

CORDIS

EU research results

cordis.europa.eu

Agenda

- Horizon Europe and the framework programmes
- What is CORDIS
- Presentation of a project fact sheet on the CORDIS website
- Example of articles
- Thematic packs
- Videos and podcasts
- Keep in touch via social media



Horizon Europe and framework programmes

- Horizon Europe is the current EU research and innovation programme
- Runs from 2021-2027 and is the biggest multilateral research programme in the world
- Funds research projects across the EU and in partner countries
- Budget of 95.5 billion euro (nearly 20 billion more than Luxembourg's GDP)
- Follows the framework programmes 1–7 and Horizon 2020
- Aims to spread results and disperse excellent knowledge and technologies
- For this we have CORDIS

COmmunity Research and Development Information Service

What is CORDIS?

- CORDIS is the source of information about EU funded research projects
- Publishes information about research under the Horizon Europe programme, previously Horizon 2020 and the framework programmes
- Supported projects have a project page which in some cases is complemented with journalistic articles written by CORDIS
- Financed by the European Commission's Directorate-General for Research and Innovation
- Managed by the Publications Office of the European Union, based in Luxembourg

CORDIS facts and figures

- Earliest projects from 1984
- Over 140 000 EU-financed projects with factsheets
- Over 23 000 journalistic articles written about these projects
- CORDIS website is in six languages: English, French, German, Polish, Italian and Spanish
- Other media such as podcasts and videos
- Present on Twitter, Facebook and YouTube

CORDIS brings you the results of EU research and innovation

Welcome to CORDIS, where you can access comprehensive information about EU Research & Development projects.

Whether you're a researcher, innovator, or just curious, here you'll find information on projects, topics, and publications funded by the EU's research programs - in multiple languages.

CORDIS belongs to the [Research and Innovation community platform of the European Commission](#) and complements the [Funding and tender opportunities](#) website, where you can apply for funding and search for partners.

Thematic Packs

Keep up with the latest breakthroughs enabled by EU funding with our multilingual collections of the articles focusing on a specific theme



5 September 2023



Explore all

Videos

Connect with EU science thanks to our short explanatory videos focusing on the scientific content and exploitation aspects of EU research projects



7 September 2023



Watch more

Podcasts

Dive into some of the key scientific solutions being developed by EU-funded researchers to address the major societal challenges that we all face today



26 July 2023



Discover more

Results in Brief

Read general public summaries of the main outcomes at the end of each project, explaining the achievements and highlighting the next steps



The emergence of Europe after the collapse of the Roman Empire

8 September 2023



[Explore all](#)

News

Discover ongoing projects with our news articles based on media reports or project announcements



SCIENTIFICADVANCES

Firing up to fight wildfires

11 September 2023



[Read all news](#)

HORIZON dashboard

Learn key facts & figures on Horizon proposals, projects and participants with an interactive tool with filter options by theme, geography, organisation profile, and more



EU Research and Innovation data at your fingertips [↗](#)

[Explore the Dashboard](#) [↗](#)



Stratification of Rheumatoid Arthritis: Computational models to personalise management strategies for difficult-to-Treat disease

Fact Sheet

Objective

Difficult-to-treat rheumatoid arthritis (D2T RA) is an area of huge unmet medical need with major socio-economic consequences for patients and society. Contributing factors have been identified including co-morbidities, drug-related, biological and behavioral factors. However, identifying these patients with specific underlying and overlapping problems, or patients at risk, is a big challenge in practice.

Currently, treatment decisions are random and not sufficiently patient tailored nor data-driven. Therefore, the STRATA-FIT consortium sets out to develop and validate computational models to identify and stratify D2T RA patients into clinically relevant phenotypes using real world clinical data. We will also measure biomarkers of inflammation to further characterise these phenotypes.

Subsequently, we will execute a pilot study with a clinical decision aid based on our models to assess the effectiveness of personalised treatment strategies.

In parallel we will develop a computational model to identify early RA patients at risk of developing D2T RA. By doing so, not only will we provide better treatment for patients with D2T RA, but also work towards its prevention in early RA patients. STRATA-FIT will establish a unique European Learning Healthcare System, using a privacy-proof, state-of-the-art federated learning infrastructure in which patients with, or at risk of D2T RA are identified, stratified and treated in a personalised manner.

