union, the Conference meant to promote an exchange of innovative approaches to bring about smart-water societies. Along this line, D-NOSES coordinator Ibercivis held an insightful workshop to present a series of best practices of citizen science in water-management projects. During the workshop, the audience had to discuss cases of civil society influence in business/ research and education/public administration sectors. Subsequently, the audience discussed their confidence in the effectiveness of citizen science. It was emphasized that despite difficulties of scale and implementation, the increasing connectedness of our societies could enable effective communication and participation of different actors in citizen science projects. To achieve this it is crucial to start fostering a more participatory culture in general.

Finally, attendees talked about citizen science in their own areas and sectors. It was soon clear that industries tend to be reluctant to participate in citizen science projects. The audience stressed that first frameworks of deliberation and cooperation would have to be established, to ensure that all stakeholders benefit from the outcomes of citizen-lead initiatives. Finally, it was also shown that contextual differences, including cultural, geographical and political, must be carefully considered. Solutions might not work in different contexts, and so each solution must be tailored to suit the particularities of the place and the stakeholders involved.



2. List of Events Attended

During its second year, the D-NOSES team has continued to be very active in pursuing events where the project could be presented, and even organizing their own, mainly orally and through stands and literature, as well as personal networking. The table below lists the many events at which the consortium members presented the project over the last period, including partners and names of the presenters/participants from each institution, location, dates, event type, activity undertaken, its brief description and the number of attendees.

NAME OF THE EVENT (link to social networks publication)	PARTNER and name of the attendees	LOCATION	DATE	EVENT TYPE	ACTIVITY	DESCRIPTION	ATTENDEES and type of audience
Conference on urban food policy	Eng. Petar Traykov (Sofia Municipality)	Sofia, Bulgaria	04/01 2019	Conference	Oral Presentation and Discussion	Implementing D-NOSES as a diagnostic mechanism for odours from food waste	50 Policy
2nd Social Lab Workshop NewHoRRizon	Mara Balestrini (IFC)	Ljubljana, Slovenia	01-02/04 2019	Workshop	Scientific presentations and discussions	D-NOSES impact indicators and measurement of the RRI keys	20 Scientific
European GeoSciences General Assembly (EGU)	Rosa Arias (Ibercivis)	Vienna, Austria	07/04 2019	Conference	Oral Presentation	D-NOSES project and OdourCollect App	80 Scientific
CIVIC Media Monthly Meeting (MIT)	Mara Balestrini (IFC)	Cambridge, United States	21/04 2019	Exhibition	Oral Presentation	D-NOSES presentation as an innovative citizen science project in odour pollution	50 Scientific
Innovation Lab in the degree of Smart Cities of the Autonomous University of Barcelona	Rosa Arias and Nora Salas (Ibercivis)	Bellaterra, Barcelona	03/05 2019	Conference	Oral Presentation	D-NOSES Project and the Barcelona Pilot	8 University students
Odours 2019 International Conference on Odours Aveiro	Rosa Arias (Ibercivis) Carlos Diaz & Cyntia	Aveiro, Portugal	16/05 2019	Conference	Oral Presentations	D-NOSES scientific methodology & the project's	120 Scientific

	Izquierdo (AMIGO) Laura Capelli (POLIMI) Louise Francis (MfC)					participatory tools	
Citizen Science Flemish Network	Marzia Mazzonetto (EU-Citizen.Science, Stickydot)	Mechelen, The Netherlands	20/05 2019	Workshop	Oral Presentation	D-NOSES presentation as citizen science approach	25 Scientific
Seminar on Environmental evaluation of Sanitary Projects	Gerhard Schleenstein (ECOTEC)	Santiago, Chile	31/05 2019	Workshop	Attendance and Networking	Promotion of D-NOSES project	90 Industry
ICT4S 2019 – 6th international conference on ICT for Sustainability	Mara Balestrini (IFC)	Lappeenranta, Finland	10-15/06 2019	Conference	Attendance and Networking	D-NOSES presentation as citizen science approach	60 Scientific
Living Labs Conference (Living Labs, Open Innovation and Universities)	Nora Salas Seoane (Ibercivis)	Barcelona, Spain	18/06 2019	Conference	Oral Presentation and Discussion	D-NOSES presentation in a round table	50 Scientific
European Clean Air Day	Simone Rüfenacht, Giulia Melilli (ECSA)	Berlin, Germany	20/06 2019	Awareness raising activity	Promotional Stand and Activities	Stand for visitors of the Museum für Naturkunde in Berlin with information on odour pollution, the project and OdourCollect App.	50 Public
2nd Meeting of the Mediterranean Committee on education for Sustainable Development (ESD)	Alaa Abou Daher (MIO-ECSDE), Maria Sanchis (SfC)	Crete, Greece	24-26/06 2019	Conference	Promotional Stand and Activities	Stand to inform about D-NOSES, demonstrate the OdourCollect app, and co-creation exercises for the Odour Observatory.	80 Policy

Austrian Citizen Science Association Conference	Simone Rüfenacht (ECSA)	Obergurgl, Austria	26-28/06 2019	Conference	Oral Presentation	D-NOSES project and first results from Barcelona pilot	100 Scientific
3rd Social Lab Workshop NewHoRRizon	Mara Balestrini (IFC), Simone Rüfenacht (ECSA)	Berlin, Germany	05/07 2019	Workshop	Oral Presentation and Discussion	D-NOSES impact indicators and measurement of the RRI	10 Scientific
Evaluación, Gestión y Control de Olores en el Sector Industrial, Sanitario y Agrícola	Gerhard Schleenstein (ECOTEC)	Santiago, Chile	02/08 2019	Conference	Oral Presentation and Workshop	Presentation and discussion of the D-Noses tools for Odour Management	80 Industry
Living Labs Days Conference	Louise Francis, Maria Alonso, Hannah Stockwell (MfC), Rosa Arias and Nora Salas Seoane (Ibercivis)	Thessaloniki, Greece	2-5/09 2019	Conference	Oral Presentation and Workshop	Workshop to introduce D-NOSES engagement model and how citizen science can contribute to Living Labs methodologies	40 Scientific
C-TRACK 50	Stavros Vlachos (ENV)	Athens, Greece	19/09 2019	Conference	Oral presentation and discussion	Dissemination of D-NOSES project and activities among mayors	40 Policy
Open Science Cambre	Rosa Arias and Nora Salas Seoane (Ibercivis)	Cambre, Spain	21-22/09 2019	Awareness raising activity	Presentation and Promotion	D-NOSES stand to map odours with OdourCollect and present the project	300 Public, highschool students and teachers
European Research and Innovation Days	Rosa Arias (Ibercivis)	Brussels, Belgium	24-26/09 2019	Conference	Oral presentation	Networking and D-NOSES communications and dissemination	100 Policy makers EC Academia Industry
(German) Forum Citizen Science	Simone, Rüfenacht / Giulia, Melilli (ECSA)	Münster, Germany	26-27/09 2019	Conference	Promotion / Activities	Marketplace stand	200 Public

