



European
Commission



Mutual learning boosts citizen science across Europe

#HorizonEU

PSF CHALLENGE - MUTUAL LEARNING EXERCISE (MLE)

Citizen science initiatives bring together citizens and scientists so they can do research at different stages and levels of engagement – from co-designing research agendas and policies to co-creating and co-assessing scientific knowledge. These initiatives have been growing in the past years across Europe, mostly taking place at local or national levels though some are also being co-ordinated internationally.

Citizen science mode of research and innovation has significant potential for achieving excellence in research and greater societal impact and for increasing trust in science. It does this by enlarging the scope and reach of research and innovation (R&I) and the quality and quantity of data collected, discussed and analysed; leveraging collective and societal capabilities; aligning research and innovation with the needs, expectations and values of society; and increasing the relevance and transparency of science.

The European Commission has been supporting engagement of citizens in research for many years through its policy and funding programmes. Its framework programmes for R&I support [citizen science projects](#) covering a wide range of areas of science and innovation: from public health and ecology to computer science and frontier physics. Active citizen and societal engagement in research is a priority area for joint actions under the [Pact for Research and Innovation in Europe](#). In addition, the Horizon Europe framework programme has co-design and co-creation and engagement of citizens in research as a principle woven in all the programme parts, including its [Clusters](#) and [EU R&I Missions](#).

EU Member States are increasingly interested in the potential of participatory science to address major societal challenges, such as climate change mitigation, environmental monitoring, restoring oceans and waters, smart cities, and crises like the COVID-19 pandemic. National and regional strategies to support citizen science are still in their infancy in many countries and need strategies for setting up an enabling environment that can sustain and, eventually, scale up citizen science projects and initiatives.

Europe would benefit from better promotion of these scientific practices within Member States, as well as from closer cooperation on citizen science across the European Research Area (ERA). This could include attention to broadening the sets and types of information gathered, sharing and improving practices in scientific methodology and outreach, putting in place supportive governance and structures in research institutions, and building a cross-border community of citizen scientists.

About the Mutual Learning Exercise

Over the course of 18 months, the Policy Support Facility (PSF) conducted a Mutual Learning Exercise (MLE) to bridge the gap between the promising practices in citizen science and the longer-term vision of maximising its potential. The PSF exercise included 10 countries across Europe: Austria, Belgium, Germany, Hungary, Italy, Norway, Portugal, Romania, Slovenia and Sweden.

The MLE aimed to facilitate the exchange of information and lessons learned between participating countries, as well as to identify good practices and policies on citizen science. It also sought to promote and enable participatory research practices at the national level, within a supportive environment for citizen science in all its forms. Lastly, the MLE aimed to identify citizen science initiatives that have high potential to be implemented in a collaborative way across the ERA.

Research and
Innovation

The PSF exercise addressed the following topics:

- exploring the diversity of citizen science practices;
- ensuring good practices and impact;
- maximising the relevance and excellence of citizen science;
- establishing enabling environments for sustaining citizen science; and
- scaling up citizen science.

Impact of the mutual learning in the participating countries

The participating countries made great progress towards implementing new measures to support and sustain citizen science. The MLE has been an important source of motivation, information and exchange of good practices for participants. One participant expressed that 'a lot of the ongoing and future activities at the national level have been strengthened by participating in this MLE.' Another participant stated that the MLE had been 'an exceptional experience with a very steep learning curve.' A participant expressed that thanks to this exercise 'citizen science stakeholders now have really valuable tools and knowledge to establish citizen science at the centre of debates in research and innovation.'

For instance, in Austria the MLE led to the inclusion of citizen science as one of the 12 actions in the National ERA Action Plan. Similarly, in Belgium, the exercise enabled the federal Ministry of Science to include citizen science in its reflection for a new generation of research programmes expected at the end of 2023. Citizen science has also been included as an action in Romania's 2022–2027 National Strategy on Research, Innovation and Smart Specialisation. In addition, the first Hungarian national-level position paper on open science recognised that citizen science projects can support the mission of higher education institutions, boost social innovation, and help improve well-being and the quality of life of the local community.

