PSF MLE Citizen Science

Topic 2, Day 1, 7 March 2022

#HorizonEU

HORIZON EUROPE POLICY SUPPORT FACILITY

2021 – 2027

Rosa Arias

CEO & Founder

Science for Change

Research and Innovation

Time	Description
09.30-09.40	Welcome from the chair and presentation of the agenda (Alan Irwin, 5 minutes) Short presentation of timelines for future meetings (Gillian Kelly, 5 minutes)
09.40-09.50	Presentation (Rosa Arias, 10 minutes): • The role of citizen science in research and innovation: Citizen Science put into practice • The added value of citizen science in Open Science, Sustainability and RRI
09.50-10.25	• National funding to promote Citizen Science: The case of Spain (Cecilia Cabello, Director STI Policies, Spanish Foundation for Science and Technology, FECYT, 10 minutes) • Q&A (5 minutes) • Open discussion in Miro based on the experiences compiled by the Member States (Rosa Arias & team, 20 minutes)
10.25-11.20	Barriers to the implementation of successful citizen science projects (Rosa Arias, 10 minutes) • Interactive exercise in Miro (Rosa Arias & team): - Working on the challenges and potential mitigation strategies (30 minutes) - Open discussion (15 minutes)
11.20-11.30	Break
11.30-11.45	Analysing the impact of citizen science projects: • The ACTION impact framework (Antonella Passani, T6, 10 minutes) • Q&A (5 minutes)
11.45-12.00	Examples of impactful projects: • Teatime4science (Judith Sarneel, Umea University, Sweden, 7 minutes) • Q&A (8 minutes)
12.00-12.15	Examples of impactful projects: • D-NOSES. Citizen science for monitoring odour pollution (Rosa Arias, 7 minutes) • Q&A (8 minutes)
12.15-12.25	Open discussion (Antonella Passani, Judith Sarneel, Rosa Arias)
12.25-12.30	Closing and next meeting (Alan Irwin)

NEXT MEETINGS

3 Topic Meetings ▻ 4 Countries

– **Topic 4 Meetings (Enabling environments and sustaining CS):**

➢ 2 country visits:

Part I: Austria (7 and 8 June 2022);

Part II: Hungary (12 and 13 September 2022)

➢ If due to Covid situation requires to be online:

6 and 13 September (09.30-12.30 CET)

– **Topic 3 Meeting (Maximising the relevance and excellence of CS):**

Slovenia (10 and 11 October 2022)

➢ If due to Covid situation requires to be online:

10 and 11 October 2022 (09.30-12.30 CET)

- Topic 5 Meeting (Scaling up CS):

Germany (7 and 8 November 2022)

➢ If due to Covid situation requires to be online:

7 and 8 November 2022 (09.30-12.30 CET)

Final Meeting: 13 December in Brussels/Online

Dissemination event: early 2023 (exact date TBC)

European Commission

The role of Citizen Science in R&I

CS is one of the 8 pillars of the European Commission's Open Science Policy:

Open Science

An approach to the scientific process that focuses on spreading knowledge as soon as it is available using digital and collaborative technology. Expert groups, publications, news and events.

- ➔ **Open Cooperative work**
- ➔ **Co-creation** with all relevant knowledge actors

OBJECTIVES OF CS ('Science with and for Society', Horizon 2020)

1. Building effective **cooperation between science and society**
2. Recruiting **new talent** for science
3. Pairing **scientific excellence with social awareness** and responsibility
4. Ensuring a more responsible science and enabling the **development of policies more relevant to society** at large

European Commission

The role of Citizen Science in boosting RRI

PUBLIC ENGAGEMENT

Engaging **citizens and quadruple helix** stakeholders to work together within the R&I ecosystem and tackle societal challenges.

OPEN ACCESS

Making **science accessible**, free of charge and without restrictions.

ETHICS

Connecting research with the **10 Principles of Citizen Science** and considering ethical principles.

SCIENCE EDUCATION

Boosting education through **training and participation** in science, increasing scientific literacy and critical thinking, and fostering STEM careers.

GENDER

Promoting gender balance and the **inclusion of sex and gender aspects** in R&I. Gender considered in all participatory activities, including the communication used to engage girls and women into the projects.

GOVERNANCE

Fostering the connection with **decision makers** for the official uptake of citizen generated data and to inform evidence-based policies.

European Commission

Engaging citizens in research processes

The **active engagement of citizens in science boosts**:

- Relevance and effectiveness of **research agendas aligned with society**
- Consideration of the **needs, expectations and values of society**
- Creativity and better **quality of research** and of **data**
- **Scientific literacy**, skills and competences; science education; critical thinking and fighting against misinformation
- **Confidence of the public** in research outcomes and **institutions**
- **Transparency**, **social inclusion** and **employability**
- **Mutual learning** between science and society

European Commission

The view from ECSA

***1.European Citizen Science Association* (ECSA)**:

- Definition of CS: **participation of the general public in scientific processes in an open and inclusive approach** and its **use for societal benefit and decision-making** processes.
- Developed the ***10 Principles of Citizen Science***
- ***Characteristics of Citizen Science***: guides practitioners in the implementation of CS projects.

1.CS is an integral part of the EU's **Open Science Policy** and an agreed priority for the **European Research Area** (ERA), which seeks that "The general public should be able to make significant contributions and be recognized as valid European science knowledge producers".

Key Messages

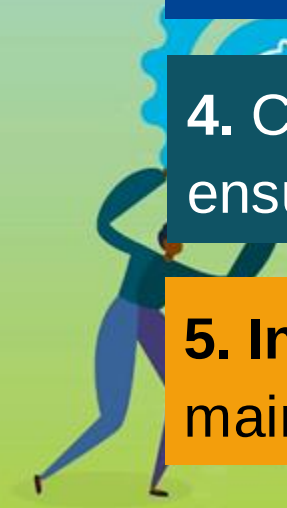
1. Open Science, Citizen Science and RRI are key approaches to align societal needs with scientific objectives and tackle major societal challenges.

2. R&I can benefit from Citizen Science to produce new knowledge and **advance towards participatory democracy**.

3. Citizen Science actively **contributes to Open Science and RRI**.

4. Citizen Science needs to be **aligned with responsible funding** programmes to ensure project implementation and sustainability.

5. Institutional changes are needed to foster research incentives and mainstream CS into the European Research Area.



European Commission

Support to Citizen Science in H2020

Why promote citizen science and societal engagement?

- Contributes to **excellence**
  - Enlarges the scope of R&I and the quality and quantity of data collected, discussed and analysed
  - Increases the robustness of the outcomes
  - Enables innovative and creative approaches
  - Leverages collective intelligence (often excluded from contributing to R&I)
- Contributes to **effectiveness**
  - Aligns outcomes with the needs, values and expectations of society, ensuring greater relevance and uptake
  - Reduces time-to-market of innovative products and services
  - Triggers behavioural changes
- Contributes to **trust** of society in science
  - Increases openness, transparency, and 'co-ownership' of society
  - Often leads to more inclusive outcomes
  - Encourages mutual learning between science and society

European Commission

European Commission

** Presentation from Linden Farrer, EC DG R&I, & Niamh Delaney, REA at EU-Citizen.Science event (27/10/2021)*

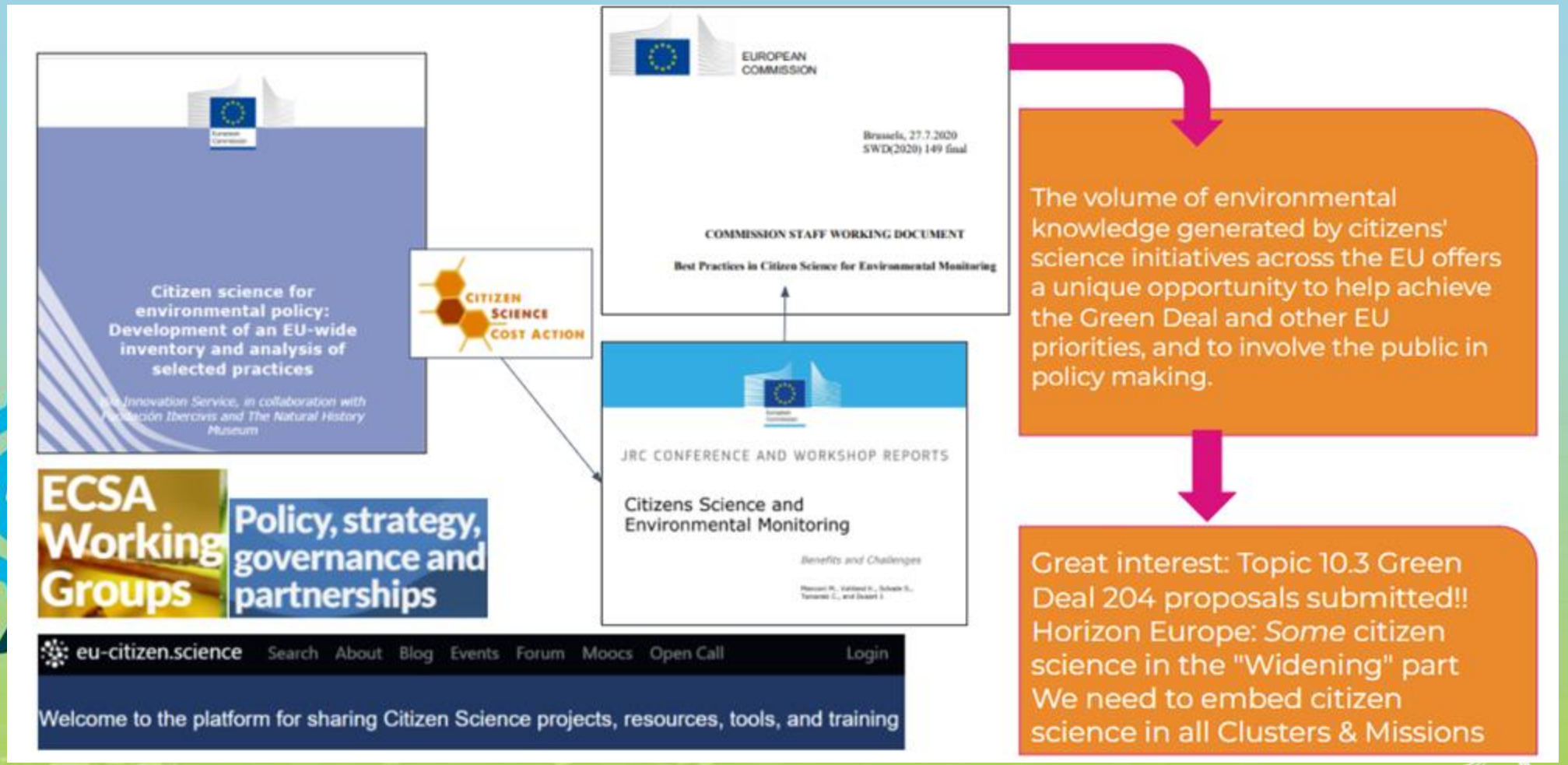
Support to Citizen Science in H2020

Table 1: Number of citizen science and citizen engagement projects in Horizon 2020, as of 15/07/2020

# of projects \ SwafS theme	Citizen science & citizen engagement
Finished	5
Running (at least 1 review held)	5
Running (1st review to be completed)	5
Just started (Q4 2019 / Q1 2020)	7
TOTAL GAs signed, as of 15/05/2020	22
Forecast of 2020 call	7
TOTAL H2020	**29**

European Commission

Support to Citizen Science in H2020



European Commission

Support to Citizen Science in Horizon Europe

Co-design and co-creation, and **engagement of citizens** and civil society organisations, are **mainstreamed** across the programme

Art 2.5: 'Open science' means an approach to the scientific process based on **open cooperative work, tools and diffusing** knowledge;

Art. 7.11: The programme shall promote **co-creation and co-design** through **engagement of citizens**;

Art 14.4: Other open science practices shall be promoted and encouraged, including for the **benefit of SMEs**;

Art. 39: The work programme may provide for additional incentives or obligations for the purpose of adhering to **Open Science practices**.