Nit de Ciència de L'Hospitalet	Rosa Arias and Nora Salas Seoane (Ibercivis)	Barcelona, Spain	27/09 2019	Awareness raising activity	Workshop, Activities	Sensory walk with citizens mapping odours	20 Public
Sardinia Symposium 2019	Laura Capelli (POLIMI), Rosa Arias (Ibercivis)	Sardinia, Italy	30/09-04/10 2019	Conference	Oral Presentations	3 Oral Presentations, on the Barcelona pilot and D-NOSES, the Odour Observatory, and Science for Change. 2 scientific papers	250 Industry / Scientific
17th European Week of Regions and Cities	Marzia Mazzonetto (EU-Citizen.Science, Stickydot)	Brussels, Belgium	7-10/10 2019	Conference	Oral presentation including D-NOSES	Promotion and networking among participants	70 Public
ISWA World Congress 2019	Carlos Diaz (AMIGO), ISWA team	Bilbao, Spain	07-09/10 2019	Conference	Oral Presentation	Presentations on Odour dispersion modelling	20 Scientific
8th IWA Odour & VOC/Air Emission Conference	Carlos Diaz (AMIGO)	Hangzhou, China	14-17/10 2019	Conference	Oral Presentation and Workshop	Presentations and workshop on Odour Measurement and Dispersion Modelling	1354 Scientific
Environmental issues and marine pollution	Stavros Vlachos (ENV)	Nafpaktos, Greece	23/11/2019	Conference	Oral presentation and discussion	Meeting of mayors and policy makers concerning, dissemination of D-NOSES activities	60 Policy
Berliner Citizen Science Tag	Dorte Riemenschnieder, Giulia Melilli (ECSA)	Berlin, Germany	24/10 2019	Exhibition	Promotion / Activities	Stand about D-NOSES project with information and promotional activities	50 Public
International Seminar on Odour Management	Carlos Díaz (AMIGO) Rosa Arias (Ibercivis)	Cali, Colombia	20-21/11 2019	Conference	Oral Presentations , Workshops	Workshop on Citizen Science, presentation on Odour Impact Mapping and Basic Odour Management	150 Scientific

Datos generados por ciudadanos: una palanca para el cambio social	Lucia Errandonea, (IFC), Gerhard Schleenstein (ECOTEC)	Santiago, Chile	25/11 2019	Workshop	Oral Presentation	Presentation on how D-Noses tools can be used to effect social change	6 Public University students
OLORES19 - Spanish Odours Conference	Rosa Arias (Ibercivis) Cyntia Izquierdo & Carlos Díaz (AMIGO) Lucía Errandonea, (IFC), Gerhard Schleenstein (ECOTEC), Vera Neves (CMSJM)	Santiago, Chile	26-27/11 2019	Conference	Workshop on the 25th and Oral Presentations	Odour Management training, D-NOSES project introduction, D-NOSES case study presentation	180 Scientific (35 to the workshop: policy makers and industries)
Talent Woman 2019	María Alonso (MfC) and Nora Salas Seoane (Ibercivis)	Málaga, Spain	28/11 2019	Conference	Workshops, Activities	2 Workshops about odours, D-NOSES and Odour collect, one with high school students and one with general public	40 students (40% women) / 8 people (100% Women)
2nd Citizen Engagement Festival	Louise Francis & Maria Alonso (MfC)	Brussels, Belgium	09-10/12 2019	Conference	Oral Presentation / Workshop	Demonstrating the use of technology & citizen science to engage citizens in policy making	250 Policy
EU Water Innovation Conference 2019	Francisco Sanz, Mari Carmen Ibáñez (Ibercivis)	Zaragoza, Spain	11-13/12 2019	Conference	Oral Presentation / Workshop	Workshop to present a series of best practices of citizen science in water-management projects	120 Industry
Odour pollution abatement technologies	Stavros Vlachos (ENV)	Volos, Greece	15/12 2019	Conference	Oral presentation and discussion	Conference on odour pollution, pilot presentation	80 Scientific

Training for Mediterranean Journalists	Anastasia Roniotes, Alaa Abou Daher (MIO-ECSDE)	Rabat, Morocco	16/12 2019	Poster and Stand	D-NOSES stand to present the project and its tools	Raising awareness on Mediterranean Coastal Wetlands and Nexus Nature-based Solutions in times of climate change	90 NGOs / Media
"Launching a new Decade of Sustainable Development in the Mediterranean"	Anastasia Roniotes, Alaa Abou Daher (MIO-ECSDE)	Rabat, Morocco	17/12 2019	Poster and Stand	D-NOSES stand to present the project and its tools	Meeting of Mediterranean Parliamentarians & Stakeholders	23 Policy
SwafS Citizen Science Cluster Event	Rosa Arias (Ibercivis)	Brussels, Belgium	12/12 2019	Presentation and Moderator of one of the workshops	Workshops to understand opportunities and barriers for Citizen Science projects (all H2020 ongoing projects were present)	Meetup to create synergies between Citizens Science Projects.	40 Scientific EC
Citizens 4 Science Meetup V1	Mara Balestrini, Lucia Errandonea, Valeria Righi (IFC)	Barcelona, Spain	06/02 2020	Workshop	Workshop and Discussion	Create synergies with Citizens Science Projects (D-NOSES, CitiesHealth and WeCount). Different activities for communities and researchers.	50 Scientific / Public
Jornada 'Sant Boi es mou. el món avança'	Mara Balestrini, Lucia Errandonea (IFC)	Sant Boi, Spain	11/02 2020	Workshop	Oral Presentation	Workshops to create the governmental plan of the Sant Boi City. The D-NOSES project was presented as an example of how citizens can be empowered to achieve societal change.	100 Public

Effective local action on Odour Pollution for Kampala- introducing new and effective ways of tackling odour pollution	Maria Alonso and Louise Francis (MfC)	Kampala, Uganda	12/02 2020	Conference	Oral Presentation and Workshop	Round table with key stakeholders to identify main sources of odour, discuss current odour management practices and explore the application of D-NOSES citizen science methods.	25 Industry / Policy
AirQo Launch	Louise Francis (MfC)	Kampala, Uganda	26/02 2020	Conference	Panel Discussion	Discussion on monitoring air quality and effects on health	250 Industry / Policy

3. Event Materials

The set of materials created for use in events has now been expanded. On the one hand, the D-NOSES tools are now ready to be used and disseminated. The Odour Observatory has been co-created using the User Story cards methodology plus other methods, as shown below. The Odour Observatory has now been launched and is being disseminated within events, and through social media channels. D-NOSES has also launched its MOOC in Odour Pollution for the general public - which is also being introduced to participants on different events. The project has also created Policy Briefs (translated into different languages) which are being disseminated in particular amongst policy makers. An updated version of the D-NOSES brochures for communities (including the QR of the new D-NOSES tools) have been produced, as well as a brochure for the OdourCollect App. The standard roll ups, posters, badges, bags, pens, etc., are still being used to help engage with visitors at events. Some of these materials presented have been updated and fit for the purpose of the different events. Here we present some of these materials.