Participation in the MLE has also shifted high-level policy attention towards citizen science initiatives. For example, in Romania the participation in the MLE of representatives from the Executive Agency for Higher Education, Research, Development and Innovation Funding reinforced the importance of citizen science as part of their national strategic document on open science. Similarly, in Slovenia, the experience gained through the MLE inspired a positive change of perspective on the importance of citizen science among colleagues in the Ministry of Education, Science and Sport.

Indeed, in Slovenia the MLE coincided with the development of the national action plan on open science. As a result, the participants of the MLE were able to transfer the ideas, proposals and practices presented during individual topic sessions to their national context. As a participant put it: 'The MLE on citizen science came at just the right time for us to start riding the wave of citizen science.'

In several countries, the activities of the MLE broadened participating states' international networks. In other countries, the MLE has enabled national collaborations, like the cooperation between the Norwegian Ministry of Higher Education and Research and the Research Council of Norway. Both institutions are now focusing on accelerating efforts and pooling resources towards citizen engagement and citizen science.

In terms of specific projects inspired by the MLE, Belgium and Germany will be launching national networks or centres on citizen science. These networks will facilitate the exchange of best practices and foster new collaborations. A Hungarian participant stated that the MLE country visit had real impact on the Hungarian citizen science landscape, and they have since 'established the first mailing list community that we would like to develop into a national citizen science observatory over time.' Germany also aims to create national awards for excellence in citizen science and to develop a data management tool tailored for citizen science projects. Norway is aiming to mainstream citizen science as a recognised research method and raise awareness about the practice. Meanwhile, Slovenia will be developing a citizen science toolkit and instructions on developing a citizen science project. In addition, it will soon launch the first targeted call for proposals on this topic, to be continued on a biannual basis until 2030.

Recommendations to support, sustain and scale up citizen science

MLE participants developed a number of recommendations for building an enabling environment for supporting, sustaining and scaling up citizen science.

One recommendation is to ensure that all citizen science practitioners in academia, society, policy and the private sector are supported by a national network of practitioners. This will enable practitioners to share knowledge, form partnerships and further develop best practices.

Another recommendation is to ensure that dedicated funding instruments can get financial support to the places that need it most. This will enable new initiatives to get off the ground and allow for flexibility for co-creational approaches. It will also provide ongoing funding or scaling-up funding for successful initiatives.

The MLE participants also recommended enabling the cultural change required to open up scientific processes to citizens, societal actors and civil society organisations. This will benefit research quality, policy impact and societal welfare.

A final important recommendation is to enable the establishment and ongoing development of supportive infrastructure, such as data-gathering tools, data analysis and visualisation tools and platforms for data hosting and archiving.

Throughout the MLE, information, experiences and lessons learned were shared among the participants to identify best practices and innovative actions to support citizen science initiatives. Participants were highly enthusiastic about the role of the MLE in kickstarting, boosting, and shining a light on citizen science, particularly at the national level. The MLE workshop sessions have resulted in a set of recommendations that address the elements of a national strategic vision for citizen science, identifying actions that should be implemented by specific actors in the national research and innovation landscape.

For further information:

[Thematic Report 1: Introduction and overview on citizen science](#)

[Thematic Report 2: Ensuring good practices and impacts](#)

[Thematic Report 3: Maximising the relevance and excellence of citizen science](#)

[Thematic Report 4: Enabling environments and sustaining citizen science](#)

[Thematic Report 5: Scaling up citizen science](#)

Final Report

The PSF's objective is to help Member States / Associated Countries to 'improve the design, implementation and evaluation of R&I policies'. The PSF provides expertise and practical support to Member States in three major ways: PSF Country (formerly PSF Peer Reviews & Specific support to countries); PSF Challenge (including the PSF Mutual Learning Exercises, focused on specific and operational R&I challenges of interest in several volunteering countries); and PSF Open (which allows countries that have already benefited from a PSF exercise to receive support to follow up on PSF recommendations). The PSF is funded under Horizon Europe.