The **current increase of CS projects** in the EU clearly shows the **growing participation of society in research and innovation**. Scientists, research organisations, and agencies are still discovering the benefits.

European Commission

State of Citizen Science across Europe

The **presence of CS activities and strategies in Europe is highly contextualised.**

Multi-level governance structures are building up

Are there any shared/common working documents/practices supporting Citizen Science in your country? (multiple choice)

eu-citizen.science

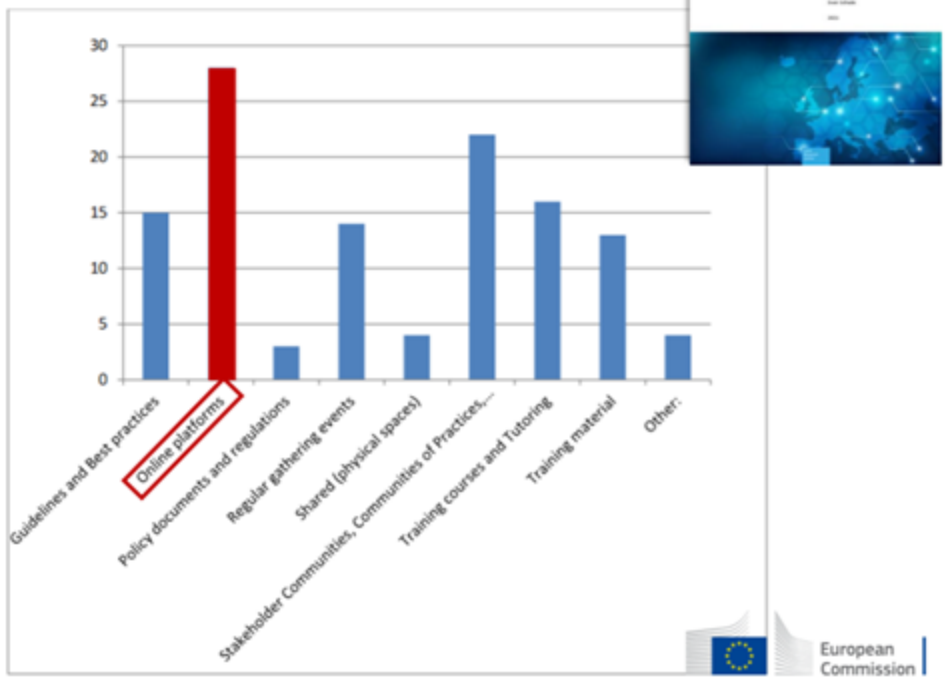


Figure 9. Overview of tools and resources

European Commission

* Survey carried out in **2019** in the framework of the COST Action on CS (WG3 “Improve society-science- policy interface”)

* **45 responses** from all EU Member States, as well as Switzerland, Norway, Albania, Turkey, North Macedonia and Israel, for a total of **33 countries**.

** Presentation from Sven Schade at EU-Citizen.Science event (27/10/2021)*

European Commission

PSF MLE Citizen Science

National funding to promote CS: The case of Spain

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HORIZON EUROPE POLICY SUPPORT FACILITY

2021 – 2027

CECILIA CABELLO

FECYT

National Funding to Promote Citizen Science

Research and Innovation

FECYT CORE MISSION

We catalyze the relationship between science and society, promoting the Spanish scientific culture and fostering the transfer of knowledge through outreach, education, training, information and advising.

We collaborate with others' agents and actors of the science, technology and innovation system in the internationalisation of Spanish science and the generation and analysis of data, and we provide support in the management of scientific information and open science.

European Commission

PERIODISMO CIENTIFICO	CULTURA DE LA INNOVACIÓN	LA CIENCIA DE LA COMUNICACIÓN CIENTÍFICA
PARTICIPACIÓN CIUDADANA EN LA CIENCIA Y LA INNOVACIÓN	PROMOCIÓN DEL SISTEMA ESPAÑOL DE CIENCIA, TECNOLOGÍA E INNOVACIÓN	ARTE, CIENCIA Y TECNOLOGÍA
SISTEMA NORMALIZADO DE INFORMACIÓN CURRICULAR	CIENCIA EN EL EXTERIOR	LAS MUJERES EN LA CIENCIA Y LA INNOVACIÓN
OFICINA IBEROAMERICANA	ASESORAMIENTO CIENTÍFICO	ESTUDIOS DE TENDENCIAS Y ENCUESTAS DE PERCEPCIÓN EN CIENCIA, TECNOLOGÍA E INNOVACIÓN

European Commission

Promotion of the scientific, technological and innovation culture through National Funding

ANNUAL CALL FOR PROPOSALS SINCE 2007

> 700 SUBMISSIONS PER YEAR

150-200 PROJECTS FUNDED PER YEAR

An **EVALUATION COMMITTEE** score:

1. **Objectives** and **quality**

2. I**nnovation** and **scientific-technical relevance**

3. The project is **structured and planned** realistically and correctly

4. The project encourages the participation of **new audiences** (or **inclusion**)

5. Strong **communication** strategy

6. **Experience** of the team

7. Mechanisms to **evaluate** the impact of the project

European Commission

Promotion of the scientific, technological and innovation culture through National Funding

ANNUAL CALL FOR PROPOSALS SINCE 2007

> 700 SUBMISSIONS PER YEAR

150-200 PROJECTS FUNDED PER YEAR

O3 M1.1, 2013

"Encourage citizen participation in the scientific process through citizen science activities"

2016

Observatorio de la Ciencia Ciudadana en España

Fundación Ibercivis

An **EVALUATION COMMITTEE** score:

1. **Objectives** and **quality**
2. I**nnovation** and **scientific-technical relevance**
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European Commission

Agreement to Promote Citizen Science in Spain

ACTION PLAN FOR THE STRENGTHENING, DEVELOPMENT AND CONSOLIDATION OF CITIZEN SCIENCE IN SPAIN

- 8 thematic meetings
- A sustainable and long-lasting Communication Plan
- I International Forum

  upcoming II Forum!
- > 300 participants

CC & Astronomy (Cuenca) (Madrid)

CC & Makers (Zaragoza)

CC & Communication (Madrid)

I International Forum

European Commission

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2018

Citizen Science
Call Modality
€300,000

Since then…

- €960 000
- +21% submissions
- +25% funding (€)

CC & Astronomy (Cuenca) (Madrid)

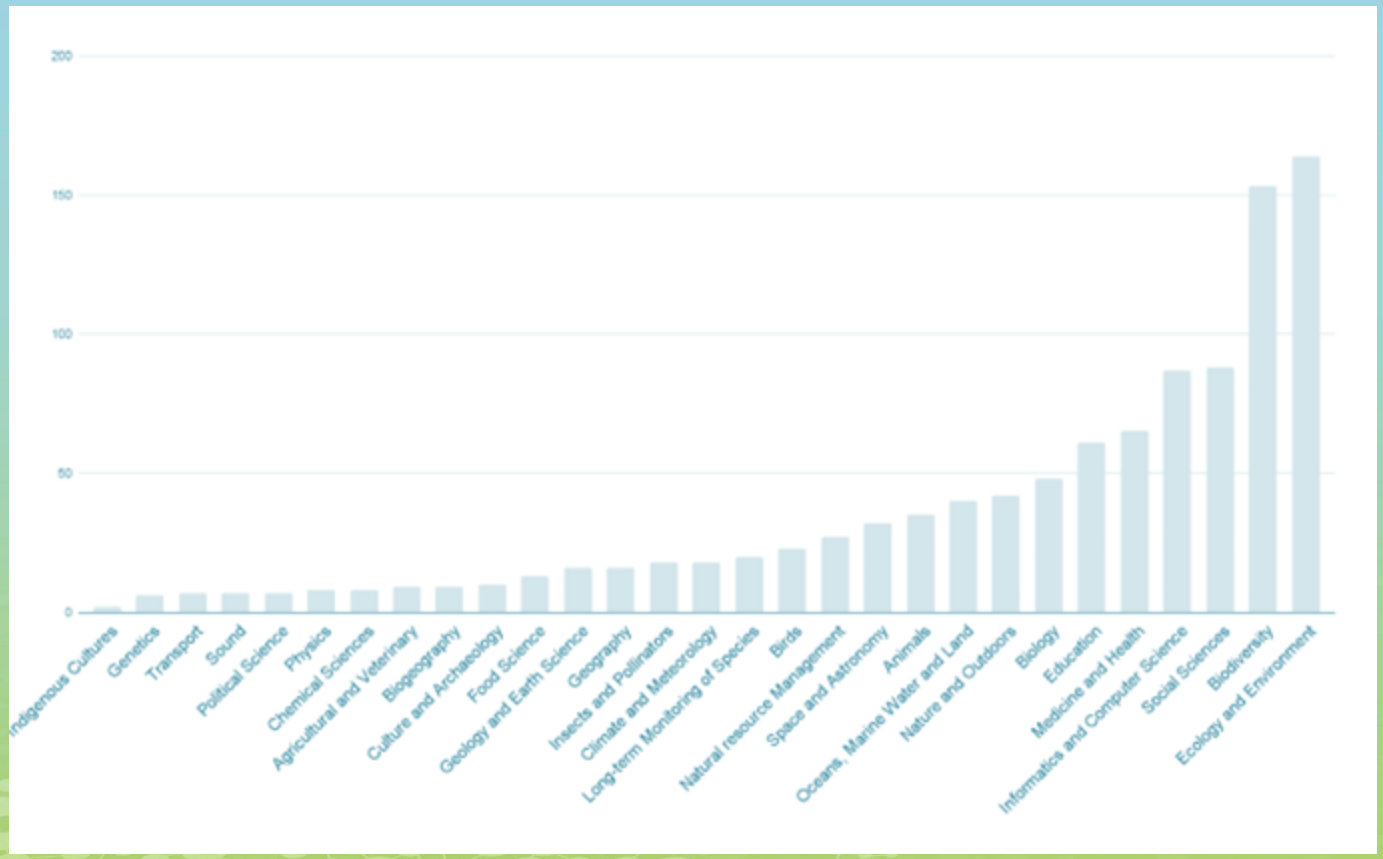
CC & Makers (Zaragoza)

CC & Communication (Madrid)

