



Overview of Public Engagement in Research & Innovation

Mutual Learning Exercise on Public Engagement in R&I

First thematic report

PSF CHALLENGE

**HORIZON EUROPE
POLICY SUPPORT FACILITY**

**Independent
Expert
Report**



Overview of Public Engagement in Research & Innovation. Mutual Learning Exercise on Public Engagement in R&I

European Commission

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First thematic report

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1. The MLE on Public Engagement in R&I

Mutual Learning Exercises (MLE) are actions carried out by the Policy Support Facility of the European Commission. They aim to facilitate the exchange of information, experiences and lessons learned, as well as to support and scale up the uptake of specific topics and approaches through the identification of good practices, policies and programmes at a local, regional and national level. Each MLE has a specific thematic focus, and several MLEs involving various Member States have been implemented so far.¹

This thematic report is produced as part of an MLE on Public Engagement in Research & Innovation. The MLE is a collaboration between eight European countries and the European Commission, further described below.

1.1. The MLE Concept

Since 2015, the Policy Support Facility has given practical support to design, implement and evaluate reforms that enhance the quality of research and innovation (R&I) investments, policies and systems in the Member States and Associated Countries. There are three main services being offered:

PSF Country is an in-depth assessment of a country's R&I system carried out by a panel of experts and peers, leading to actionable policy recommendations on reforms necessary to strengthen their R&I system.

PSF Challenge includes the Mutual Learning Exercises and is focused on specific and operational R&I challenges of interest to several volunteering countries. It aims to identify good practices, lessons learned and success factors, resulting in policy recommendations. MLEs are processes characterised by “learning by doing”. Representatives from government and public bodies meet to discuss and exchange experiences. Methods include involvement of stakeholders, peer learning, expert advice, and evidence-based analysis. The exercises are steered by the European Commission's Directorate-General of Research and Innovation.

The MLE results are presented in thematic reports and a concluding final report with policy recommendations. All results are openly published, and specific dissemination events are also organised.

PSF Open allows countries that have already benefited from a PSF exercise to receive support to follow up on the PSF recommendations.

1.2. Workplan and topics for the MLE on Public Engagement

This thematic report aims to set the scene for the MLE on Public Engagement (PE) on Research and Innovation (R&I), which runs from January 2024 to the spring of 2025. Participating countries are Belgium, Germany, Ireland, Lithuania, the Netherlands, Norway, Slovenia, and Sweden. The report also includes the results of the first meeting of the MLE, describing policies, frameworks, projects and resources related to public engagement in Europe. This first **meeting took place on 23 January 2024 in Brussels, Belgium on**

¹ The full list of MLEs: <https://projects.research-and-innovation.ec.europa.eu/en/statistics/policy-support-facility/psf-challenge#:~:text=The%20MLE%20aims%20to%20facilitate,and%20scaling%20up%20citizen%20science>.

Topic 1: Overview of Public Engagement in Research & Innovation. The expert responsible for the topic is Cissi Billgren Askwall.

The timing and themes for the forthcoming meetings will be:

Meeting 2: 7–8 May 2024 in Dublin, Ireland. Topic 2: Successes and Challenges when engaging the public in the R&I agenda and policy setting. Expert responsible for the topic: Mona Roman. The meeting will address questions such as:

- How to successfully engage the public in co-design and co-creation of R&I agendas and research priorities; co-assessment, and participation in deployment, uptake, and use of outputs?
- What are good practices that promote democratic integrity, feedback, and recognition, as well as research ethics and inclusion?
- What are the drivers and barriers that public authorities face when engaging the public to R&I agenda and policy setting?
- What concrete examples of good practices to share tools and models for public authorities as well as lessons learnt can be shared?
- How to ensure that PE does not become, or be seen as, government propaganda, but truly includes a two-way interaction and influence?
- What is required from public authorities to succeed in the engagement of the public in co-design, co-creation, and co-assessment?
- What can Member States with little experience learn from the more experienced ones?

Meeting 3: 23–24 September 2024 in the Hague (preliminary), the Netherlands. Topic 3: Public Engagement and Framework Conditions on the institutional support provided by public authorities to researchers. Expert responsible for the topic: Marzia Mazzonetto. The meeting will address questions such as:

- Which institutional, informational, infrastructural, socioeconomic, etc. factors determine the local context in which public engagement takes place?
- What are the success factors (policies, instruments, synergies etc.) that make meaningful public engagement with R&I happen?
- What capacity building is available?
- How can PE practices be embedded in governance and policy making?
- What are the incentives and rewards for citizens to participate in PE?
- How can the impact of PE be evaluated and measured?
- What are the ethical questions around involving citizens (and businesses) in PE?

