



ENRF Briefing Note on Citizens Science: involvement of citizens in co-creating the Science Agenda

‘Citizen science’ is a broad term that can apply to all areas of Science and Innovation, and which covers the part of Open Science in which citizens can participate in the scientific research process from different perspectives: as observers, as funders, in identifying images or analysing data, or providing data. As such, the citizens’ involvement in science is seen as very important, but the main question is how to involve the citizen, knowing that sharing citizens’ ideas and points of views can really help science to reach important outcomes closer to people needs.



In a meeting on this topic, **Linden Ferrer**, Policy Officer at the European Commission DG R&I, Open Science – Science and Society, explained the concept of [Open Science](#), being based on **open co-operation work, sharing of knowledge and tools**. For this reason, Open Science involves all relevant knowledge **actors** as citizens, civil society and end-users in the co-operation and co-creation process of the research and innovation (R&I) agenda and content

Why is it important to involve citizens in science? **3 main reasons are highlighted**: It contributes to excellence, it increases effectiveness, and it improves the relationship between science and society. See below:

Why promote citizen science and the co-creation of R&I agendas and contents?

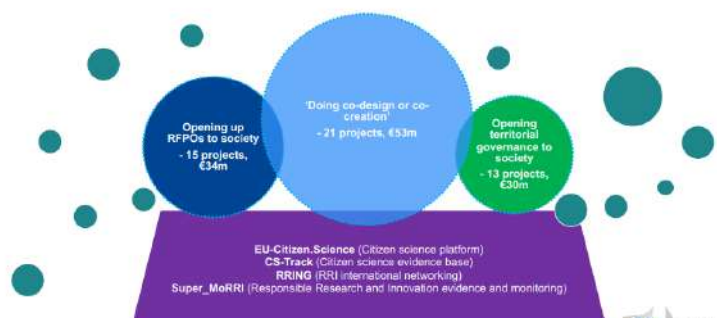
- **Contributes to excellence**
 - Enlarges the scope of R&I, and the quality and quantity of data collected, discussed and analysed
 - Leads to – and enables – innovative and creative approaches
 - Increases the robustness of the outcomes and reduces the time-to-market of products and services
- **Increases effectiveness**
 - Leverages vast societal capabilities and collective intelligence often excluded from contributing to R&I
 - Increases the relevance and responsiveness of R&I, ensuring that its outcomes align with the needs, values and expectations of society
 - Triggers behavioural changes
- **Improves the relationship between science and society**
 - Improves transparency, co-ownership and trust of society in the process and outputs of R&I, helping respond to increased science denial
 - Ensures that the outcomes of R&I are more inclusive in nature and less likely to generate opposition
 - Encourages mutual learning between science and society (c.f. science-society literacy)



However, to involve citizens in the R&I during the entire research process, it is fundamental to better align R&I and its outcomes with the values, needs and expectations of society. The online platform [EU-Citizen.Science](#) has therefore been created for sharing ideas, information, education and resources for citizens’ science by the community for the community.

It is key to promote good practices that involve citizens in science, especially related to inclusivity and diversity, engagement required resources, cascading grants useful to reach citizens, quadruple helix (academia-industry-government-

Science with and for Society – Key Responsible Research and Innovation portfolios of projects



civil) co-operation helping to ensure R&I results are reliable. Involving trusted interlocutors or experts from outside the research group is therefore seen as important.

Inclusiveness at all levels is the basis of [Horizon 2020 Science with and for Society](#) (SwafS), that aims to promote science education within everyone's reach, based on open and reliable communication in which citizens can help provide their potential and ideas. *“Citizen science should be understood broadly, covering a range of different levels of participation, from raising public knowledge of science, encouraging citizens to participate in the scientific process by observing, gathering and processing data, right up to setting scientific agenda and co-designing and implementing science-related policies. It could also involve publication of results and teaching science”* as defined by the European Green Deal Call. Citizens can be involved in science in very different way:

Commission Communication

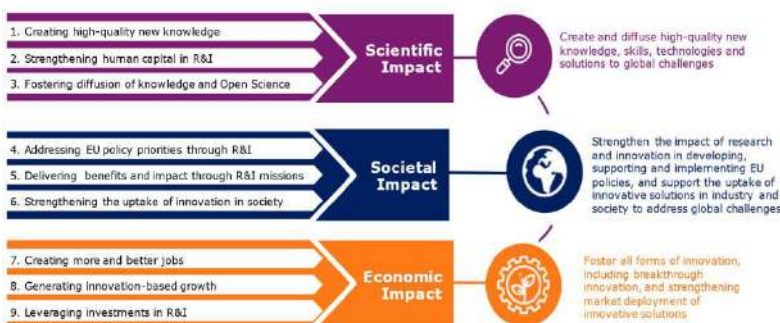
Organise Europe-wide participatory **citizen science campaigns**, crowdsourcing platforms and pan-European hackathons, in particular in the context of Horizon Europe Missions, and develop best practices to open up science and innovation to citizens and youth

Council Conclusions

- Further develop and implement the **“plastic pirates” citizen science campaign** in cooperation with the proposed Mission on Healthy Oceans, Seas, Coastal and Inland Waters
- Organise at least **every two years a Europe-wide Citizen Science Campaign** in order to roll-out good practices for incentivising and rewarding citizen participation in R&I policy design and implementation across Europe in synergy with Horizon Europe missions.