I International Forum

European Commission

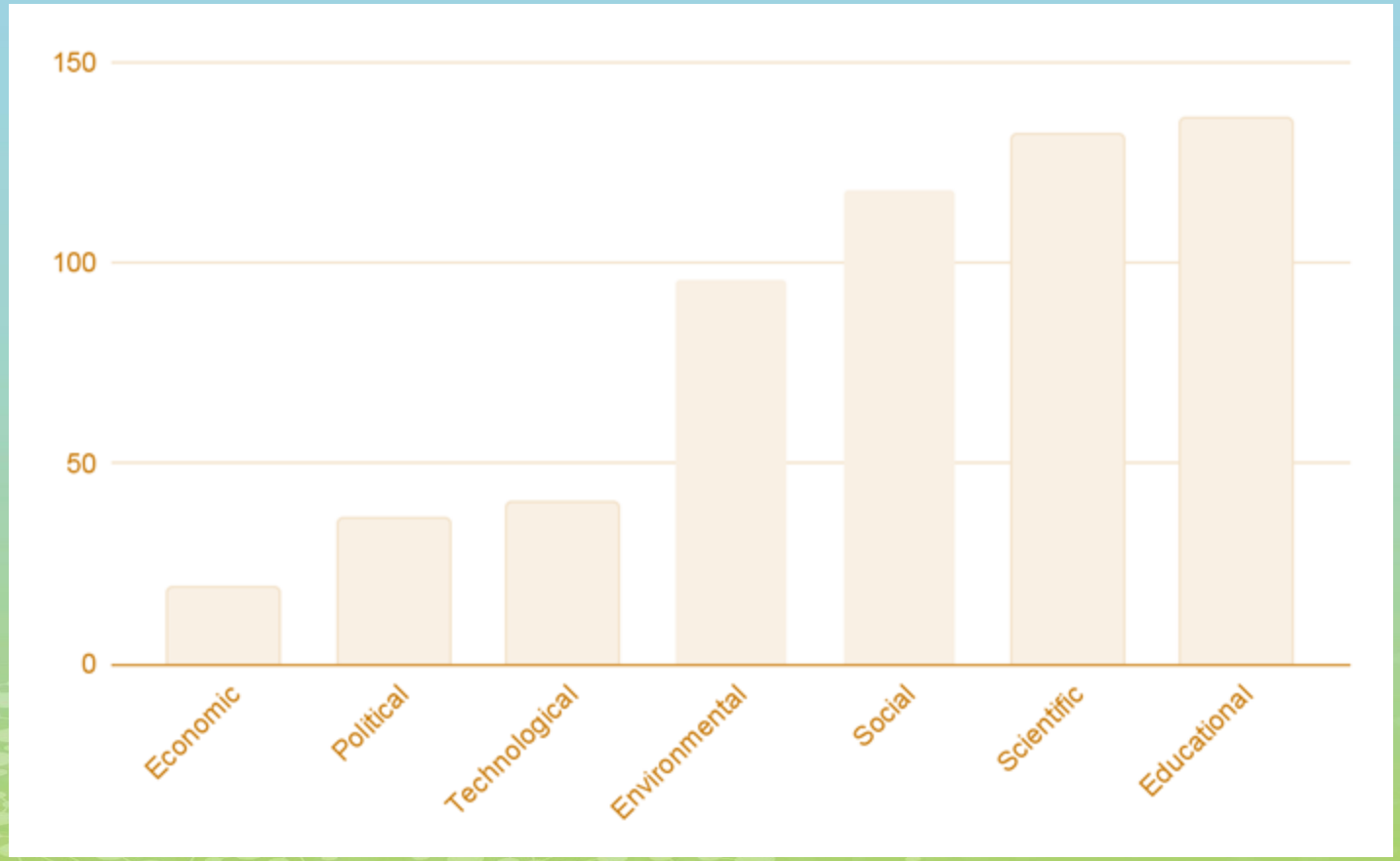
Citizen Science in Spain an overview



Knowledge areas of Spanish Citizen Science Initiatives (nº of projects).
Informe del Observatorio de la Ciencia Ciudadana en España (2020)

European Commission

Citizen Science in Spain an overview



Impatcs of Citizen Science (nº of projects).
Informe del Observatorio de la Ciencia Ciudadana en España (2020)

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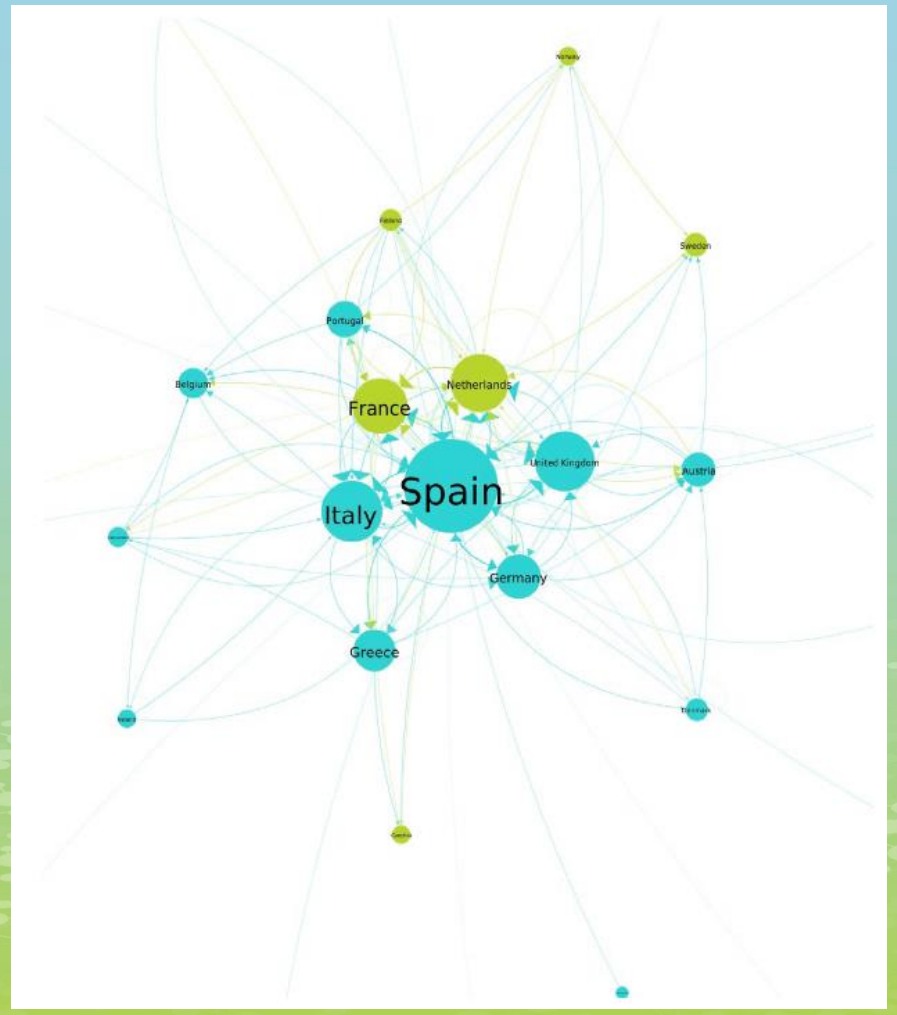
Spanish Citizen Science across Europe



Collaboration established in H2020 citizen science projects with Spanish participation. Informe del Observatorio de la Ciencia Ciudadana en España (2020)

2020

19 new H2020 projects
€58’77M
7 leaders
31 organisations

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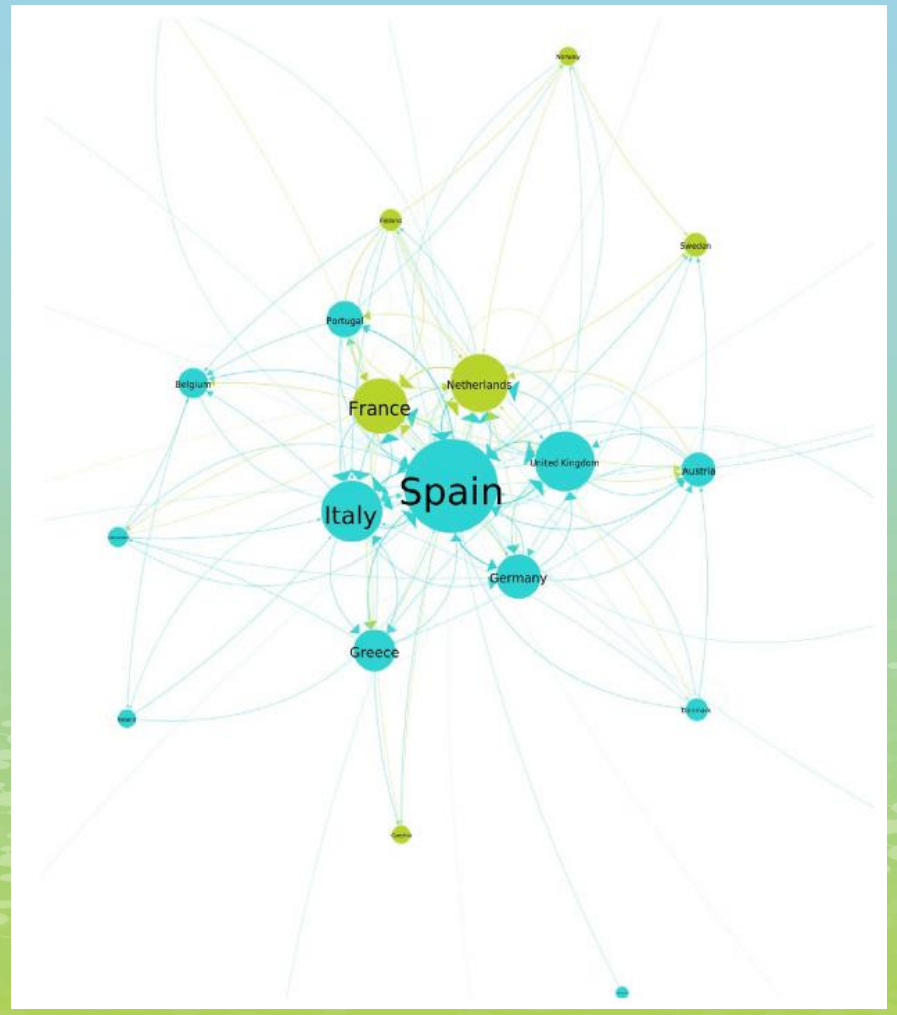
Spanish Citizen Science across Europe



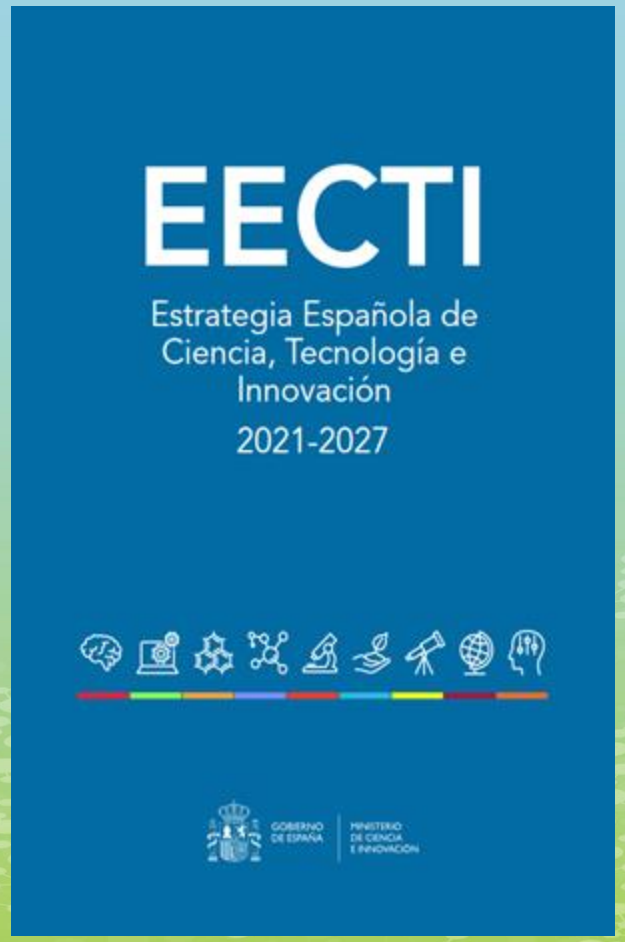
eu-citizen.science

NEWSERA
#CITSCI IS THE NEW #SCICOMM

European Commission

Collaboration established in H2020 citizen science projects with Spanish participation. Informe del Observatorio de la Ciencia Ciudadana en España (2020)