- How to avoid and protect against engagement fatigue?

Meeting 4: 6–7 November (preliminary) in Berlin, Germany. Topic 4: Public engagement in the European Research Area (ERA) on the commonalities and features for generalisation across the ERA. Expert responsible for the topic: Angela Simone. The meeting will address questions such as:

- What are the best practices in PE in R&I in the different Member States, and what policy frameworks are used to introduce, support, and incentivise these practices? Are there commonalities that can be used for generalisation across the ERA?
- What key components of PE in R&I in Europe are needed to define a European approach to PE?
- How can the framework conditions discussed during the Topic 3 meeting be connected across regional/national/international levels to create synergies and a strong network of PE actors?
- What recommendations can be designed to stimulate policymakers to include citizens' views and ideas while designing R&I policies?
- What suggestions can be forwarded to policymakers so they can provide guidance for researchers and innovators in PE implementation?

Meeting 5: A final online meeting in early 2025 will be devoted to the co-creation of a final report on the outcomes and recommendations of the MLE. Expert and rapporteur for the final report: Marzia Mazzonetto.

A separate **online dissemination event** will also be organised during spring 2025 to disseminate the results of the MLE to a wider audience.

1.3. Purpose, modus operandi and expected outcomes of the MLE

Participants and experts in the MLE will co-create an overview of PE in R&I and its institutionalisation and use across Europe by sharing information on PE strategies, programmes, and instruments in their countries at local and national levels. The aim is to take stock of the divergent national realities and trace potential differences but especially similarities, to draw a potential EU approach to PE in R&I. Besides research and policy institutions, innovation actors and ecosystems, the MLE will also consider the potential roles that libraries, arts, cultural institutions, and museums can play in PE activities.

Each meeting will be prepared by the experts in consultation with the European Commission, the country hosts, and the contractor. A discussion paper will be prepared by the expert responsible for the topic and distributed in advance to help participants prepare for the meeting. During the meeting, the topic will be presented and discussed in a co-creative manner, where all participants are expected to contribute. Relevant stakeholders and project officers can be invited to provide additional expertise, and different meeting formats, exercises and study visits can be included. A thematic report summarising the findings and results will be written, openly published and distributed after each meeting.

At the first MLE meeting, Mr Michael Arentoft, Head of Unit RTD A4: Open Science and Research Infrastructures, explained that the European Commission expects the MLE to exchange and discuss good and also bad practices in PE, what can be replicated and scaled up (or down) in other regions and countries, and what are the framework conditions that support effective PE, for example institutional support, infrastructures, people (skills and capacity), motivation and incentives.

Ms Magda de Carli, Head of Unit RTD A1: Semester & Country Intelligence, encouraged MLE participants to be active, open, and transparent, sharing with each other what works and what does not work, and to commit to trying to implement any points of learning.

The MLE will draw upon the knowledge generated through other MLEs and relevant EU-funded projects and build on their achievements and experiences while seeking to expand the scope and fill outstanding gaps. It will take up current needs in Member States and Associated Countries, consider the various engagement dimensions and cover the different layers of PE in R&I.

Wider issues of public participation in R&I policy design will also be examined, with an emphasis on national experiences and initiatives regarding democracy, inclusion, equity and reaching out to affected communities that do not habitually participate in R&I governance processes.

Moreover, the MLE aims to strengthen the European PE community, add value to existing PE activities, and strengthen Member States' capacities to use PE for R&I policy development, not least with respect to co-creating future EU Research Framework Programmes. The exercise will lead to recommendations for policymakers, backed by evidence, compiled good practices and analyses of approaches in the Member States.

2. An Introduction to Public Engagement

PE is a crucial element when managing the many problems that our societies are facing. To address and solve the grand challenges of our time, R&I actors need to collaborate with other societal actors by sharing knowledge, informing public and political discourse and decision-making processes, and opening up to citizens' needs, ideas and contributions. Europe is investing major resources in producing research-based knowledge, but for this knowledge to become usable, accessible, transferable and valuable to citizens and society at large, investments in PE are also necessary.

Citizens' contribution to knowledge is becoming more and more visible through initiatives such as citizen science and Do-It-Yourself science, as well as through processes of co-creation and harnessing collective intelligence that leads to better and more sustainable and acceptable solutions, advancements, and innovations. Ultimately, it is about promoting and enhancing quality of life, strengthening democratic societies and collectively shaping the future.