Citizen and societal engagement improve the effectiveness, creativity and quality of research and innovation. It also ensures that the processes and outcomes align with the needs, values and expectations of society. The challenge is to use this knowledge and experience in Horizon Europe’s clusters and missions, and in the European Research Area.

Regulation, Annex V – Key impact pathways

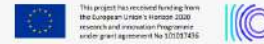


Rasa Viederyte, EU-CONEXUS RFS Project Manager, highlighted the [EU-CONEXUS Research for Society](#) aim of implementing an institutional transformation in all partner universities to create a **multidisciplinary, challenge-driven, internationally and competitive research and innovation structure**. It aims to an institutional transformation developing an **integrated and long-term strategy** and agenda in R&I, implementing actions and strategies to **strengthen human capital** enabling brain circulation and gender balance, creating best practises and conditions for sharing infrastructure and resources, strengthen relationships between universities and industrial sector, strengthen links with society, private companies and stakeholders, and sharing knowledge with citizens living in coastal areas.

Rasa Viederyte also stressed the importance of rethinking the concept of «excellence». It is important to acknowledge that public value requires a societal contribution of citizens. **Responsible research and innovation** refers to **effects, potential impacts and benefits** of research on the environment and society. **Quality assurance** refers to **students learning outcomes**. **Open science** refers to **sharing** research practices and making results **accessible**, as summarised in the slide below:

Rethinking “excellence” in HEI

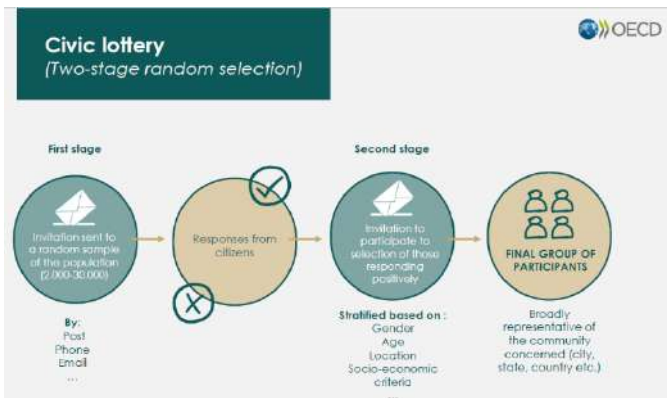
1. **Public value** asks about the contribution to society and the public good – and the impact upon citizens and their daily lives.
2. **Responsible research and innovation** asks about effects, potential impacts and benefits of research on the environment and society.
3. **Quality assurance** asks about student learning outcomes and societal impact.
4. **Open science** asks sharing the practices of research and making the results of publicly-funded research publicly accessible.



Leva Cesnulaityte, Policy Analyst at the Organisation for Economic Co-operation and Development ([OECD](#)) gave some examples of citizens involvement in science from the [Irish Citizens Assembly](#) and the **Citizens’ dialogue on future research areas in Denmark**. These **2 events** were based on the citizens’ involvement in science to share their ideas, points of view and recommendations.



She then explained how to engage people in science, mentioning that this can be done through a **Civic Lottery** which aims to assemble a public body that is representative of the public, based on **2 stages’** random selection: A **first stage** based on an invitation sent to a random sample of the population (by email, posts, phone). The **second stage** is based on an invitation sent to those responding positively to the invitation, stratified based on gender, age, location, socio-economic, leading to a **final group** of participants created.



Interestingly, she then presented **2 important processes to be used: Deliberative Democracy and Participatory Democracy.**

- **Deliberative Democracy** process is based on a **small**, but representative groups of people who aims for deep deliberation. Deliberation requires that people are well informed to arrive at public judgement. The participate selection method, in this case, is based on **Civic Lottery** which combines random selection with stratification. **Deliberative processes** are well-suited to address value-based dilemmas, complex problems which require trade-offs and long-term questions. **Benefits** connected to deliberation process are better policy outcomes, greater legitimacy, enhance public trust in government and democratic institutions, signal civic respect, making governance more inclusive, strengthen integrity and prevent corruption, help disinformation.
- **Participatory Democracy** process is related to a **large** group of people and the selection method is based on **self-selected participation** in order to engage as many people as possible.

Why representativeness and deliberation?

The OECD Recommendation of the Council on Open Government (2017) recommends that adherents grant all stakeholders, including citizens:

"equal and fair opportunities to be informed and consulted and actively engaged in all phases of the policy-cycle",

and "promote innovative ways to effectively engage with stakeholders to source ideas and co-create solutions".



Leva Cesnulaityte raised that some types of problems that deliberative processes can address are mainly value-based dilemmas, complex problems that require trade-off, and long-term questions. These processes are most of the time complemented by open submissions, surveys, and public consultations. She then highlighted some good practices principles for these processes :



Having representativeness brings with it better policy outcomes, it enhances public trust, and it makes governance more inclusive by opening the door to more representative groups of people.

Finally, it is key to remember how important citizens' involvement in science is to improve R&I results. Citizens' science and involvement of the citizens, including nurses and nursing researchers, in the science and innovation projects will allow greater integration and deliver impact. Citizens can be an important ally for future nursing research to improve the research results quality and impact.

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