Long-term sustainability strategies

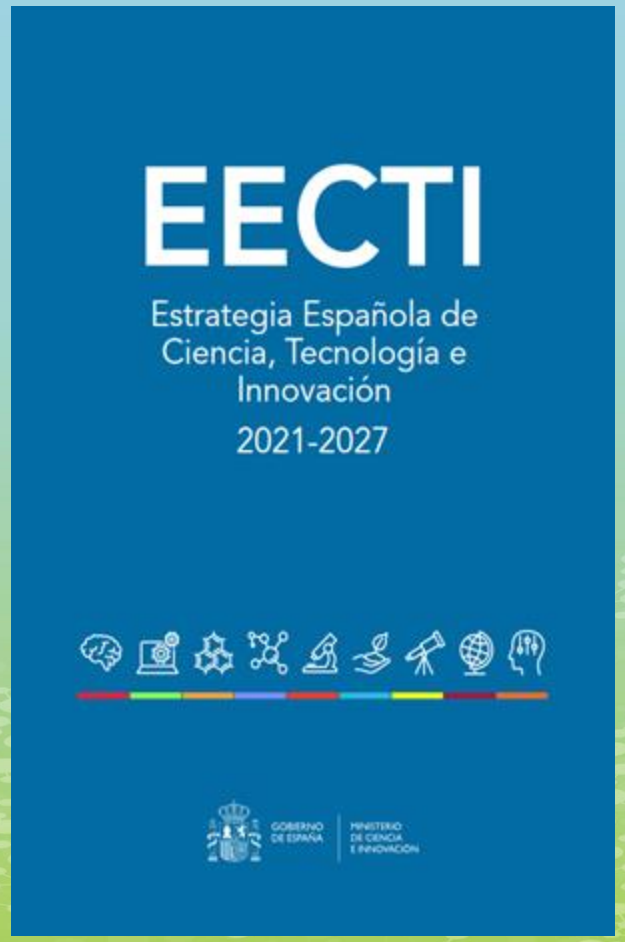


September 2020

"The social and economic responsibility of R&D&I through the incorporation of citizen science and the application of co-creation and open access policies, as well as the alignment of R&D&I with social values, needs and expectations"

European Commission

Long-term sustainability strategies



September 2020

"The social and economic responsibility of R&D&I through the incorporation of citizen science and the application of co-creation and open access policies, as well as the alignment of R&D&I with social values, needs and expectations"

Law 14/2011 article 38, paragraph 2

"Promote **citizen participation in the scientific and technical process** through, among other mechanisms, the definition of research agendas, observation, collection and through, among other mechanisms, the definition of research agendas, observation, data collection and processing, impact assessment data collection and processing, impact assessment in the selection of projects and monitoring of results, and other citizen monitoring of results, and other citizen participation processes."

Science, Technology and Innovation reform. February 22, 2022

European Commission

European Commission

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THANK YOU

Barriers in the implementation of CS projects

- Challenges for **Scientific Recognition**
- Challenges for **Career Scientists**
- Challenges for **Citizen Engagement**
- Challenges for **Data Quality**
- Challenges for **Demonstrating Impact**
- Challenges for **Sustainability**
- Challenges for **National Schemes**

European Commission

Challenges for Scientific Recognition

- Citizen Science has **lower scientific impact** than traditional science due to the **limited scope** of citizen science projects (also **funding**).

- **Underrepresented scientific fields** within citizen science (e.g. Social Science and Humanities (SSH), Public Health, Policy Research, History).

Challenges for Career Scientists

- Lack of necessary skills and familiarity to implement Citizen Science projects: **need for education and training**.
- Lack of **interdisciplinary teams** (i.e., a Social Scientist to support citizen engagement in Natural Sciences)
- Lack of **incentives** for scientists to enrol in a more complex and less controlled research scheme.
- Lack of scientific and academic **career recognition**.

European Commission

Challenges for Citizen Engagement

- Increasing the **number** of participants
- Challenges in the engagement of citizens in **risk of social exclusion**
- **Barriers**: poverty, gender issues, ethnic minorities, language barriers, etc.
- **Role of citizens limited** to data gathering.
- **Cooperation** with CS organisations is needed to promote change. From top-down to **bottom-up**.
- **Motivation mechanisms are key**: relevant knowledge, access to information, games, entertainment, solving a direct problem they have, creating or accessing a community.

Are **rewarding mechanisms** needed? How **ethical** are they in each case?

Do citizens participating in citizen science projects have **internal biases**?

European Commission

Challenges for Data Quality

- Automatic data validation **mechanisms are costly**.
- Data is **dispersed** and **difficult to access** and re-use.
- A **data-centric approach** is not systematically adopted, making it difficult to assess, measure and compare results and impact.
- **Data sharing** between projects is still a challenge.

European Commission

Challenges for demonstrating impact

- Explore **new impact** and **evaluation metrics** that embrace new social dimensions.
- Use **co-creation** and participatory settings.
- Create **indicators to measure the impacts of citizen science**.
- Create indicators at the **adequate level** (local, regional, national, European) that can be easily measured to demonstrate impact.

European Commission

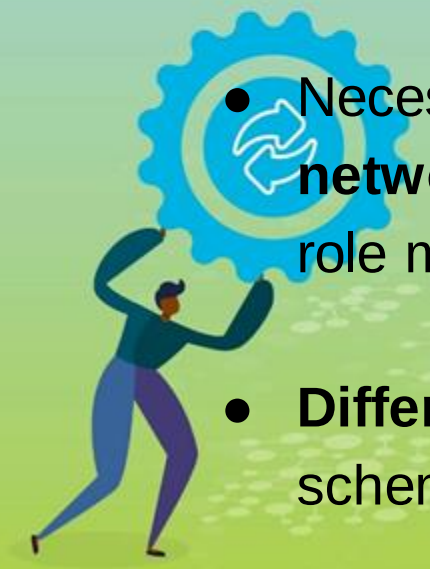
Challenges for Sustainability

- **Lack of resources** to maintain technological tools (e.g. apps or platforms).
- Maintaining **engagement** (participation fatigue).
- **Financial** sustainability to ensure a **long-term perspective**.
- **Upscaling and replicability** mechanisms to cover wider areas or fields.
- **Lack of spaces to learn** especially relevant to younger generations.

European Commission

Challenges for National Schemes

- Different **levels of maturity** of CS practices across countries.
- Limited **transfer of knowledge across countries**: limits replicability, increases the required efforts, limits maturity of results.
- Necessity of **building a strong European network** and supporting mutual learning, role modelling, and best practices.
- **Different** support **mechanisms** and funding schemes in the different countries.



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The ACTION impact framework

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HORIZON EUROPE POLICY SUPPORT FACILITY

2021 – 2027

ANTONELLA PASSANI

T6 Ecosystems

ACTION

www.actionproject.eu

Research and Innovation

ACTION: PARTICIPATORY SCIENCE TOOLKIT AGAINST POLLUTION

ACTION **TOOLKIT**

Co-designed methodologies and socio-technical tools simplifying the everyday life of CS projects and supporting their sustainability.

ACTION **ACCELERATOR**

A set of services, tailored to the needs of each CS project, including: training, mentoring, infrastructure to host projects and their data; promotion and networking.

ACTION **MASTERCLASSES**

Tailored events for local, national and EU policy makers and civil servants interested in maximizing the potential of CS in their territories.

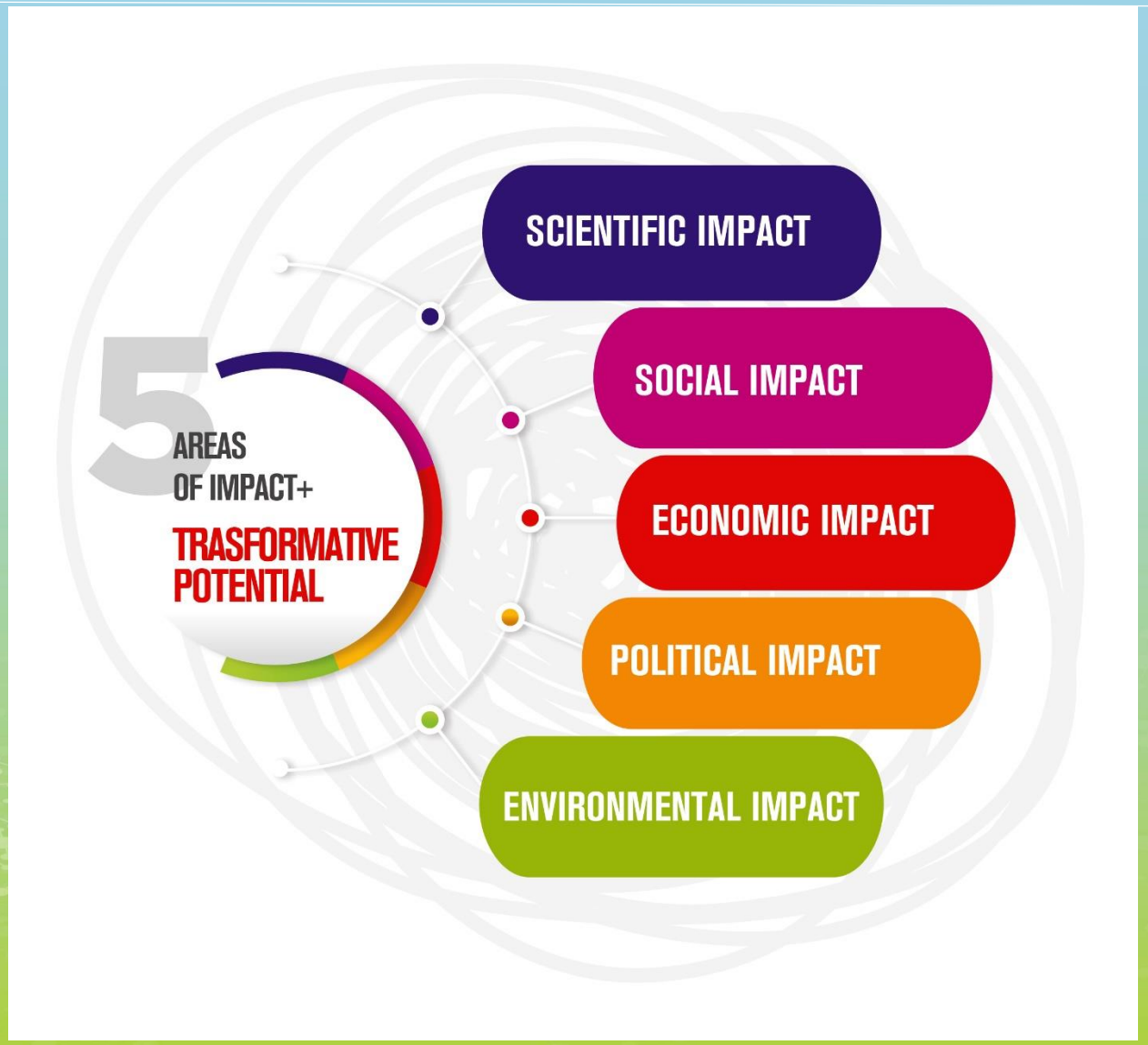
ACTION **OPEN CALLS**

Funds and support for 10 new and ongoing citizen science projects related to any form of pollution in Europe and worldwide.