There are a number of terminologies and concepts used to describe PE, but no unanimously agreed upon definition. An often-used definition has been developed by the NCCPE (National Co-ordinating Centre of Public Engagement) in the UK:

Public Engagement describes the myriad of ways in which the activity and benefits of higher education and research can be shared with the public. Engagement is by definition a

two-way process, involving interaction and listening, with the goal of generating mutual benefit.

PE can also be referred to by terms like *Science* -, *Civic* -, *Societal* -, or *Citizen Engagement*, which describe an interactive and collaborative process involving citizens in R&I.

PE plays a key role in the so-called quadruple-helix approach, which highlights the benefits of four major actors collaborating: academia, policy, industry and society. The simultaneous involvement of various stakeholders in R&I processes and their governance typically leads to collaborative ideas, needs and solutions that consider different types of expertise, points of view, etc. and therefore have a stronger potential of being successful.

2.1. Types of Public Engagement activities

Throughout the years, PE in R&I has been extensively supported, investigated and implemented through EU-funded Framework Programmes, such as Horizon 2020 (2013–2020) and the current Horizon Europe (HE) programme. PE is an important element in Open Science under HE² and R&I projects funded by the programme are required to provide information on how they plan to implement “citizen, civil society, and end-user engagement” (where/if applicable). This may include “co-design activities (workshops or focus groups), co-creation activities (citizen science or user-led creation) and co-assessment activities (assisting monitoring, feedback, and evaluation of the governance of projects)”³. Several European countries (and regions) are also supporting this approach, for example by including direct references to the importance of PE in their R&I strategies.

2.1.1. Co-design

Co-design refers to activities aimed at consulting citizens about R&I related topics with a view to identifying needs, ideas, priorities, and recommendations. This input can be key to the development of a research activity; or be linked to the appearance on the market of an innovation, the definition of strategic priorities in R&I funding, the responsible unfolding of an emerging technology, etc. Methods often used include R&I agenda setting, surveys, deliberative methods (such as citizen juries, consensus conferences, citizen assemblies, etc), scenario building, focus groups, participatory workshops, etc.

Co-design activities typically lead to two types of outcomes: a validation of already existing ideas, priorities, etc. (confirming that citizens are often aware of the issues at stake), and/or a deeper understanding of key societal drivers (often disregarded in R&I), which can provide useful input to policies and to R&I activities.

Furthermore, co-design can provide useful insights into the public’s perception of the impact of new and emerging technologies, especially potentially controversial ones, by exploring various perspectives, ideas and perceived potential risks. Such information can be beneficial for implementing responsible strategic technology governance.

² As described in the Horizon Europe approach to Open Science, at least three types of public engagement can be identified, which are also observed and supported in this MLE: Co-design, co-creation, and co-assessment.

³ The EC’s Open Science approach: https://rea.ec.europa.eu/open-science_en#:~:text=Open%20science%20is%20an%20approach,%2C%20as%20closed%20as%20necessary'.

Co-design can be performed at local, regional, as well as national level, and it usually requires a few months to be implemented, depending on its scale. Costs of relevant activities include professional facilitators (e.g. for setting up the methodological approach and analysing the outcomes), venue and catering, possible incentives, travel costs and services (such as childcare) for participants, and in some cases the recruitment of participants themselves (i.e. when the co-design method requires selection of participants according to specific demographic data).

2.1.2. Co-creation

Co-creation refers to activities aimed at the collaborative production of tangible outcomes, such as technologies, goods, and services. It is a process typically initiated by one of the actors of the quadruple-helix (for example, cities, public agencies, or private companies) and should ideally involve contributors from all helixes. Methods typically used include participatory workshops, collaborative making or tinkering, design thinking, do-it-yourself science, citizen science, hackathons, etc.

One major concern within these kinds of processes is potential cultural clashes when bringing various stakeholders together. However, co-creation experiences (such as, for example, made by cities involved in the EU-funded MOSAIC project⁴) have shown that carefully set-up and facilitated processes, focused on the shared contribution that participants can bring to the identification of solutions rather than discussions around problems, rarely fail. Like co-design, co-creation can bring added value to already explored solutions by bringing together the expertise, the needs, and the willingness to accept changes by all actors involved.

Co-creation activities are often challenge-driven, and are best run on a local scale, focusing on a specific territory or target audience. They usually last longer than co-design activities, as it takes time to co-develop ideas. Venues such as makerspaces or living labs are particularly suited to host co-creation activities, although similar environments can be set at a lower cost, making use of simple things such as drawings or recycled materials for the development of prototypes.