- **User Story Cards (translated into different languages, such as Spanish and Turkish) and other methods for co-creating the Odour Observatory**

 **D-NOSES**
Distributed Network for Odour Sensing,
Empowerment and Sustainability

Bölge sakiniyim ve...

Oturduğum bölgede koku rahatsızlığı yaratabilecek yeni projelere komşularıyla birlikte karşı çıkabilmek üzere katılabileceğimiz yerel bir kampanya olup olmadığını öğrenmek istiyorum.

- Bu durum size kişisel olarak tanıdık veya muhtemel geliyor mu? Evet/Hayır
- Bu bilgiyi öğrenmek için halihazırda nereye başvurursunuz? Örn. belirli bir web sitesi, yerel kütüphane?
- Yeni Koku Gözlemevi'ni bu amaçla kullanır mısınız? Evet/Hayır

Görüşleriniz:

Koku Gözlemevi hakkında daha fazla öğrenmek için lütfen arka sayfaya bakınız

 **D-NOSES**
Distributed Network for Odour Sensing,
Empowerment and Sustainability

Bölge sakiniyim ve...

Vatandaş olarak haklarımı bilmek ve resmi bir şikayet sunabilmek için oturduğum bölgedeki koku konularına ilişkin düzenlemeleri öğrenebilmek istiyorum.

- Bu durum size kişisel olarak tanıdık veya muhtemel görünüyor mu? Evet/Hayır
- Bu bilgiyi öğrenmek için halihazırda nereye başvurursunuz? Örn. belirli bir web sitesi, yerel kütüphane?
- Yeni Koku Gözlemevi'ni bu amaçla kullanır mısınız? Evet/Hayır

Görüşleriniz:

Koku Gözlemevi hakkında daha fazla öğrenmek için lütfen arka sayfaya bakınız



I am a local resident and...

I would like to find out if there is a local campaign to join so that together I and my neighbours can oppose the plans for a new development in my area that may cause odour issues.

- Does this situation sound familiar or likely for you personally? Y/N
- Where would you currently go to find this information? e.g. specific website, local library?

- Might you use the new Odour Observatory to help you with this? Y/N

Comments:

Please turn over to find out more about the Odour Observatory



I am a local resident and...

I want to be able to look for regulations in relation to odour issues in my area so that I can know my rights as a citizen and am able to raise a formal complaint.

- Does this situation sound familiar or likely for you personally? Y/N
- Where would you currently go to find this information? e.g. specific website, local library?

- Might you use the new Odour Observatory to help you with this? Y/N

Comments:

Please turn over to find out more about the Odour Observatory



I am an activist and...

I want to know what the general public thinks about odour in my city and if there have been any specific events, interventions or campaigns that have changed people's views.

- Does this situation sound familiar or likely for you personally? Y/N
- Where would you currently go to find this information? e.g. specific website, local library?

- Might you use the new Odour Observatory to help you with this? Y/N

Comments:

Please turn over to find out more about the Odour Observatory



I am a local business owner and...

I want to be able to show my customers that the local odour issue is not a constant problem nor dangerous so that they will return and use our services.


- Does this situation sound familiar or likely for you personally? Y/N
- Where would you currently go to find this information? e.g. specific website, local library?

- Might you use the new Odour Observatory to help you with this? Y/N

Comments:

Please turn over to find out more about the Odour Observatory

User story cards used to co-create the International Odour Observatory.

 D-NOSES

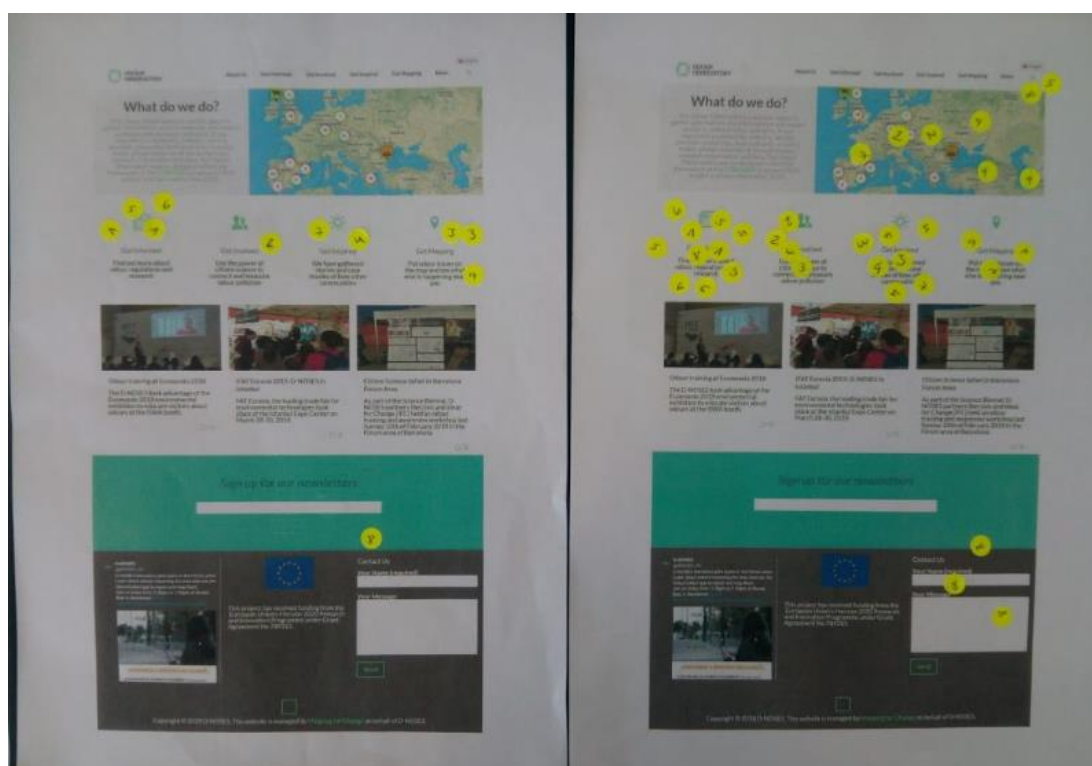
Your organisation: *VTT Technical Research Centre of Finland*

What would you like to use the Odour Observatory for?