STRATA-FIT builds on previous work by consortium partners, who initiated and lead the European Task Force on developing points to consider for managing D2T RA. It brings together clinical experts, patient research partners and clinical-, biological-, data- and computer-scientists to tackle this major clinical challenge. When successful, STRATA-FIT will lead to more (cost-) effective D2T RA care and will greatly improve the quality of life of D2T RA patients while lowering the burden of D2T RA on Europe's health care systems and society.

Project Information

STRATA-FIT

Grant agreement ID: 101080243

DOI

[10.3030/101080243](https://doi.org/10.3030/101080243)

Start date

1 May 2023

End date

30 April 2029

Funded under

Health

Total cost

€ 6 099 650

EU contribution

€ 6 099 650



Coordinated by

UNIVERSITAIR MEDISCH CENTRUM UTRECHT

Netherlands

Fields of science

[medical and health sciences](#) > [clinical medicine](#) > [rheumatology](#)

Keywords

Difficult-to-treat rheumatoid arthritis

Federated Learning

European Learning Health Care System

real-world data

decision aid

stratification

machine learning

clinical prediction modelling

Programme(s)

[HORIZON.2.1 - Health](#)

MAIN PROGRAMME

[HORIZON.2.1.5 - Tools, Technologies and Digital Solutions for Health and Care, including personalised medicine](#)

Topic(s)

[HORIZON-HLTH-2022-TOOL-12-01-two-stage - Computational models for new patient stratification strategies](#)