Lead institution: KCL – KINGS' COLLEGE LONDON
Start – End year: 2019-2022 (just closed)
Funder: Horizon 2020, SwafS programme
Website: https://actionproject.eu/

European Commission

ACTION IMPACT ASSESSMENT METHODOLOGY



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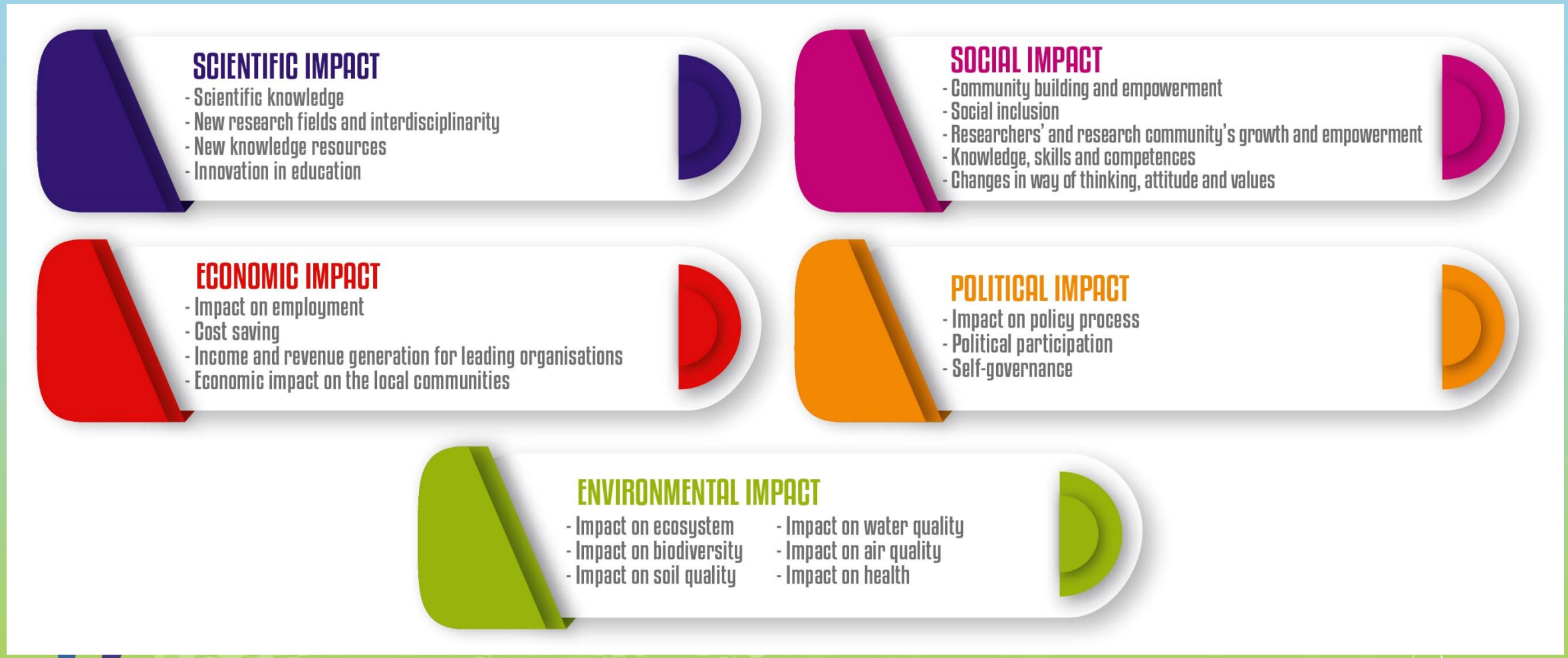
ACTION IMPACT ASSESSMENT DIMENSIONS



MAIN CHARACTERISTICS OF THE ASSESSMENT METHODOLOGY

- It is **modular**: not all the areas of impact/dimensions are relevant for all CS projects. Each CS project team can select the areas of impact/dimensions that are of interest and the impact assessment is done ONLY on those areas of impact/dimensions

- It is **flexible**: data can be gathered involving different stakeholders and in different time-frames. Ideally, each CS project should run an Ex-ante and Ex-post impact assessment in order to better monitor the changes between the situation “before” the project start and its conclusion. And, ideally, data should be provided not only by project team members but by citizens engaged in the activities. If this is not possible, we developed dedicated tools for assessing the impact only at the end of the project and by engaging only CS project managers.

- Is **fully operationalised**: each dimension has been operationalised in indicators and variables and related questions so that, after the end of ACTION, CS projects will be able to use it in an autonomous way.

- It guides the CS teams to reflect on their expected impacts thanks to a visual tool: **the ACTION impact assessment canvas,** a 4 page visual template that can be used for kick-starting the impact assessment process.

European Commission

IMPACTS

16

Accelerated pilots

Types of pollution addressed by the pilots

LIGHT	SOIL	WATER	NOISE	AIR
4	6	3	1	2

89700+ people reached

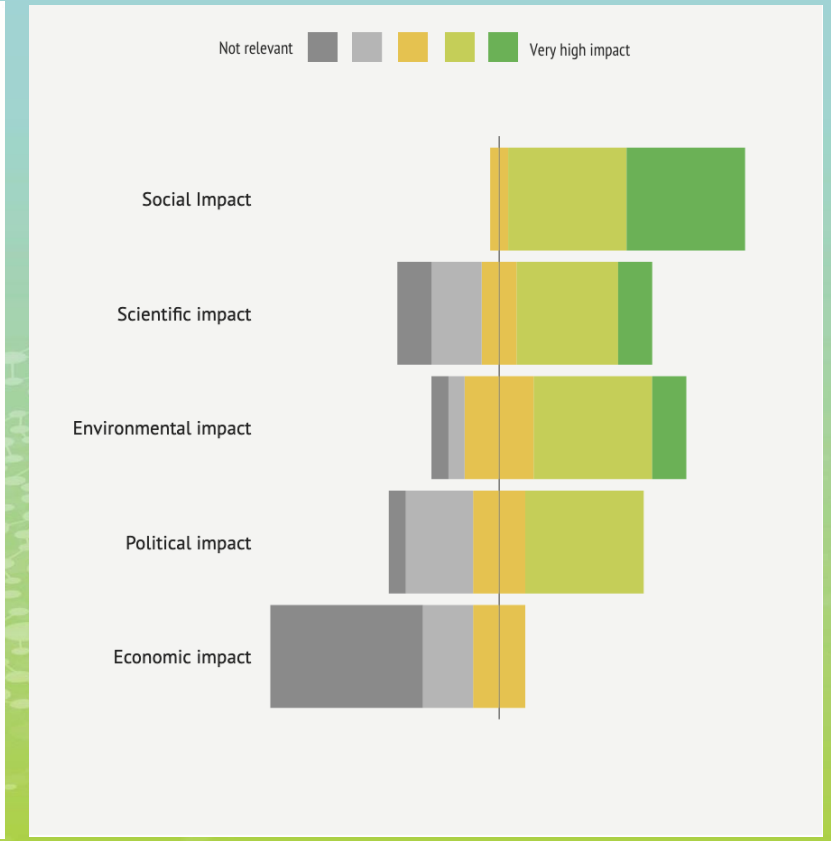
157 events organised

1200+ participants

42 scientific outputs

3 press releases

62 articles



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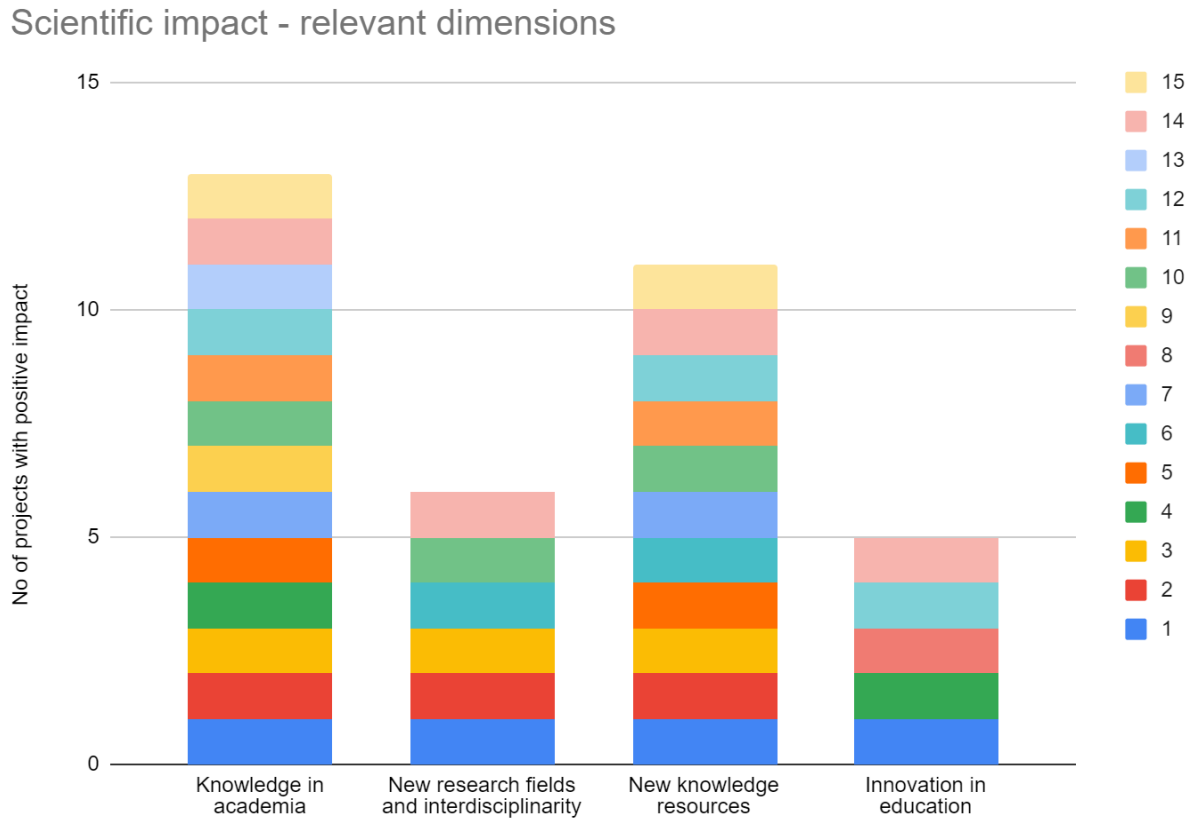
SCIENTIFIC IMPACT



Example of new knowledge resources:

WALK UP ANIENE

Involved citizens in environmental monitoring of their local riverbank, resulting in an interactive map of the environmental quality.

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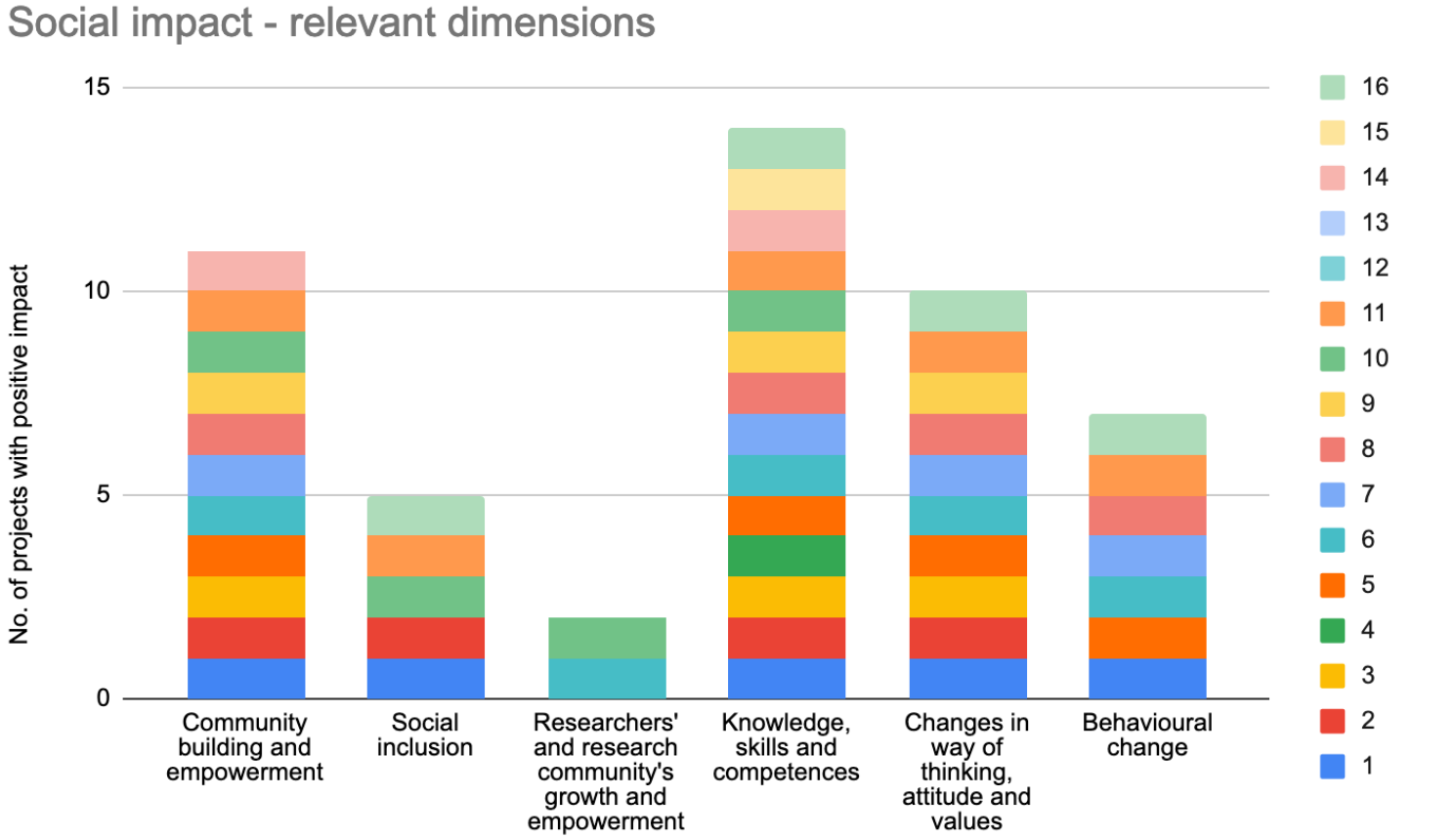
SOCIAL IMPACT