- look at the observation data, distribution versus industry
- calculation of odour frequencies with different intensity/annoyance level

What would you like to see in the Odour Observatory?

- open data for observations, weather data, air quality & emission data (unfortunately not well collected, only EPER)
- odour observation correlation with air quality data, e.g. reduced sulphurs, NOx
- separation of ~~the~~ weather conditions, e.g. inversions at winter time

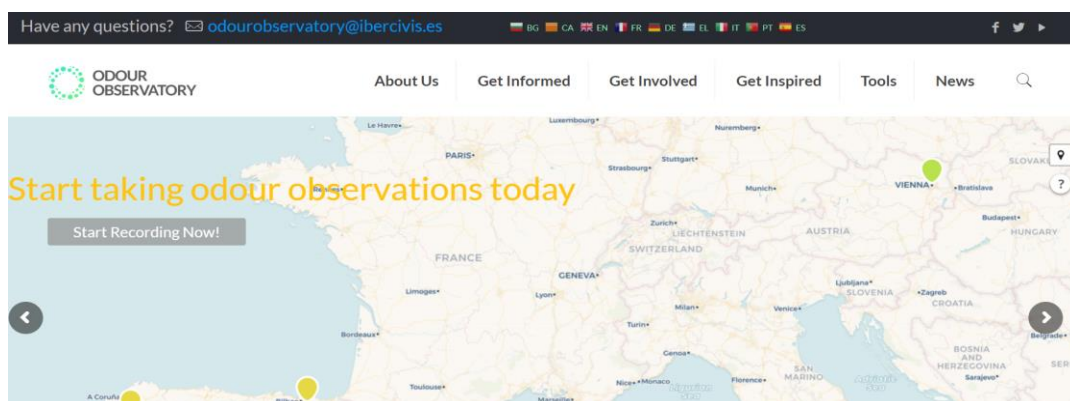


Some co-creation results of the Odour Observatory.

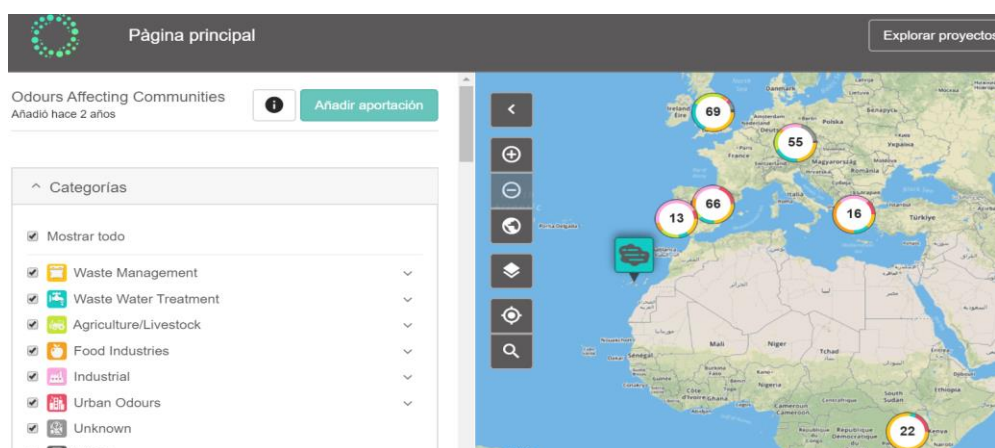


Co-creating the International Odour Observatory at D-NOSES events.

- **The Odour Observatory**




- **D-NOSES Affected Communities Map**



- [D-NOSES Policy Brief](#) - Available in various languages (English, Spanish, Italian, Portuguese, Greek, German, French, Bulgarian)



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 odour 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

Authors: Shireen Rabbani (ECJAL), Clotilde Gual (ECJAL), Alex Alex Doherty (MIO-ECJAL), Anaïs Besson (MIO-ECJAL), Jean-Louis (SIRMA), Naveed Saeed (SIRMA), Rosa Ariza (SIRMA)

This policy brief was facilitated by the lead author (ECJAL) through open interaction and discussion with the D-NOSES consortium. While this was carried out as part of D-NOSES Coordination and Support Action project, the views expressed in it do not reflect the consensus opinion of D-NOSES partners.



POLUIÇÃO POR ODORES UMA PREOCUPAÇÃO SOCIAL CRESCENTE




DESTAQUES

- Os odores desagradáveis, sendo a segunda causa de queixas ambientais a seguir ao ruído, conduzem a um declínio significativo da nossa qualidade de vida e devem ser urgentemente abordados.
- Os regulamentos sobre odores na Europa e entre países diferem significativamente uns dos outros. Em muitos locais, são mesmo totalmente inexistentes. É necessária uma governação "bottom-up" e a vários níveis na Europa, de forma a proteger os seus cidadãos.
- Os gases odoríferos são geralmente medidos na fonte (emissão). O nível de odores nas áreas residenciais circundantes (imissão) é mais complexo de determinar, mas também muito mais relevante de forma a medir o impacto nos residentes.
- O projeto Distributed Network for Odour Sensing, Empowerment and Sustainability (D-NOSES) inverterá a forma como a poluição por odores é normalmente abordada, através de uma abordagem de co-criação da ciência cidadã.

PRINCIPAIS ODORES NA EUROPA


As fontes que geram odores nas Comunidades Europeias são numerosas e diversas. Em muitos casos, a mesma Comunidade está exposta a mais de uma fonte de odor. As atividades industriais, a gestão de resíduos e a agricultura/pecuária representam os principais desafios no que diz respeito às emissões de odores na Europa.

COMO CITAR


Consortício D-NOSES (2019) Odour Pollution - Uma preocupação crescente da sociedade. D-NOSES Policy Brief #1

Autores: Shireen Rabbani (ECJAL), Clotilde Gual (ECJAL), Alex Alex Doherty (MIO-ECJAL), Anaïs Besson (MIO-ECJAL), Jean-Louis (SIRMA), Naveed Saeed (SIRMA), Rosa Ariza (SIRMA)

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Coordinated by: 


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ЗАМЪРСЯВАНЕТО НА ВЪЗДУХА С МИРИЗМИ НАРАСТВАЩ ОБЩЕСТВЕН ПРОБЛЕМ

АКЦЕНТИ

- Неприятните миризми във въздуха са втората причина за оплаквания, постъпили от гражданите, след шум и светлинно излъчване. Те водят до значително намаляване на качеството на живот и трябва спешно да бъдат взети под внимание.
- Регулациите по отношение на миризмите в Европа и вътре в нея варират и са различни за всяка държава. На много места дори липсват такива. Ние си са мисли за всички управителски нива в Европа, за да бъдат предлагани гражданите.
- Общественото търсене на решения при тези източници (емисии). Нивото на миризмите в околните райони (имисии) е по-сложно да се определи, но и много по-важно за измерване на въздействието им върху жителите на тези райони.
- Проектът "Управление на миризмите при производствено сътрудничество на обществото" (D-NOSES) ще промени начина, по който традиционните по-горе описани съществени с миризми, чрез съвместните усилия на учени и граждани.