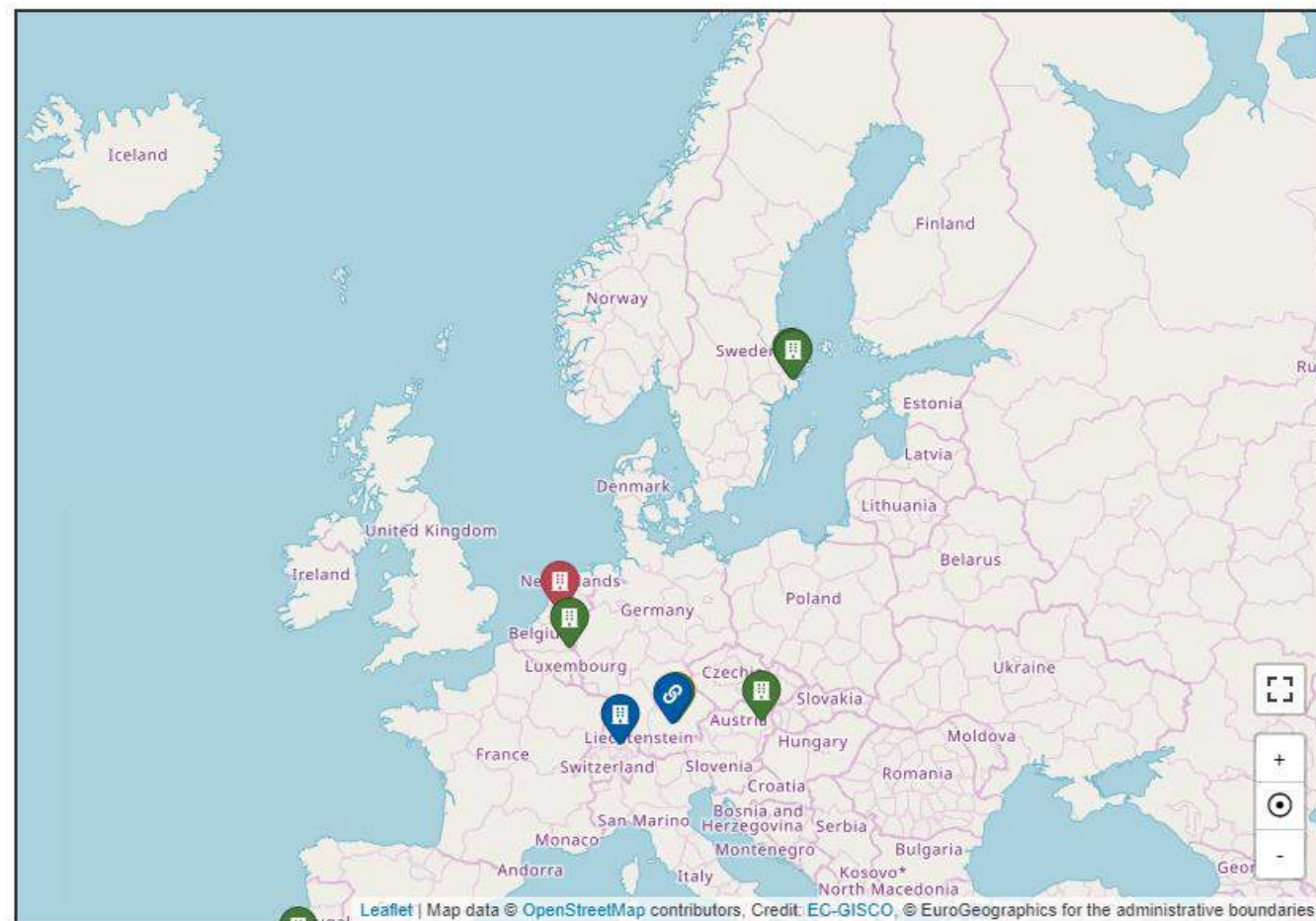
Call for proposal

[HORIZON-HLTH-2022-TOOL-12-two-stage](#)

[See other projects for this call](#)

Funding Scheme

[HORIZON-RIA - HORIZON Research and Innovation Actions](#)



Coordinator



UNIVERSITAIR MEDISCH CENTRUM UTRECHT


Net EU contribution

€ 2 012 348,75

Address

Heidelberglaan 100

3584 CX Utrecht

 **Netherlands**


Other funding

€ 0,00

Region























West-Nederland > Utrecht > Utrecht

Participants (7)

Sort alphabetically 

Sort by Net EU contribution 

Expand all

	INSTITUTO DE MEDICINA MOLECULAR JOAO LOBO ANTUNES  Portugal	Net EU contribution € 907 186,25	
	KAROLINSKA INSTITUTET  Sweden	Net EU contribution € 786 645,00	
	MEDIZINISCHE UNIVERSITAET WIEN  Austria	Net EU contribution € 847 775,00	
	MEDICAL DATA WORKS BV  Netherlands	Net EU contribution € 589 696,25	
	LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN  Germany	Net EU contribution € 0,00	
 THIRD-PARTY 	KLINIKUM DER UNIVERSITAT MUNCHEN  Germany	Net EU contribution € 800 336,25	
	REGION STOCKHOLM  Sweden	Net EU contribution € 155 662,50	



MULTIFUNCTIONAL MICROFLUIDIC PATCH FOR INFECTIOUS DISEASES DIAGNOSIS

Fact Sheet

Objective

In vitro diagnostic (IVD) technologies have revolutionized healthcare, yet remain confined to the laboratories. As witnessed during the COVID-19 pandemic, this traditional centralized approach was not sufficient to prevent and manage viral outbreak because it massively failed to deliver quick and cost-effective diagnosis. The ongoing pandemic further emphasizes the growing need to urgently bring lab-quality diagnosis to the hands of end users (i.e. point-of-care, POC). Despite high expectations from Lab-on-Chip technologies, they failed so far to disrupt the IVD market due to their complexity of integration/operation, high cost, off-chip sample preparation, poor scalability, to mention only a few. The FORTIFIEDx consortium aims to revolutionize the POC IVD field by making use of novel multifunctional biocompatible polymers and their (micro)structuring with mass fabrication technology to develop for the first time a true sample-to-result POC test. We will develop a FORTIFIEDx microfluidic-based patch capable of both biofluids (self-)sampling via hollow microneedles and immediate analysis of this sample on the very same patch in a completely self-powered manner. Two unmet clinical needs, posing epidemic/pandemic treats to both the developed and developing world, are selected: (1) sexually transmitted diseases, in particular simultaneous diagnosis of HIV and Syphilis, to enable timely diagnosis of patients not always able to reach centralized settings due to stigma or financial difficulties and (2) viral haemorrhagic fever, in particular Ebola and Lassa viruses, to battle their highly contagious and deadly outbreaks. To tackle this challenging aim, the interdisciplinary and experienced FORTIFIEDx consortium (2 universities, 5 research institutes and 2 SMEs from 6 countries) will combine insights from material science, engineering and microfabrication, microfluidic technology development, bioassay development, clinical validation and life cycle assessment.