In 2016, the Council of the EU recognised citizen science as an open science priority. Citizen science means to co-produce scientific data, analysis, and results, where researchers and citizens work together. Such methods can make science more socially relevant, accelerate and enable production of new scientific knowledge, increase public awareness about science and ownership of policymaking, as well as increase the prevalence of evidence-based policymaking. A specific MLE on Citizen Science Initiatives⁵ previously explored its different dimensions, investigating key features and ways to support national and local policymakers in introducing such initiatives in their own settings.

2.1.3. Co-assessment

Co-assessment is a less common PE practice, although a very important one. It focuses on involving citizens and stakeholders in the identification of what can be considered a successful outcome. This is a quite innovative approach, as the impacts of R&I activities are typically defined by researchers or R&I funders only.

⁴ <https://mosaic-mission.eu/pilots>

⁵ All reports produced by the MLE on Citizen Science: <https://projects.research-and-innovation.ec.europa.eu/en/statistics/policy-support-facility/psf-challenge/mutual-learning-exercise-citizen-science-initiatives-policy-and-practice>

The methods used in co-assessment are very similar to the ones applied to co-design and co-creation: carefully facilitated participatory workshops, focus groups, surveys and interviews involving future beneficiaries of R&I outcomes and policies.

Co-assessment processes can generate considerable added value in terms of acceptance and societal relevance of R&I advancements. Costs (facilitation, analysis, recruiting and incentives) are relatively low, and processes can be run during a limited time, ranging from a few weeks to a few months.

Co-assessment works at its best when performed before starting R&I and governance processes, to co-define shared key performance indicators and expected outcomes, and towards the end, to co-assess if such outcomes have been achieved.

2.1.4. Science Communication

Besides co-design, co-creation and co-assessment, more traditional forms of science communication, such as for example outreach, dissemination, dialogues, and informal science education, are relevant. These methods are characterised by either one-way or two-way communication, for example science programmes and articles in the media, science festivals, public talks, science cafés, etc. Awareness raising and conversations around R&I topics play a crucial role in opening-up science and familiarising the public with research and key scientific issues. Such activities can spark curiosity, boost interest, improve science literacy and foster informed decision-making, but they are less useful when the objective is to involve citizens and stakeholders in addressing societal concerns and topical challenges related to R&I. A prerequisite to realise PE activities is the ability to communicate about science and research in an understandable and relevant manner.

2.2. Opportunities brought by Public Engagement

Research, evaluation and impact assessment practices of PE activities have revealed many opportunities generated from engaging societal actors in R&I. Some of these advantages and opportunities have also been highlighted by the country representatives who attended the first MLE meeting in Brussels in January 2024. These include:

- Enhancing inclusivity and responsiveness to the needs and values of diverse groups.
- Including new perspectives and multi-disciplinary knowledge in order to achieve scientific progress and better alignment to societal needs.
- Improving the quality of policy decisions.
- Fostering trust and legitimacy for research and policy decisions.
- Increasing understanding of the relevance of science in society and creating opportunities for people to discuss and participate in research.
- Contributing to research literacy and the capacity to critically evaluate and take part in scientific discussions.
- Leveraging the vast societal intelligence and capabilities to conduct excellent R&I.

- Enabling and empowering citizens, and enhancing the democratic quality of research governance.

2.3. The importance of facilitation

A professional and sound facilitation of the processes described above is key to their success, as well as for avoiding conflicts and misunderstandings during the dialogue and interaction sessions. PE should not be improvised. On the contrary, it should be conducted with expertise and skills so as to be able to select the most adequate methodological approach, adapt it to the local context, properly facilitate interactions with the public (especially when touching upon controversial topics), and evaluate and interpret the outcomes. Several private and public not-for-profit institutions all over Europe offer specific expertise in relation to PE. A detailed mapping of European PE enablers will soon be available on the online platform of the EU-funded project REINFORCING.⁶

2.4. The importance of inclusion

To meet European and global societal challenges, higher education and R&I are absolutely essential. Openness, collaboration and coordinated efforts are needed to maximise the outputs and impact of R&I investments. Understanding, trust and engagement by citizens and stakeholders are the other keys to success – as well as fundamental cornerstones of democratic societies.

It is therefore imperative to develop and use methods for including and engaging not only those already interested but also people that do not habitually participate in R&I processes. This aspect will be specifically addressed during the third MLE meeting on framework conditions for PE.

3. Inspiring policies in support on Public Engagement

There are several policies, frameworks and strategies that promote PE in R&I at global, as well as at European and national levels. This section gives an overview of some key elements.