ОСНОВНИ ПРОБЛЕМИ, СВЪРЗАНИ С МИРИЗМИТЕ В ЕВРОПА

Източниците, които генерират миризми в европейските общности, са многобройни и разнообразни.


В много случаи една и съща общност е изложена на повече от един източник на миризма. Промислените дейности, управлението на отпадъците и селското стопанство/животновъдството са основните предизвикателства по отношение на емисиите на миризми в Европа.

ЦИТИРАНЕ


Консорциум D-NOSES (2019) Замяръсяването на въздуха с миризми: нарастващ обществен проблем. D-NOSES Кратко описание на политиката №1

Автори: Shireen Rabbani (ECJAL), Clotilde Gual (ECJAL), Alex Alex Doherty (MIO-ECJAL), Anaïs Besson (MIO-ECJAL), Jean-Louis (SIRMA), Naveed Saeed (SIRMA), Rosa Ariza (SIRMA)

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POLLUTION OLFACTIVE UNE PRÉOCCUPATION SOCIÉTALE CROISSANTE

FAITS SAILLANTS

- Les nuisances olfactives, deuxième cause de plaintes environnementales après le bruit, entraînent une baisse importante de notre qualité de vie et doivent être traitées de toute urgence.
- Les réglementations en matière d'odeurs en Europe et à l'intérieur des pays diffèrent considérablement les unes des autres. Dans de nombreux endroits, ils sont même complètement absents. Il est nécessaire de mettre en place une gouvernance accordée à plusieurs niveaux en Europe afin de protéger ses citoyens.
- Les gaz odorants sont généralement mesurés à la source (émission). Le niveau des odeurs dans les zones résidentielles voisines (immission) est plus complexe à déterminer, mais aussi beaucoup plus pertinent pour mesurer l'impact sur les citoyens.
- Le projet D-NOSES (Distributed Network for Odour Sensing, Empowerment and Sustainability) vise à inverser la manière dont la pollution olfactive est généralement combattue, grâce à une approche co-créative de la science et la société.

PRINCIPAUX PROBLÈMES D'ODEURS EN EUROPE

Les sources qui génèrent des odeurs dans les communautés européennes sont nombreuses et diverses : dans de nombreux cas, la même communauté est exposée à plus d'une source d'odeurs. Les activités industrielles, la gestion des déchets et l'agriculture/élevage représentent les principaux défis concernant les émissions d'odeurs en Europe.

COMMENT CITER


D-NOSES consortium (2019) Pollution Olfactive - Une préoccupation sociétale croissante. D-NOSES Policy Brief #1

Autores: Shireen Rabbani (ECJAL), Clotilde Gual (ECJAL), Alex Alex Doherty (MIO-ECJAL), Anaïs Besson (MIO-ECJAL), Jean-Louis (SIRMA), Naveed Saeed (SIRMA), Rosa Ariza (SIRMA)

Cette synthèse a été facilitée par les auteurs principaux (ECJAL) grâce à une interaction et une discussion ouvertes avec le consortium D-NOSES. Bien que cela ait été réalisé dans le cadre du projet D-NOSES Coordination and Support Action, les opinions exprimées ne reflètent pas l'opinion du consensus des partenaires D-NOSES.

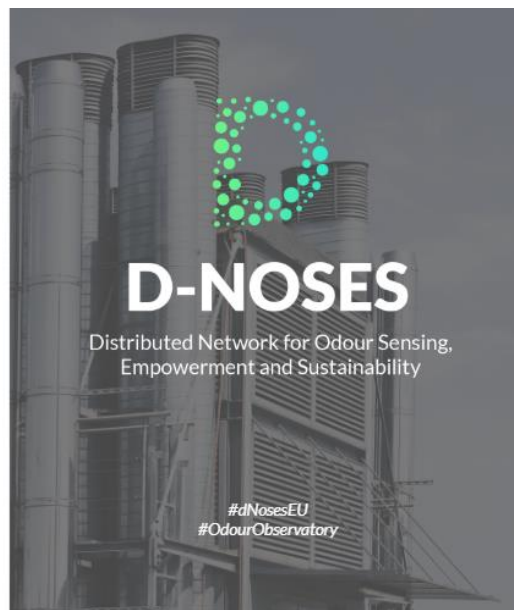
Coordinated by: 

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Coordinated por: 

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- Updated Version of the D-NOSES Brochures - For Communities



Co-creating alternative solutions to odour pollution

D-NOSES is an EU H2020 funded project that aims to provide a bottom-up approach to tackling odour pollution issues.

The project introduces new mapping, data collection and community engagement tools to facilitate citizen science interventions across Europe and beyond. Data will be collected in *The International Odour Observatory*, a platform dedicated to promoting engagement at all levels, and literally putting odour pollution on the map. Through participatory strategies and citizen science, D-NOSES will co-create local solutions with citizens, industries, regional & local authorities and odour experts in at least 10 pilot sites to build up a multi-level governance model in odour pollution.

From April 2018 to March 2021, and with a 3,1 M€ budget, D-NOSES will produce the *Green Paper on Odour Pollution*, scientific and policy guidelines, and a *Strategic Roadmap on Odour Pollution* to introduce the issue into the policy agenda and help promote sustainability through community action.

Citizen science for sustainability & governance

Did you know that odour pollution is the second reason for environmental complaints after noise across Europe? Does it affect your community?

Odour pollution has repeatedly been ignored in the policy agendas, leaving citizens defenceless. D-NOSES will empower citizens through an innovative bottom-up approach to increase transparency and enhance positive relationships within communities, as well as increase quality of life.