Project Information

FORTIFIEDx

Grant agreement ID: 101092049

DOI

[10.3030/101092049](https://doi.org/10.3030/101092049)

Start date

1 August 2023

End date

31 July 2027

Funded under

Digital, Industry and Space

Total cost

€ 4 986 073,83

EU contribution

€ 4 986 070,00

Coordinated by

KATHOLIEKE UNIVERSITEIT LEUVEN

 Belgium



Keywords

[multifunctional biocompatible vitrimers](#)

[roll-to-roll fabrication](#)

[microfluidics](#)

[hollow microneedles](#)

[self-sampling patch](#)

[in vitro diagnostics](#)

[point of care testing](#)

[infectious disease diagnosis](#)

Programme(s)

[HORIZON.2.4 - Digital, Industry and Space](#)

MAIN PROGRAMME

[HORIZON.2.4.9 - Low-Carbon and Clean Industries](#)

[HORIZON.2.4.4 - Advanced Materials](#)

Topic(s)

[HORIZON-CL4-2022-RESILIENCE-01-13 - Smart and multifunctional biomaterials for health innovations \(RIA\)](#)

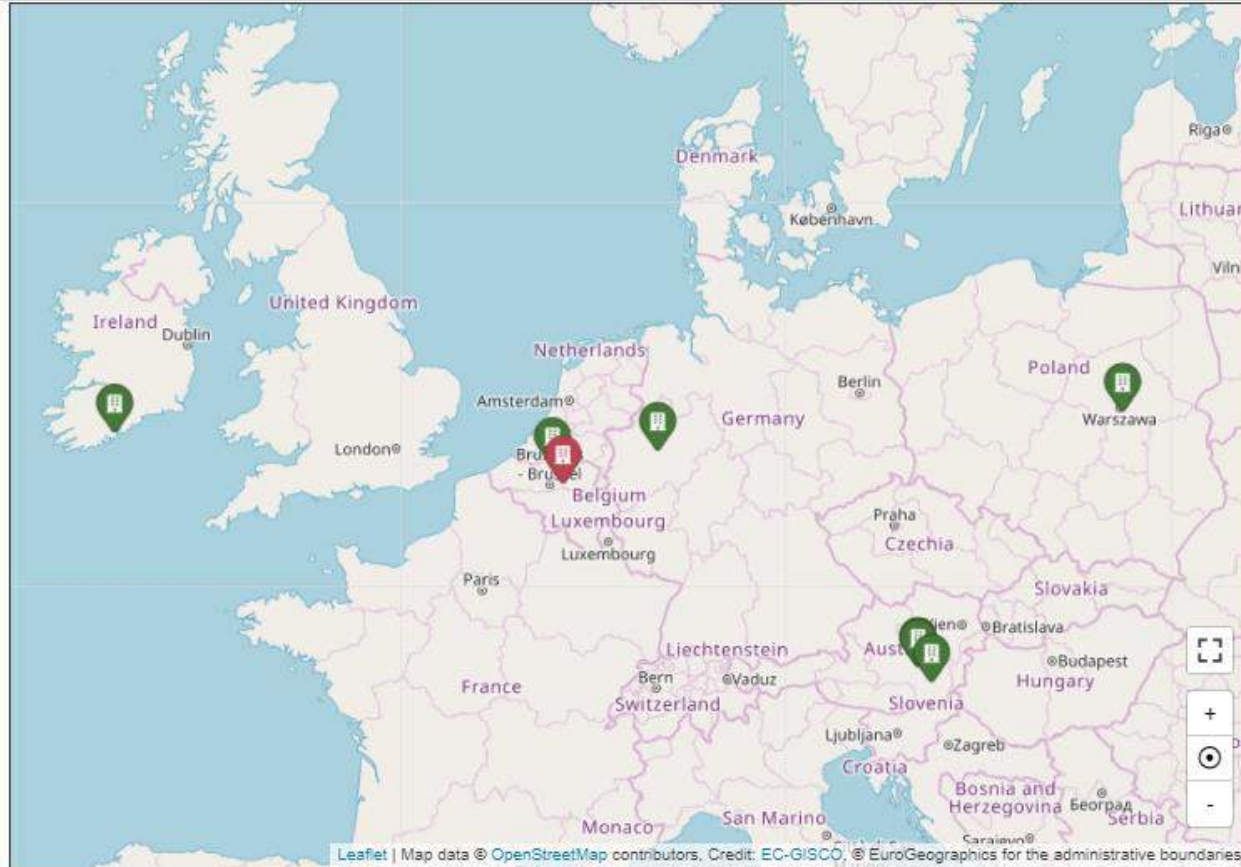
Call for proposal

[HORIZON-CL4-2022-RESILIENCE-01](#)

[See other projects for this call](#)