As already mentioned, PE is a part of the wider umbrella concept of Open Science, which encompasses global efforts towards making R&I more accessible, transparent, and inclusive. Examples of other priorities included in the Open Science concept are *Open Access* to scientific publications as well as *Open Data* and *Open Resources* (research data, education resources, software, and hardware).

⁶ <https://www.reinforcing.eu/>

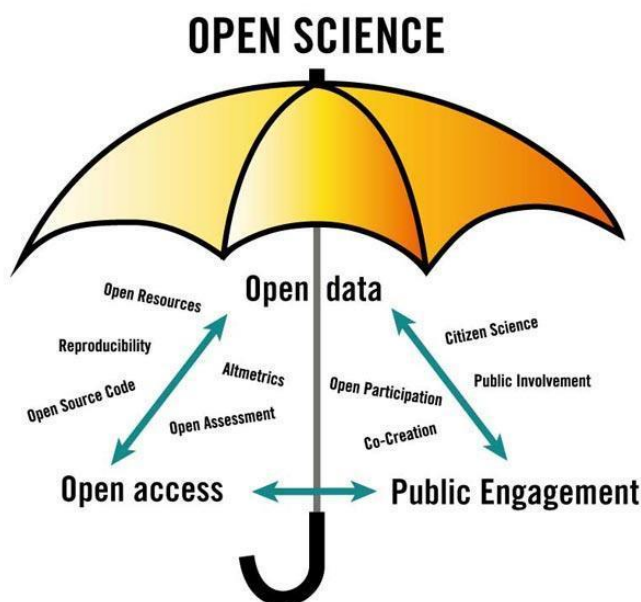


Figure 1: Open Science
Source: Lotta W Tomasson/VA CC BY-NC 2.0

3.1. Global policies and frameworks

There are a number of global initiatives that promote PE. These are described below.

3.1.1. The UNESCO Recommendations on Open Science

In 2021, UNESCO's 193 Member States adopted a Recommendation on Open Science.⁷ The Recommendation defines Open Science as an inclusive construct that combines a multitude of movements and practices aimed at making multi-lingual scientific knowledge openly reachable and accessible for use by all.

This creates preconditions for increased research collaboration and information-sharing, to the benefit of both science and society. It also creates opportunities to take part in the development, evaluation and communication of science-based knowledge with different societal actors. Open Science covers all scientific disciplines and aspects of scientific practices. It is based on four fundamental pillars: *open scientific knowledge*, *open science infrastructures*, *open engagement of societal actors* which include PE, and *open dialogue with other knowledge systems*.

One of its main missions is to promote the inclusion of traditionally underrepresented groups (women, minorities, etc.) and bridge existing gaps among countries.

⁷ <https://unesdoc.unesco.org/ark:/48223/pf0000379949.locale=en>

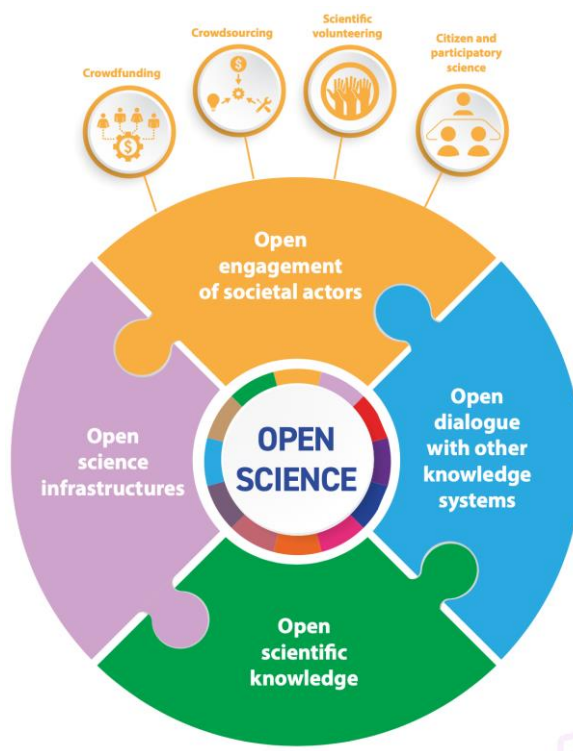


Figure 2: Open Science pillars
Source: UNESCO/ CC BY-SA 4.0 DEED

3.1.2. The OECD Initiative on Innovative Citizen Participation and on PE in Innovation Policies

Innovative practices of PE have been explored and supported for several years by the OECD through its focus on Open Government. The OECD sees “the use of deliberative processes for public decision making as a key part of the OECD’s work on open government, which examines the trends of declining trust in government, citizen demands for more openness, transparency, accountability, integrity, and stakeholder engagement.”⁸

The OECD has been developing several useful resources around the topic, such as for example the Evaluation Guidelines for Representative Deliberative Processes, and a Deliberative Democracy Toolbox. Through its Open Government Unit, the OECD has also created a network of practitioners, academics, researchers, civil servants and designers with competences in Innovative Citizen Participation.