D-NOSES will produce real-time data to inform the co-creation process with all stakeholders. Odour observations will be gathered using:

The free mapping app
OdourCollect

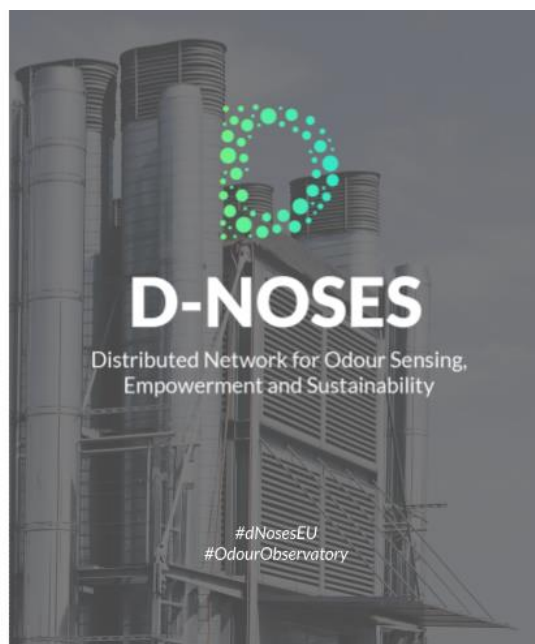


The collaborative
Community Maps



Get involved!

- **D-NOSES Brochures - For Industry**



- **Co-creating alternative solutions to odour pollution**

D-NOSES is an EU H2020 funded project that aims to provide a bottom-up approach to tackling odour pollution issues.

The project will introduce new mapping, data collection and community engagement tools to facilitate citizen science interventions across Europe and beyond. Data will be collected in *The International Odour Observatory*, a platform dedicated to promoting engagement at all levels, and literally putting odour pollution on the map. Citizens will then join other stakeholders such as industries, local authorities and NGOs, in at least **10 pilot sites** to co-create solutions for their odour problems.

From April 2018 to March 2021, and with a 3,1 M€ budget, D-NOSES will produce the *Green Paper on Odour Pollution*, scientific and policy guidelines, and a *Strategic Roadmap on Odour Pollution* to introduce the issue into the policy agenda and help promote sustainability through community action.

- **Citizen science to improve the management of industrial odours**

Is your industry emitting odours that have an impact on communities?

Engage with D-NOSES to produce **real-time data** through citizen participation. Odour observations gathered using the **free mapping app OdourCollect** will allow you to optimise your industrial process to reduce impact and to check the effects of any newly implemented good practices and corrective measures. Co-created data will be validated by a world-class team of odour experts and made available on the **Odour Observatory** maps. All this at a fraction of the cost of traditional odour studies.

Our innovative methodology uses a bottom-up approach that will increase transparency and enhance your relationship with the communities and environmental authorities.

● OdourCollect Application [Brochure](#)



Are you experiencing any problem?

Contact us or report any incidence through the app

You can also contact us via email
odourcollect@ibercivis.es

Become a super citizen scientist!

- Interact with other users
- Look up the odour map
- Be part of a pilot case study

odourcollect.eu @Odourcollect odourcollect

D-NOSES
Distributed Network for Odour Sensing, Empowerment and Sustainability

Funded by the Horizon 2020 programme of the European Union Grant Agreement No 785315

ibercivis IDEAS FOR CHANGE CITIES FOR CHANGE COUNCIL OF EUROPE EISWA AMIC POLITECNICO QCEA ecotec L. Indigo-Waters lipor

OdourCollect App



OdourCollect is the free app to report your odour observations. In the European project D-NOSES, we are using it in 10 countries to build up collaborative odour maps.

Contribute by reporting your odours in the map!

You can also add odours through the website odourcollect.eu. If you have any questions or would like to report an area where odour nuisance exists, please contact us on odourcollect@ibercivis.es.

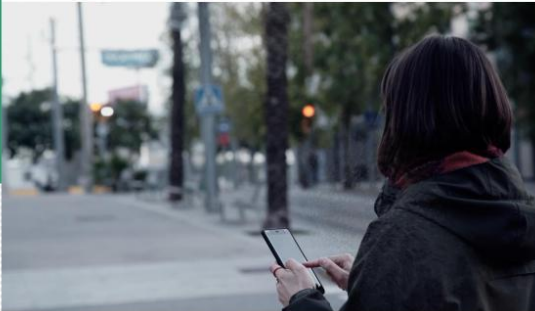
How to download the app

Access GooglePlay (Android) or the AppStore (Iphone) and type **OdourCollect**



D-NOSES
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User guide of the OdourCollect App

Smell and share!

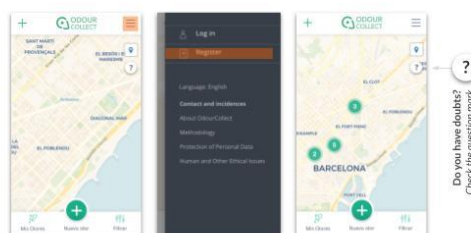


OdourCollect is part of the D-NOSES project

dnoses.eu

Sign in

To register you must enter your email, username and password. Keep in mind that when registering, you will receive an email to verify your account. Don't forget to verify it!

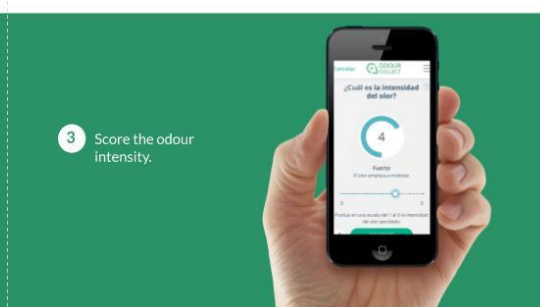


NOTE: The app or website will ask you for access to your location so that the observations you make will be added to the map wherever you are.

How to report a new odour

To report an odour, you have to follow the steps:

- 1 Add a new odour.
- 2 Choose the type of the odour perceived (if you have doubts, you can always guess).
- 3 Score the odour intensity.
- 4 Score how pleasant or unpleasant is the odour.
- 5 Add the duration of the odour episode. You can also add any comments.



● Roll Ups


D-NOSES
 Distributed Network for Odour Sensing,
 Empowerment and Sustainability

Co-creating alternative solutions to odour management issues

ABOUT THE PROJECT

D-NOSES is an innovative project that includes citizens in a collaborative approach to improve traditional odour management.



Photo by: Wiro Product in Unsplash

INVOLVEMENT

D-NOSES will connect affected communities with local authorities, industries and experts in a platform to co-create solutions to odour problems.



STRATEGY

Combining citizen science, new methods for mapping, data collection and local engagement, D-NOSES will help citizens in the co-creation of local solutions together with stakeholders.

The new bottom-up approach increases transparency, improves community relationships and increases quality of life through practical and creative ideas.

TAKE PART

Would you like to know more about odours in your neighborhood, where they come from and what you can do about it?

Register and Participate!