Funding Scheme

[HORIZON-RIA -](#)



Coordinator



KATHOLIEKE UNIVERSITEIT LEUVEN



Net EU contribution

€ 1 265 195,00

Address

Oude markt 13

3000 Leuven

 Belgium 

Region

Vlaams Gewest > Prov. Vlaams-Brabant > Arr. Leuven

Activity type

Higher or Secondary Education Establishments

Other funding

















€ 0,00

Participants (8)

Sort alphabetically ↕

Sort by Net EU contribution ↕

Expand all

	JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH  Austria	Net EU contribution € 999 900,00	▼
	MONTANUNIVERSITAET LEOBEN  Austria	Net EU contribution € 405 492,00	▼
	POLYMER COMPETENCE CENTER LEOBEN GMBH  Austria	Net EU contribution € 415 855,00	▼
	PRINS LEOPOLD INSTITUUT VOOR TROPISCHE GENEESKUNDE  Belgium	Net EU contribution € 667 293,00	▼
	UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK  Ireland	Net EU contribution € 609 795,00	▼
	TEMICON GMBH  Germany	Net EU contribution € 344 615,00	▼
	ZDALNY SERWIS SP. Z O.O.  Poland	Net EU contribution € 217 500,00	▼
	CENTRE NATIONAL DE FORMATION ET DE RECHERCHE EN SANTE RURALE DE MAFERINYAH  Guinea	Net EU contribution € 60 425,00	▼

Articles sorted in 11 different categories



Types of articles

Fact Sheet

Results in Brief

Reporting

Results

DE EN ES FR IT PL

Breaking language barriers

Unlocking the benefits and challenges of multilingualism can help to beneficially impact education, health and the integration of immigrants in Europe.



Fact Sheet

Results in Brief

Reporting

Results

DE EN ES FR IT PL

Game-changing advances in protein design and engineering

Implementation of statistical models and machine learning algorithms can assist the design and engineering of novel proteins with improved functionality.



DE EN ES FR IT PL

Battery cooling solution revolutionises heavy-duty electrification

WATTALPS's cutting-edge battery cooling technology could transform off-road vehicles and heavy-duty equipment, paving the way for a sustainable future in various industries.



News > Scientific advances

DE EN ES FR IT PL

Identifying the culprits of global warming since pre-industrial times

How much have different countries contributed to climate change since 1850? A new study ranks countries' culpability based on their emissions of key greenhouse gases.



Grassfibre raw material and grasspaper products for the retail, paper and packaging industry, helping to reduce plastic and textile pollution and CO2 emissions on a global scale

[Fact Sheet](#)[Results in Brief](#)[Reporting](#)[Results](#)

Grasspaper to make Europe's paper industry more sustainable

The European paper industry uses vast amounts of wood pulp each year, so a new approach using paper made from grass fibres could bring huge environmental benefits.

CLIMATE CHANGE AND
ENVIRONMENT

Project Information

Grasspaper

Grant agreement ID: 967134



DOI

[10.3030/967134](https://doi.org/10.3030/967134)

Closed project

Start date
1 February 2021End date
31 January 2023


Funded under
INDUSTRIAL LEADERSHIP - Innovation in SMEs
PRIORITY 'Societal challenges
INDUSTRIAL LEADERSHIP - Leadership in enabling
and industrial technologies

Total cost
€ 2 141 250,00EU contribution
€ 1 498 875,00

Despite much of the world moving online, [paper](#) is still in high demand. About 400 million tons of paper are produced worldwide each year.

Wood pulp from trees accounts for around half of this, consuming about 40 % of the global industrial wood harvest. This can contribute to deforestation, harming biodiversity, releasing carbon dioxide into the atmosphere and disrupting ecosystems. New solutions are needed.

The EU-funded Grasspaper project has created a new raw material for the European paper industry, a paper made from grass fibres. Grasspaper's innovative new mechanical process is compatible with standard paper production equipment, and grasspaper products could not only help reduce the impact on trees but also act as a replacement for single-use plastics – bringing further environmental benefits.

“The CO2 emissions from our production process are close to zero,” says Michael Schatzschneider, director of sales at [Creapaper](#)  and Grasspaper project coordinator.

A new paper paradigm

Grasspaper is created from a blend of grass fibres and recycled paper, a production that requires significantly less water and energy than traditional wood pulp-based paper manufacturing.