In 2017, the OECD Directorate for Science, Technology and Innovation promoted the policy paper “Open Research Agenda Setting”⁹, in which seven initiatives across the world aiming to engage citizens in the co-design of research agendas were analysed; and from which

⁸ The website of the Innovative Citizen Participation initiative: <https://www.oecd.org/governance/innovative-citizen-participation/>

⁹https://www.oecd-ilibrary.org/science-and-technology/open-research-agenda-setting_74edb6a8-en

emerged several lessons learned to support policymakers, research funders and researchers interested in citizen engagement in science.

In a more recent policy paper, the OECD has highlighted that “innovation policies need to be socially embedded for them to effectively contribute to addressing major societal challenges. Engaging citizens in innovation policymaking can help define long-term policy priorities, enhance the quality and legitimacy of policy decisions, and increase the visibility of innovation in society.”¹⁰ The authors discuss why, when, and how best to engage citizens in innovation policymaking, and acknowledge that it can be challenging. This is because citizens often see innovation policy as a domain for experts, disconnected from their everyday lives. Moreover, increasing consultation requests might result in “consultation fatigue.”

3.1.3. The World Bank support to Citizen Engagement

Similarly to UNESCO and the OECD, the World Bank has been acknowledging and supporting the critical role that PE can take towards contributing to innovative solutions to complex development challenges. In 2014, the World Bank adopted a Strategic Framework for Mainstreaming Citizen Engagement in World Bank Group (WBG) Operations. As part of this strategic framework, the WBG has been “working with governments to build political will for citizen engagement and social accountability, and adopt a culture of openness, transparency, participation, accountability and institutionalised power-sharing, all of which contribute to enhanced development effectiveness.” Several examples of citizen engagement and social accountability actions all over the world are described on their website,¹¹ listing results and lessons learned, as well as partners involved.

3.1.4. The Aarhus Convention

Despite dating back to 1998, the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters, still represents a stepping stone in the evolution of the PE concept.¹² The Convention, initiated by the United Nations Economic Commission for Europe (UNECE), was signed by 27 Member States, and guarantees the public key rights within environmental issues. The second pillar focuses on public participation in decision-making, providing “a framework for the public to take part in decisions relating to the environment at an early stage, and thus making the project, development or plan more likely to be acceptable, more sustainable and less damaging to the environment.”

3.1.5. The Global Research Council’s Statement of Principles on PE

“Public engagement offers the possibility of enhancing the relationship between science and society through enabling inclusion, facilitating participation, widening the integrity of research, obviating unwarranted attacks against science, and supporting public investments in scientific research.” This is part of the Statement of Principles on Public Engagement adopted by the Global Research Council in 2020. The Council is a virtual organisation, comprising the heads of science and engineering funding agencies worldwide.

The statement contains six principles, among them (in short): Recognise extensions in the portfolios of public funding agencies towards including the funding of PE, agree that

¹⁰ Engaging citizens in innovation policy. Why, when and how? (OECD 2023): <https://www.oecd.org/publications/engaging-citizens-in-innovation-policy-ba068fa6-en.htm>

¹¹ <https://www.worldbank.org/en/topic/citizen-engagement#2>

¹² The full text of the Aarhus Convention: <https://www.unece.org/env/pp/treatytext.html>

knowledge co-creation takes place at all stages of the research process, and acknowledge that monitoring, evaluating, and learning metrics for PE will assist funding agencies in adapting to their organisational capabilities.

3.2. European policies

The European Union is a major European actor encouraging, promoting, and requiring PE in several ways.

3.2.1. Open Science as a legal obligation under Horizon Europe

PE in R&I has been a priority area within the European Framework Programmes for a long time. Already in 2003, within the context of its Sixth Framework Programme (FP6), the European Commission launched a “Science and Society” dedicated service to provide guidelines on cross-cutting subjects covered within the topic¹³. Within FP6, “Science and Society” was already recognised as a research field on its own. The focus on the relationship between science and society grew in the following Framework Programmes: “Capacities” – Science in Society (SiS, with a total budget of 330 million euros in FP7),¹⁴ followed by the “Science with and for Society” programme within Horizon 2020 (H2020-EU.5. SwafS, with a total budget of 462 million euros).¹⁵ SwafS aimed at building “effective cooperation between science and society, to recruit new talent for science and to pair scientific excellence with social awareness and responsibility.”