- 1 Together we will learn to identify odours
- 2 Help us gather real time observations using the free App OdourCollect 
- 3 To understand the odour sources that impact your area we will use scientific models to validate your observations
- 4 Contribute to the co-creation of solutions together with neighbors, industries, public authorities and odour experts



App OdourCollect
odourcollect.eu

WHERE

The project will focus on 10 specific pilot case studies around the world, but anyone can register to start adding observations for their local area and replicate the method in their own neighborhood.




Pilots will take place in at least these countries around the world:

			
Germany	Spain	Bulgaria	Greece
			
Italy	Portugal	UK	Chile

RESULTS

- International Odour Observatory
- 10 case studies in 10 countries to validate the D-NOSES methodology
- Put odour pollution on the policy agenda at a global, national and local level
- Policy briefs to inform new regulation
- Green Book on Odour Pollution
- Strategic Map of Odour Pollution

● Posters (Scientific)


D-NOSES
 Distributed Network for Odour Sensing,
 Empowerment and Sustainability

Co-creating the International Odour Observatory

Authors: R. Arias & N. Salas (Ibercivis Foundation [Spain]), M. Balestrini & L. Errandonea (Ideas for Change [Spain]), L. Francis & M. Alonso-Roldán (Mapping for Change [UK]), and J. Uribe (International Solid Waste Association [ISWA, Austria]).

OUR PURPOSE

Odour pollution is the second leading cause of environmental complaints after noise¹, and yet, remains relatively ignored in environmental regulations. Many communities have had to tolerate odour nuisance for decades, with no hope of action being taken.

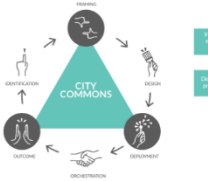
D-NOSES aims to implement *Principle 10* of the Rio Declaration² by engaging citizens and building capacity for action based on a bottom-up approach. The project relies on the best of possible sensors to measure odours: people's own nose. With Citizen Science tools, such as *OdourCollect*, pilot communities can map and measure the problem. Armed with scientific, validated data, people will be empowered to become their own driving force for change. Following a quadruple helix model, citizens and stakeholders will co-design local solutions, which will filter up to a multi-level governance framework that can ultimately be used to introduce odour pollution into the policy agenda.

OUR METHODOLOGY

D-NOSES aims to improve on existing engagement methodologies from project partners Ideas for Change (IFC) and Mapping for Change (MfC) through a comprehensive field evaluation of different methods. A combined approach will enable D-NOSES to create a reliable, replicable method that should be universally applicable in diverse regions and situations around the globe, to generate scientifically valid and actionable data through citizen science interventions that can improve people's lives.

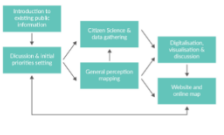
Our engagement methodology

The *Bristol Approach*³, as developed by IFC, puts the concerns of citizens at the very heart of the process, helping local communities to co-design and implement citizen science based interventions around matters of concern in their living areas, such as odour pollution, which lead to creative solutions and positive results. This ensures a high level of sustained engagement throughout the duration of the project, as citizens are prepared to give their time and energy to address matters that are relevant to the community.



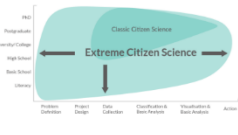
Our inclusive citizen science approach

The engagement model by MfC⁴ is deliberately flexible to follow different pathways directed by discussions and needs of the local community. Guided by *Principle 10*, the model starts by introducing already existing and accessible information. Then it follows up with a facilitation process that supports communities to collect and share their own environmental data from citizen science observations. The generated data is then evaluated and improved in an iterative loop so that it can finally support the drive for change.

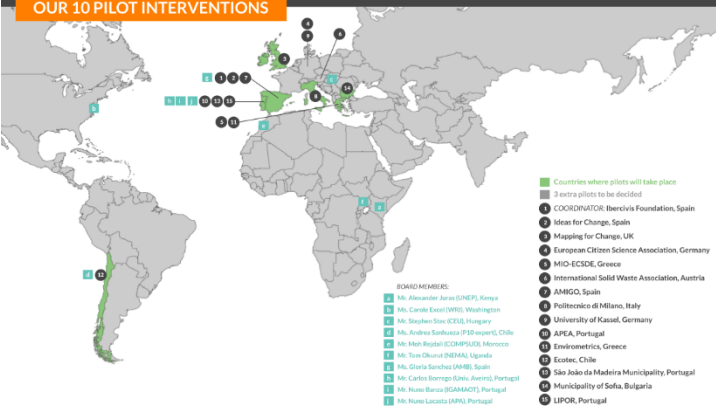


Our inclusive citizen science approach

With local needs and culture at the forefront, the *Extreme Citizen Science approach*⁵ provides communities with a means to not only monitor their surrounding environment and analyse their findings but to also define the problem, co-design methodologies and tools that enable them to own, share, and act on their results. Our citizen science interventions are *intrinsically inclusive* and apply all the *Responsible Research and Innovation (RRI)* dimensions, with a special focus on the gender and science education aspects.



OUR 10 PILOT INTERVENTIONS



Countries where pilots will take place

3 extra pilots to be decided

COORDINATOR: Ibercivis Foundation, Spain

Idea for Change, Spain

Mapping for Change, UK

European Citizen Science Association, Germany

MIO-ECSEDE, Greece

International Solid Waste Association, Austria

AMIGO, Spain

Politecnico di Milano, Italy

University of Kassel, Germany

AFICA, Portugal

Environmetrics, Greece

Ecotec, Chile

São João de Madeira Municipality, Portugal

Municipality of Sofia, Bulgaria

LIPOR, Portugal

PILOT MEMBERS:

1 Mr. Alexander Jones (SINOP), Kenya

2 Mr. Carlos Escobar (WRI), Washington

3 Mr. Stephen Shaw (ICSI), Hungary

4 Mr. Andres Solis (PBI), Chile

5 Mr. Mohamad (ICMPS), Morocco

6 Mr. Tarek Othman (INZAH), Uganda

7 Mr. Carlos Sanchez (AMIB), Spain

8 Mr. Carlos Borrego (SAB), Portugal

9 Mr. Nuno Barco (SMAAD), Portugal

10 Mr. Nuno Lacerda (IPAL), Portugal

OUR RESULTS

From April 2018 to March 2021, and with a 3,1 M€ budget, D-NOSES will produce:

- The International Odour Observatory
- The Green Paper on Odour Pollution
- Scientific guidelines for policy-making
- The Strategic Roadmap on Odour Pollution
- DIY guidelines for project replicability

REFERENCES

¹ Pollution: objectives, origins, legislation, analysis, treatment. Agence de l'environnement et de la maîtrise de l'énergie (ADEME). Dunod, 2005.