The fibres can be sourced from a variety of fast-growing, renewable grass species, which do not require extensive land use or contribute to deforestation.

The Grasspaper project developed a new patented mechanical process for creating the new raw material.

“The hay goes through a process of cutting, grinding and cleaning by air, and the pulp is then compressed for transport,” Schatzschneider explains.

"All that is needed to produce grasspaper is electricity, and we use around 150 KWh to produce one ton of grasspaper. Our electricity provider is EON and the electricity comes from a European renewable mix," he adds.

The product leaving the paper mill – either 'Grasspaper' or 'Grass carton board' – can be converted into packaging or other consumer goods that are normally made from paper. This ranges from tissue (toilet paper, kitchen rolls and napkins) to solid carton board, widely used in packaging.

Bringing the technology to commercial markets

Through the Grasspaper project, the team developed the manufacturing process further and took steps to bring it closer to the market.

First they assembled and optimised the prototype facility. Once the prototype was ready, they ran a series of tests with European paper mills to trial the new manufacturing system. Feedback from these tests let the team optimise paper specifications. Finally, the team produced different grasspaper showcases and products, and initiated the commercialisation phase.

"Paper and packaging are simple everyday products, but the supply chains are highly complex," Schatzschneider explains. This involves harvesting, pulping, papermaking, converting all this into products or packaging and selling to customers. "Our goal was to become a part of this complex supply chain in a minimally invasive way," he notes.

A greener paper

Schatzschneider says the EU funding helped them organise and structure the project, financing operations, letting them create the prototype and therefore securing new investors.

"Grasspaper is simple way of saving CO2 emissions and helping to reduce the stress on forests every day," adds Schatzschneider. "Reforestation is one of the most efficient ways to achieve our ambitious climate goals."

Keywords

Grasspaper, grass, paper, climate, forests, paradigm, products

Discover other articles in the same domain of application



Tapping into the potential of oxygen to study the terrestrial carbon cycle

6 September 2023



Heating applications tested with hydrogen blends

5 September 2023



A natural, sustainable alternative to pesticides

5 September 2023



Share this page



Download



Last update: 23 June 2023



Thematic packs

A Thematic pack is a collection of articles about a specific subject

- Project Info Packs – describes the aims of new and ongoing projects
- Results Packs – has results of completed or nearly completed projects



European
Commission

CORDIS
EU research results

English **EN**

Search[HOME](#)[THEMATIC PACKS](#)[PODCASTS & NEWS](#)[PROJECTS & RESULTS](#)[ABOUT US](#)[SEARCH](#)[LOG IN](#)

Thematic Packs

Multilingual collections of up-to-date articles, bringing you information about EU-funded projects and results

Projects Info Packs

Selections of projects in their early stages focusing on a specific research theme

[See all](#)

Results Packs

Collections of results, from finished or nearly completed projects, focusing on a specific theme that you can apply in your domain

[See all](#)

Coming soon

Selections of projects, in their early or mature stages, showcasing synergies between Horizon Europe and other EU funding programmes

[Stay tuned](#)

Recent Packs

RESULTS PACK

**Open Innovation Test Beds to
accelerate European innovation**



Leading the way in European Supercomputing



A PROJECTS INFO PACK BY CORDIS



CORDIS Results Pack on **citizen science**

A thematic collection of innovative EU-funded research results

April 2022



Inspiring examples of societal
engagement for Horizon Europe

Research and
Innovation

Crowdsourced tools sniff out the location of nasty odours

Combining smart technology with odour monitoring techniques and a lot of nostrils, D-NOSES pushes the under-regulated blight of odour pollution up the environmental and policy agendas.

Frequent exposure to odours, at home or at work, can cause a range of ailments, including: headaches, lack of concentration, stress, insomnia and respiratory problems.

"After noise, odours are the second most complained about environmental pollutant globally. However, most techniques to measure odours don't adequately account for their impact on



citizens. This whole area is under-regulated," says D-NOSES (Distributed Network for Odour Sensing, Empowerment and Sustainability) project coordinator Rosa Arias, previously from the Ibercivis Foundation, the project host, now founder and CEO of Science for Change (website in Spanish).

The EU-supported citizen science D-NOSES project improved a specially designed app to crowdsource real-time geopositioned odour data, augmented by the experiences of those affected.



The nose proves to be a highly effective sensor!

The project tested its methodology in 10 pilots across eight European countries, alongside Chile and Uganda for wider perspectives. Some of the pilots' results have already been published, such as those for Italy, Greece and Chile.