In 2016, the EU Member States decided to transition towards an Open Science policy which consists of eight pillars:

- 1) the future of scholarly publishing, encouraging the sharing of research outputs.
- 2) open data, which should be findable, accessible, interoperable, and re-usable (FAIR principles).
- 3) the European Open Science Cloud (EOSC), a set of infrastructures for data access and sharing.
- 4) next-generation metrics, which are alternative metrics (altmetrics) to measure the quality and impact of research outcomes.
- 5) reward and incentives in career evaluation systems.
- 6) research integrity, which means ensuring that publicly funded research in Europe fulfils common standards.
- 7) education and skills that every European scientist should demonstrate.
- 8) citizen science, which means involving the public in the production of knowledge.

¹³ Cordis’ announcement of the new “science and society” support service:

<https://cordis.europa.eu/article/id/20682-cordis-launches-fp6-science-and-society-service>

¹⁴ A list of all projects funded under the FP7 Capacities science in society programme can be found here:

<https://cordis.europa.eu/search?q=contenttype%3D%27project%27%20AND%20programme%2Fcode%3D%27FP7-SIS%27&p=1&num=10&srt=/project/contentUpdateDate:decreasing>

¹⁵ A list of all projects funded under the H2020 Science with and for Society programme can be found here:

<https://cordis.europa.eu/search?q=contenttype%3D%27project%27%20AND%20programme%2Fcode%3D%27H2020-EU.5.%27&p=1&num=10&srt=/project/contentUpdateDate:decreasing>

In 2021, a Council Recommendation on a Pact for Research and Innovation in Europe set out, as an ERA priority area for action, supporting and rewarding a true Open Science culture across the Union. It underscored the importance of societal responsibility as one of the principles underpinning R&I in Europe and emphasised that PE in the design and implementation of relevant policies can lead to greater societal and environmental impact, and also increase trust in science.¹⁶

In 2022, Council Conclusions on Research Assessment and the Implementation of Open Science¹⁷ acknowledged that “in order to accelerate the implementation and the impact of Open Science policies and practices across Europe, action has to be taken to move towards a renewed approach to research assessment, including incentive and reward schemes, to put in place a European approach in accordance with the Pact for Research and Innovation in Europe, and strengthen capacities for academic publishing and scholarly communication of all research outputs, and encourage where appropriate, the use of multilingualism for the purpose of wider communication of European research results.”

HE has made Open Science a legal obligation for all projects applying for funding. Therefore, the presence and the quality of Open Science features are evaluated in the proposals competing for grants under the excellence criterion. Despite the absence of a dedicated service or work programme, HE devotes significant resources to analysing and promoting institutional and territorial changes in support of PE. In fact, the engagement of citizens and civil society organisations have become a strategic goal for the whole framework programme.¹⁸ PE takes many shapes within current funding calls, often referring to specific methodological approaches rather than the general concept. Applicants for EU funding encounter more and more references to the need for co-design, co-creation, participatory governance, community-led innovation, stakeholder engagement, societal engagement and Social Sciences and Humanities (SSH) actions – which often converge towards participatory exercises within R&I activities. PE is equally at the heart of the implementation of the current EU Missions.¹⁹ Lastly, there is a specific work programme, *WIDERA (Widening participation and strengthening the European Research Area)*, which among other things aims to boost the development of interactions between science and other societal actors.²⁰

3.2.2. The evolving concept of PE within EU Policy: from RRI to ORRI

PE is one of the pillars of *Responsible research and innovation (RRI)*. The term first appeared within European Commission policies around the year 2010 and became a key reference during the transition from the seventh (FP7) to the Horizon 2020 framework programme. RRI is about conducting R&I in ways that consider societal needs, challenges and effects throughout the whole R&I process. It also includes ensuring that R&I is accepted by everyone concerned and that it contributes to sustainable development.²¹

¹⁶ Council Recommendation on a Pact for Research and Innovation in Europe (2021):

<https://data.consilium.europa.eu/doc/document/ST-13701-2021-INIT/en/pdf>

¹⁷ <https://www.consilium.europa.eu/media/56958/st10126-en22.pdf>

¹⁸ KIP 6 - Strengthening the uptake of research and innovation in society.