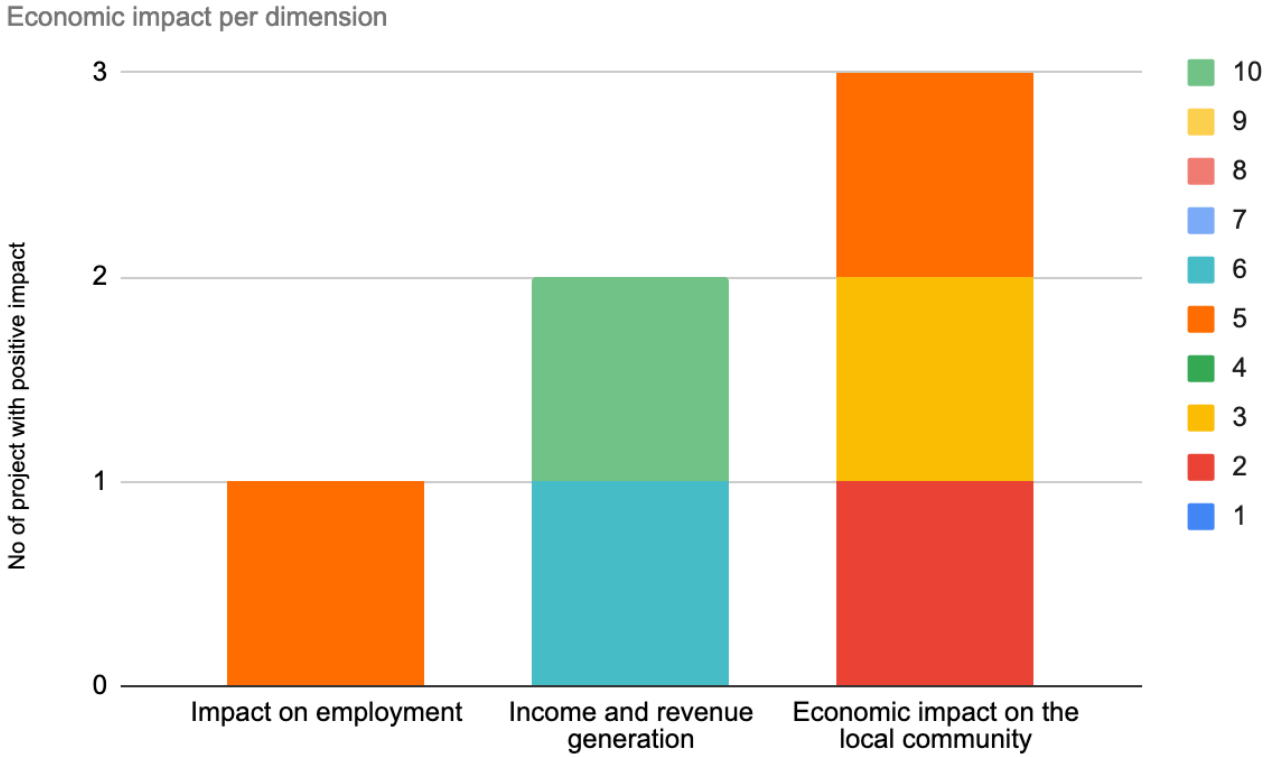


Example of social inclusion: Sonic Kayaks by

Thanks to its interdisciplinary approach, that combines natural science and sound art it allows people with visual impairment to actively participate in water pollution data gathering activities.

European Commission

ECONOMIC IMPACT



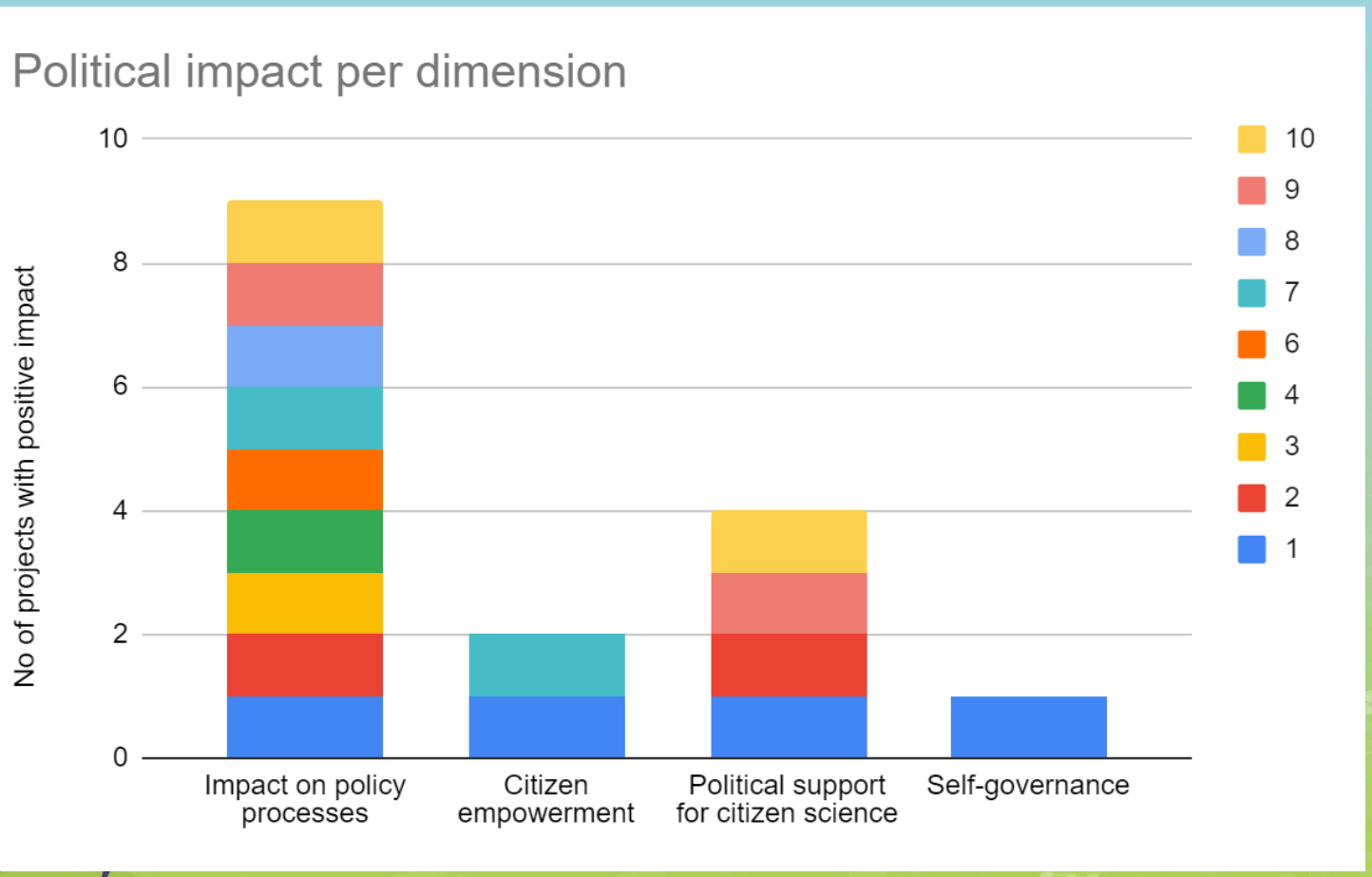
Value generated

For this analysis we consider only **7 projects**.
Overall their volunteers dedicated **1,551 hours** to data gathering that would have cost approximately **€29,000** if carried out by Post-Doc researchers.*

* Salary cost of post-doc work based on Ribeiro et al 2019

European Commission

POLITICAL IMPACT



Example of political impact: NoiseMaps by

BITLAB

Recording sound pollution. Empowering citizens with an evidence-based voice to contribute to policy agenda setting, and to collaborate with the municipality. Increasing political support for citizen science through positive collaboration with the city council in Barcelona.

European Commission

Thank you!