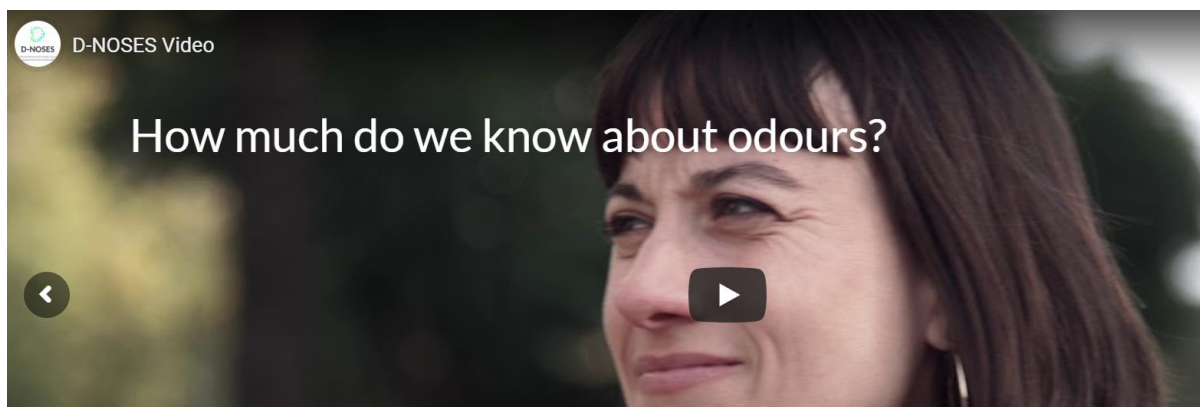
² Principle, access *Principle 10* and The Ball Guidelines at United Nations Environment Program <https://www.unep.org/principles/principle-10>

³ Balestrini, M., et al. (2017) 'A city in common: a framework to orchestrate large-scale citizen engagement around urban issues.' Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems, ACM.

⁴ Hallaz, M., and Francis, L. (2018). Participatory GIS and community-based citizen science for environmental justice action, in Chakraborty, J., Walker, G. and Hallaz, M. (eds.), The Routledge Handbook of Environmental Justice. Abingdon Routledge, pp. 297-308.

⁵ Hallaz, M. (2019). Citizen Science and Volunteered Geographic Information: Overview and Typology of Participation. In: Sal, D., Elwood, S., Goodchild, M. (eds.) Crowdsourcing Geographic Knowledge. Springer, Dordrecht. https://link.springer.com/chapter/10.1007/978-94-007-4587-2_7

- [D-NOSES Video](#)



- [D-NOSES MOOC](#) on Odour Pollution for the General Public


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D-NOSES

Self-paced learning distance courses

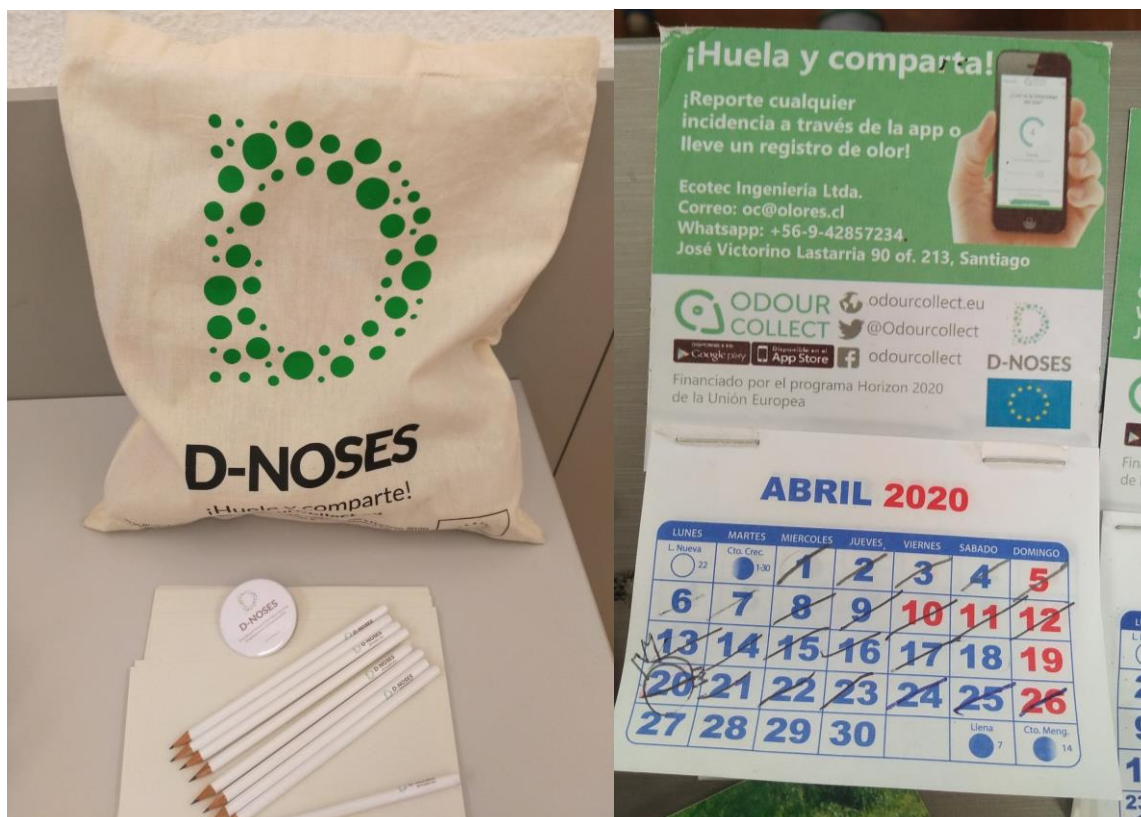
D-NOSES MOOC on Odour Pollution for the Public

This MOOC invites you to explore the not so-well-known problem of odour pollution. During this 'journey' you will have the opportunity to understand what generates the problem of odour pollution and how it affects our lives. You will also examine its impacts - environmental, social, health and economic. Last but not least, you will get informed on what we can do as citizens about the issue and what are the available tools for tackling the problem. The MOOC is developed in the framework of the D-NOSES Project: "Distributed Network for Odour Sensing, Empowerment and Sustainability" that aims at introducing odour pollution in the policy agendas. D-NOSES has received funding from the European's Union Horizon 2020 Science with & for Society Call (SwafS) under grant agreement No. 789315.

Get this course

CONTENT

- D-NOSES Bags, Pencils, Pens, Notebooks, Badges, Magnetic calendars



- D-NOSES T-shirts and caps