In Spain, OdourCollect recently won the prestigious Prismas (website in Spanish) award for science outreach.

Mapping tools

The project followed University College London's Extreme Citizen Science approach, which prioritises bottom-up practices, with an awareness of local needs, to help ensure citizen participation and inclusivity during all research phases.

The strategies to engage members of the public were adapted for each pilot, with ethnographic research followed by targeted activities in museums and festivals, alongside appearances in local media. Once engaged, participants took part in sensory walks and odour trainings, alongside data analysis workshops.

At the heart of D-NOSES was the OdourCollect app, built on an earlier iteration created by the MYGEOSS project and designed to enable affected communities to map odour pollution and advocate change. During the 10 pilots, participants suggested improvements to the app's functionality, such as mapping pleasant smells in addition to unpleasant ones.

The flagship Barcelona pilot focused on the Forum area of the city which had endured the impact of waste and wastewater treatment facilities for over 20 years. Users were trained to recognise different smells including waste, sewage, sludge and biogas, and map them. This data was then linked to industrial operations using the app's historical analysis. Over 600 observations were reported over a 12-month period, involving 86 participants.

In total the project collated over 10 000 odour observations worldwide, from over 1 200 citizens.

"Thanks to our engagement model's gender perspective, 70 % of observations were collected by women," adds Arias. "Overall our pilots validated our methodology, with the Barcelona and Italian pilots aligning with the results of traditional odour studies. The nose proves to be a highly effective sensor!"

Influencing policy

The D-NOSES event, 'Revisiting Odour Pollution in Europe', hosted online by Greek MEP Maria Spyrali, resulted in the inclusion of odour pollution and citizen science in the EU Action Plan 'Towards Zero Pollution for Air, Water and Soil'.

The team also hope that their green paper will prompt discussion about a comprehensive European odour policy, and lead to a white paper.

Another outcome has been the International Odour Observatory, an interactive online resource where users input and consult data crowdsourced globally. Advocacy of policy changes was also undertaken locally during the pilots, as well as more generally with an advocacy toolkit, policy briefs and the strategic roadmap for governance.

The team are currently standardising their methodology in Spain, while also working on a municipal model to guide odour regulation. "Our objective is that citizen data is used as evidence by authorities, to prompt action," concludes Arias. "Crucially, our methodology can be replicated in other contexts and/or applied to other socio-environmental issues."

PROJECT

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

COORDINATED BY

Ibercivis Foundation in Spain

FUNDED UNDER

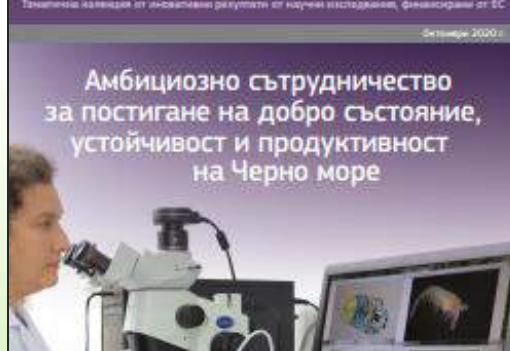
Horizon 2020-Science with and for Society

CORDIS FACTSHEET

cordis.europa.eu/project/id/789315

PROJECT WEBSITE

dnoses.eu



Videos & Podcasts

'Make the connection, with EU-science' is a series of explanatory videos focusing on the scientific content and exploitation aspects of EU research.

Listen to the latest CORDIScovery podcasts on selected trending topics.

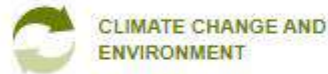


Latest Videos




Water: quality and security

22 March is United Nations World Water Day, so this episode of CORDIScovery is on water: its quality and security of supply. We will travel from the high Himalayas and delve into the secret lives of freshwater snails to explore water cycles and the latest techniques for monitoring pollution.



© willyam/stock.adobe.com

 [Google Podcasts](#)

 [Spotify](#)

 [Spotify](#)

 [Apple Podcasts](#)

Keep in touch via social media



[@CORDIS_EU](https://twitter.com/CORDIS_EU)



[@CORDIS_EU](https://www.facebook.com/CORDIS_EU)



[@CORDISdotEU](https://www.youtube.com/@CORDISdotEU)

CORDIS
EU research results

<https://cordis.europa.eu/en>



<https://op.europa.eu/en/home>

Questions?

Thank you!