Contact info:
Antonella Passani
a.passani@t-6.it

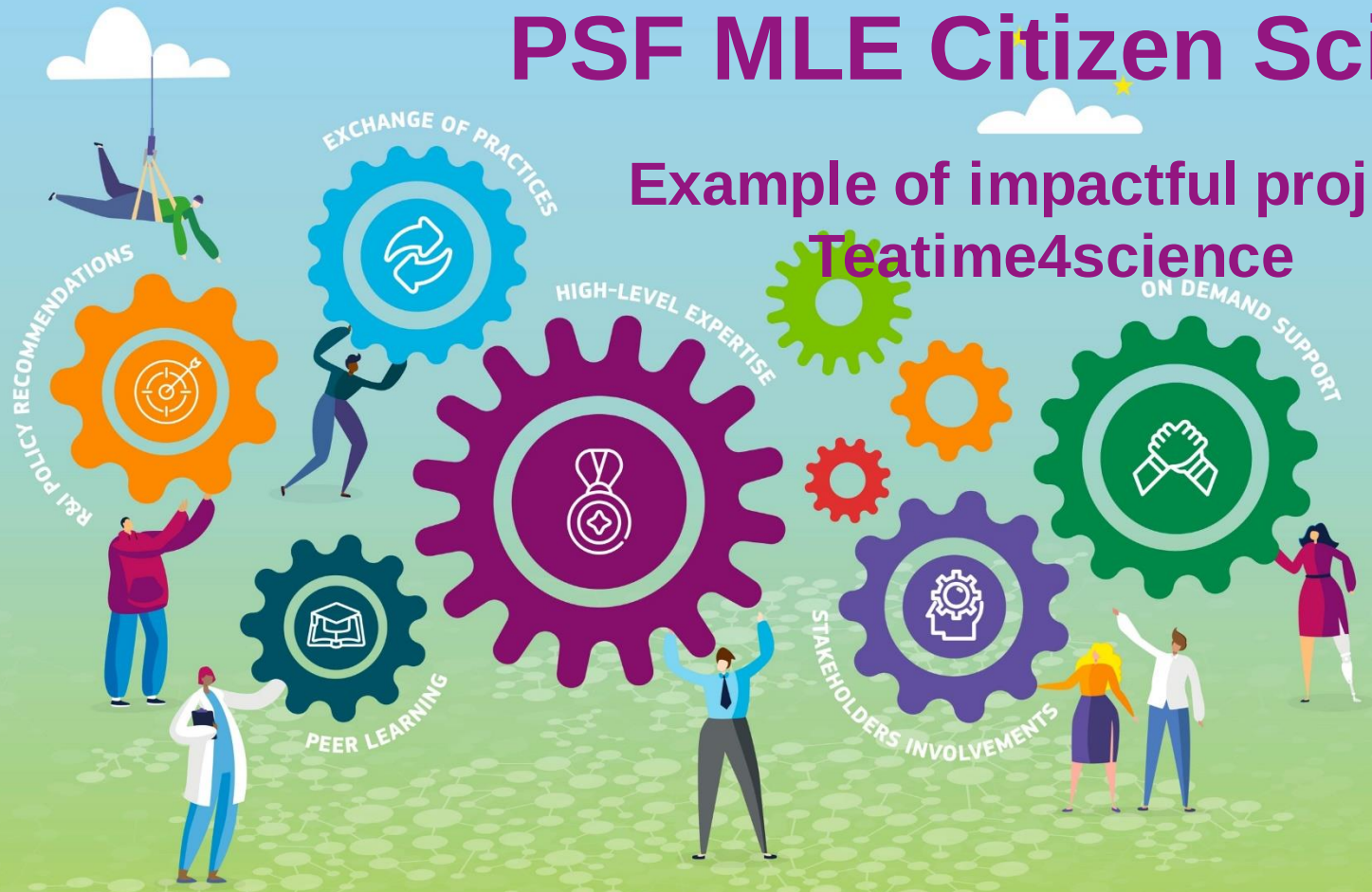
References

Passani, A., Janssen A., Holscher, K (2021). *Impact assessment framework* available at**:** https://www.zenodo.org/record/4432132#.YiDAtt_SIXo
Ribeiro, M.J., Fonseca, A., Ramos, M.M., Costa, M., Kilteni, K., Andersen, L.M. Harber-Aschan, L., Moscoso, J.A., Bagchi, S., (2019). European Network of Postdoctoral Associations, Postdoc X-ray in Europe 2017 Work conditions, productivity, institutional support and career outlooks, bioRxiv 523621; doi: https://doi.org/10.1101/523621

www.actionproject.eu

PSF MLE Citizen Science

Example of impactful project: Teatime4science



#HorizonEU

HORIZON EUROPE POLICY SUPPORT FACILITY

2021 – 2027

JUDITH SARNEEL

Researcher

Umeå University

Teatime4science

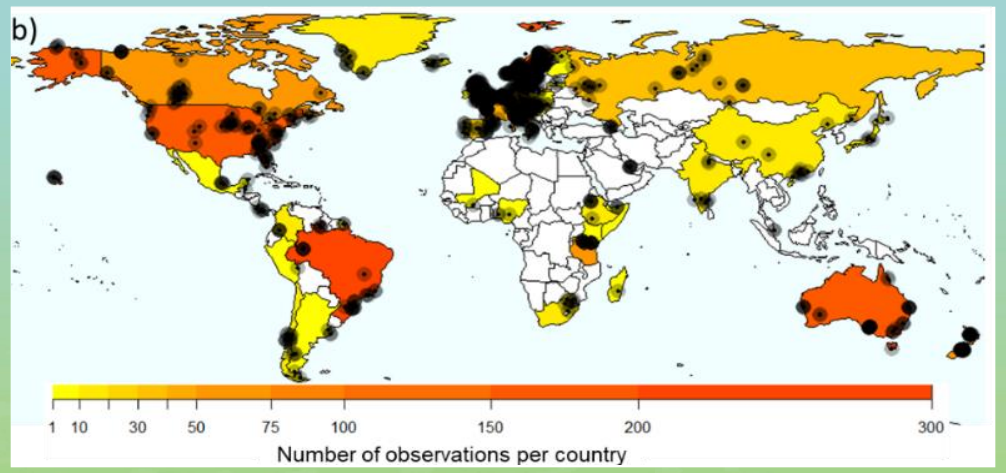
Research and Innovation

THE PROJECT: NAME + LOGO

Lead institution: Umeå University
Start – 2015 to 2019 (ongoing)
Funders: Swedish Research Council, Formas

Vetenskapsrådet
Swedish Research Council
FORMAS

Funding: 2014, 2020



Reach: global

Objectives:

Understand global drivers of decomposition through the creation of a global map.

European Commission

CITIZEN ENGAGEMENT

Role: citizens in data collection/design of experiment
Citizen groups: EVERYONE active outreach to schools
Number involved: > 26 000 (in 2019)
Motivations: **Fun**, Participation in Research (importance, learning), Learning.

European Commission

CITIZEN ENGAGEMENT

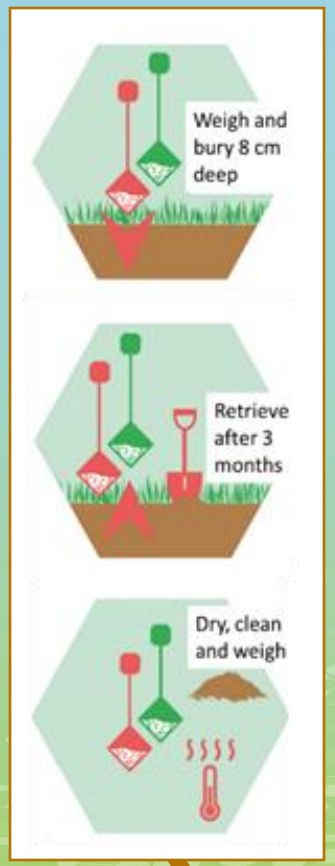
Engagement strategies: Email, Facebook/Twitter, school-visits,
Teaching manual in different languages
Website (teatime4science.org)
Collaboration/support with local groups

Gender/ underrepresented group involvement:

- 75% women in the team.
- We will interview a range of people about their tea studies
- AGES (AU) made a pamphlet highlighting the diversity of researchers contributing to the SDG

DATA COLLECTION & QUALITY

Tea gets lost



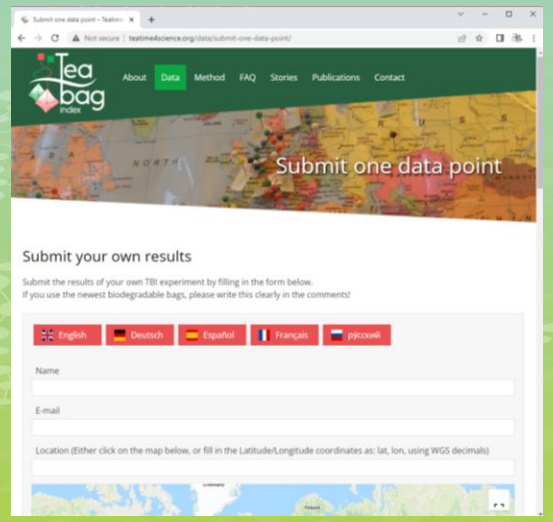
Feedback (point with data on map) **Not perfect**

Submit online (consent on data use)

HARD!

Data quality check (email)

Filtering out impossible values



Open (soon; ESDAC)

1500 means (point data)

Interpolated to a global map

Searchable webtool

Tea Tales

European Commission

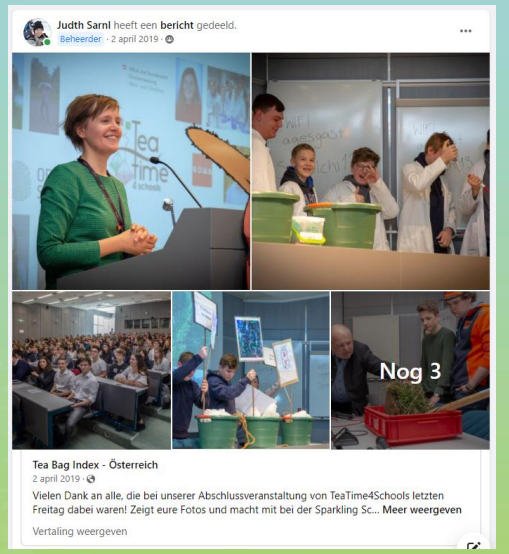
COMMUNICATION

No written communication plans (but started with that in TeaTales)

Some assistants helped with data-checking and communication

Twitter and FB and local public events

Feedback to the citizens via FB and
via TeaTales project
(but not 100% overlap with all participants)



European Commission

IMPACT

In some school projects we have done an enquiry before and after the project.

Scientific impact: ca 200 citations of the method publication

Policy, environmental, social or economic impacts: Diffuse.
We make the view on research and soils a bit more positive.

European Commission

SUSTAINABILITY

No exploitation plan

Project has been replicated all over the world (science and citizen science)

Sustain the funding: apply from funding bodies (the tea company is not interested in a collaboration)

European Commission

PSF MLE Citizen Science

Topic 2, Day 1, 7 March 2022

#HorizonEU

HORIZON EUROPE POLICY SUPPORT FACILITY

2021 – 2027

Rosa Arias

CEO & Founder

D-NOSES Coordinator

Science for Change

Research and Innovation

THE PROJECT: D-NOSES

D-NOSES

Distributed Network for Odour Sensing, Empowerment and Sustainability

Lead institution: Ibercivis / Science for Change

Start – End year: April 2018 - September 2021

Funder: EC, SwafS H2020 call

Funding received: €3.158.000

Geographical reach: Spain, Portugal, Germany, Greece, Italy, Bulgaria, the UK, Uganda and Chile

Objective of the project: Introduce odour pollution in the policy agendas at a global scale in the medium to long term.

European Commission

CITIZEN ENGAGEMENT

Role: Citizens involved in the whole project lifecycle: From research problem definition, data collection and analysis

Citizen groups engaged: Neighbours, communities, some schools.

Number of people involved: + 2800 citizens involved in engagement
+1000 citizens used OdourCollect

Motivations: Odour pollution is a matter of their concern limiting their quality of life.

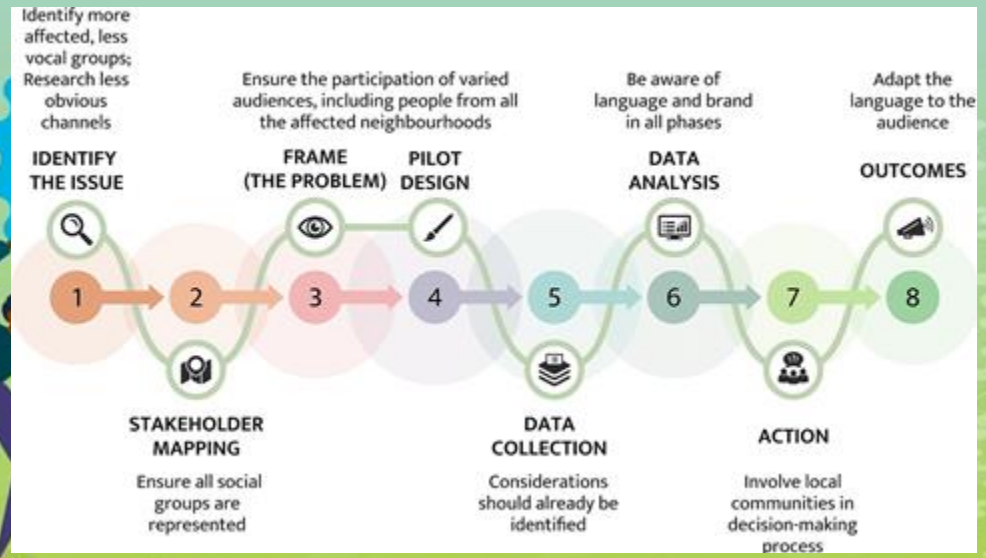
European Commission

CITIZEN ENGAGEMENT

Engagement strategies: Community events, field work, co-creation workshops, local media interventions (papers, radio, twitter…) Each strategy adapted to each pilot.

Gender in the research/engagement strategy

- **67%** of the D-NOSES teams are women, who play <u>key roles</u>
- **71%** of odour observations reported come from women



Strategy to reach underrepresented groups
D-NOSES inclusivity model

European Commission

DATA COLLECTION & QUALITY

ODOURCOLLECT: a tool for data collection

Data set: Type, subtype odour, hedonic tone, intensity, hedonic tone, geolocation, time, duration.

Validate data - DATA PLAUSIBILITY

1. Individual level
2. Collective level
3. Scientific level

Odour training for participants

Theoretical/scientific and practical aspects

OdourCollect app training

"Sensory walk"

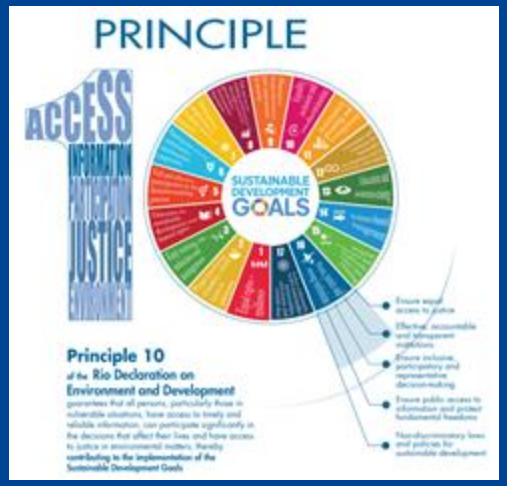
- D-NOSES MOOC
- Didactic units of OdourCollect

European Commission

DATA COLLECTION & QUALITY

OPEN DATA

Odour Observations from OdourCollect (D-NOSES) https://doi.org/10.5281/zenodo.5732853



FAIR data

Goal of the new professional version of OdourCollect.

Coming soon!

CDTI INICIATIVA neotec

Cos4Cloud

European Commission

COMMUNICATION

Communication plan

1. Target audiences: communication, stakeholder engagement, advocacy, dissemination.
1. Messages
1. Tone of voice: adopted to each actor of quadruple helix

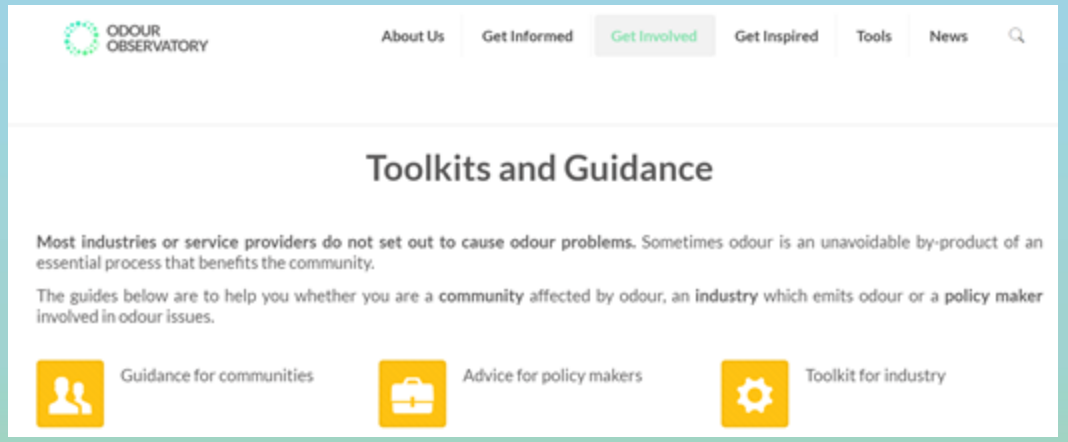
Feedback to the citizens engaged

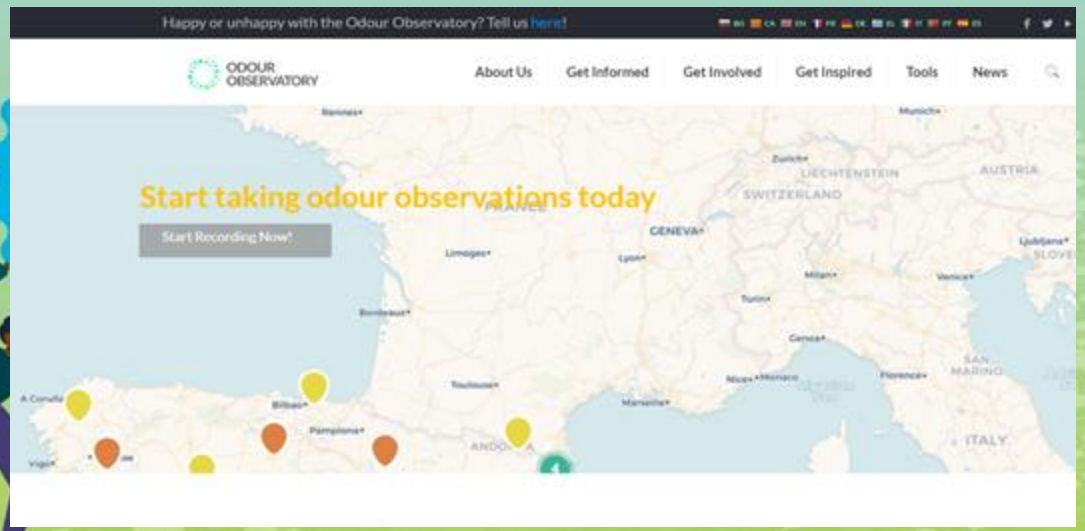
- Sessions
- Videos
- Whatsapp
- Facebook
- Twitter
- Flyers

European Commission

COMMUNICATION

ODOUR OBSERVATORY

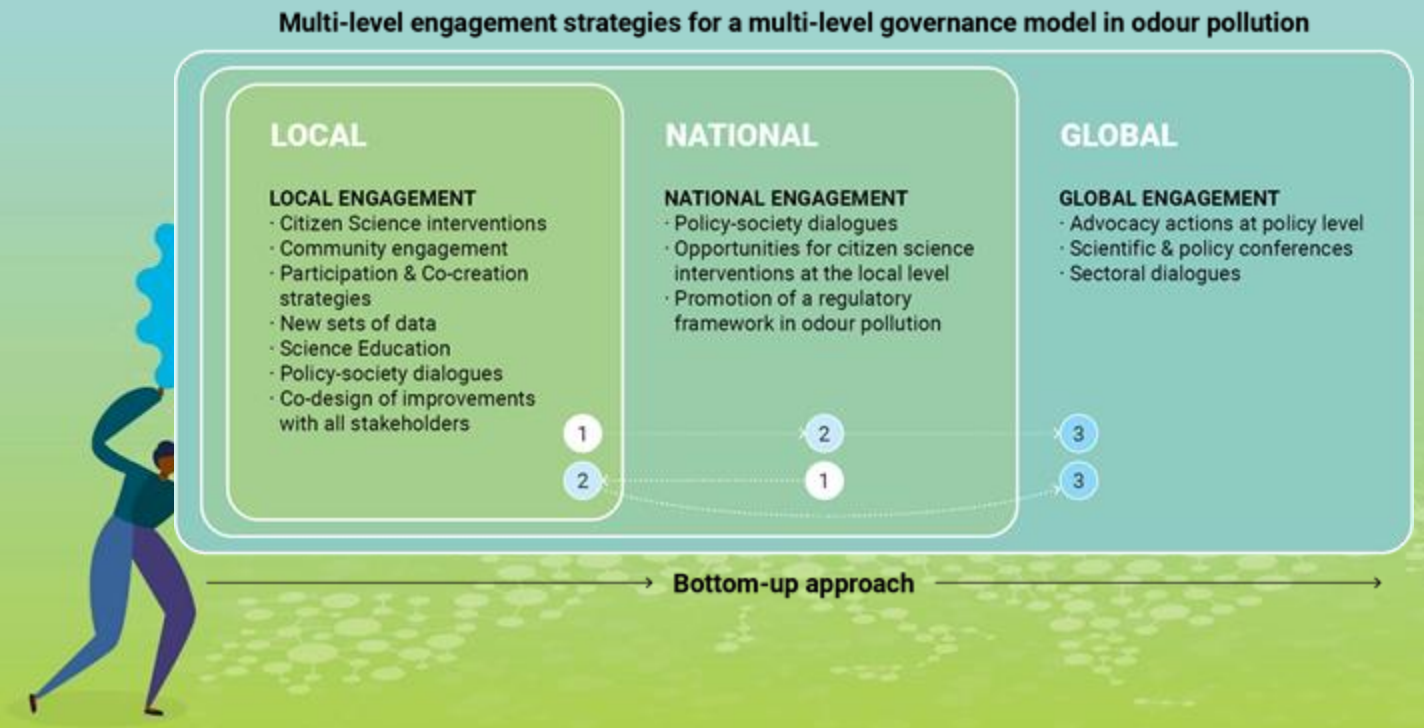




European Commission

IMPACT

Policy: European Committee of the Regions (CoR) has adopted unanimously at its Plenary Session on 27 January 2022 the Opinion "EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil".



*"**The CoR underlines the importance of citizen science and public participation** for tackling odour pollution challenges. A **multi-level approach** including different inputs of various stakeholders can empower citizens to participate in decisions made about their environment and can support policy-makers and odour emitting activities to make informed decisions and better manage the issue of odour pollution."*

European Commission

IMPACT

Policy:

ADVANCES AT NATIONAL LEVEL

Portuguese advocacy actions

Create a high level policy group, to work towards a **national regulation in odour pollution in the country.**

Spanish advocacy actions

In Spain, a **standard** to monitor odour pollution through **citizen science** is being promoted, with the support of the Spanish standardization body UNE.

Chile advocacy actions

Chile's draft of a **first national odour emissions regulation** covering the swine sector could be a blueprint for further regulations.

Colombia advocacy actions

Improvement of the procedure of execution and analysis of the **odour nuisance through surveys** using the OdourCollect App. Improved data quality and time.

European Commission

IMPACT

- D-NOSES website (~12K unique visitors), (joint) newsletters, 1.2K+ downloads
- Leaflets, audiovisual content, social media
- 44 articles, **20 scientific papers**, 101 events (~15K attendees), 40+ policy society dialogues
- IOO: 20K + users across continents: Europe (12K), Americas (6.3K) and Asia (2.7K)
- Community Maps: policy maps, 430 observations

Final conferences:

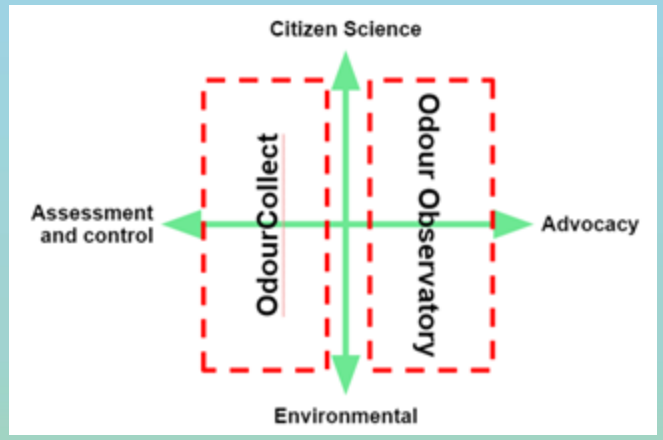
European Commission

SUSTAINABILITY

Exploitation plan:

Free access to all the results produced by D-NOSES

The exploitation plan has been agreed by all partners



Replicability of the project

Funding to continue with the project:

CDTI

INICIATIVA neotec

FECYT

More prizes to come! :)

European Commission

Thank you!

RTD-PSF@ec.europa.eu