Institutional changes towards responsible research and innovation (2020):

<https://op.europa.eu/en/publication-detail/-/publication/582ef256-cbcc-11ea-adf7-01aa75ed71a1>

¹⁹ EU Missions & citizen engagement activities: https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/eu-missions-citizen-engagement-activities_en

²⁰ https://commission.europa.eu/strategy-and-policy/eu-budget/performance-and-reporting/results-project_en

²¹ Practical guide to RRI developed by the EU project RRI Tools: <https://rri-tools.eu/documents/10184/16301/RRI+Tools.+A+practical+guide+to+Responsible+Research+and+Innovation.+Key+Lessons+from+RRI+Tools>

RRI is defined as involving interactive and transparent processes, in which innovative and social actors take responsibility for the ethics, sustainability and social desirability of the research or innovation process, and its commercialisation and integration into society. Different actors should be involved through dialogues, discussions, and debates. By the open process, diverse opinions can be considered for responsible R&I, tailoring responses to the needs and values of different actors, based on specific purposes and circumstances.

RRI is an umbrella term that covers various aspects of R&I: *Ethics* (holding research to high ethical standards); ensuring *Gender Equality* in the scientific community, in the way scientific research is conducted and displayed as well as in groups taking part in participatory activities; *Governance* of R&I with the responsibility to avoid harmful effects; performing *PE* strengthening (participatory) links between science and society; fostering *Open Access* to scientific data and publications; and ensuring that citizens have the necessary knowledge to understand R&I and its implications by furthering *Science Communication and Education*.

In recent years there is a growing use of *ORRI*, meaning *Open and Responsible Research and Innovation*. Focusing more and more on the different approaches from Open Science and RRI, ORRI aims at concretising the democratic governance of R&I in which PE is an essential feature.

3.2.3. A new European Research Area (ERA)

The ERA aims to increase collaboration between national research systems and ensure better policy coordination among EU Member States. The ERA was renewed in 2020, starting with the adoption of the European Commission's Communication on "A new ERA for Research and Innovation".²² The ERA's ambition is to better address societal, ecological and economic challenges, based on three pillars: new ERA governance involving the ERA Forum; adoption of a Pact for Research and Innovation in Europe; and a new ERA Policy Agenda²³ with 20 concrete ERA actions. Number 14 of these actions is 'Bring science closer to citizens' which encompasses policy initiatives and activities to increase science and society exchanges and dialogue, among these the ongoing MLE on Public Engagement on R&I in Europe.

3.2.4. The Coalition for Advancing Research Assessment (CoARA)

The Coalition for Advancing Research Assessment (CoARA) is an initiative by the European Commission. Reforming research assessment is a priority for the ERA and one of the actions in the ERA Policy Agenda for 2022–24. An agreement on reforming research assessment has been jointly drafted by universities, academies, authorities, learned societies, funding bodies etc. Until February 2024 688 organisations had signed it.²⁴

The agreement sets a shared direction for changes in assessment practices for research, researchers and research performing organisations, with the goal to maximise the quality and impact of research. Signatories commit to the common vision that the assessment recognises the diverse outputs, practices and activities that maximise the quality and impact of research.

²² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A628%3AFIN>

²³ https://research-and-innovation.ec.europa.eu/document/download/0c2f5f95-3274-4ab8-9acb-d6673dc238b8_en?filename=ec_rtd_era-policy-agenda-2021.pdf

²⁴ Agreement on Reforming Research Assessment:
https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf

3.2.5. Knowledge valorisation

Knowledge valorisation refers to the process of creating economic and social value from knowledge by linking different areas and sectors and by transforming data, know-how and research results into products, services, solutions, and policies that benefit society. It contributes to implementing priorities of the ERA (ERA Policy Agenda 2022–2024 Action 7 ‘Upgrade EU guidance for a better knowledge valorisation’), in particular the Council Recommendation on the Guiding Principles for Knowledge Valorisation adopted in 2022.

The Guiding Principles²⁵ encourage organisations to engage all actors in the R&I ecosystem, focus on the connections and co-creation between actors, emphasise entrepreneurial skills and practices, and cover the full range of knowledge generated by R&I activities. Furthermore, the European Commission coordinated the work of a Community of Practice in 2023, which informed the preparation of a new Code of Practice for knowledge valorisation through citizen engagement, just launched²⁶. A dedicated MLE was equally launched in 2023 (as part of the ERA Policy Agenda Action 7).²⁷

Moreover, arts and cultural organisations have specific competences to strengthen PE and the valorisation of knowledge. A report from 2022 on Fostering knowledge valorisation through the arts and cultural institutions²⁸ distinguishes settings where these organisations especially contribute to knowledge valorisation:

- *Research* where arts actors can feed R&I during the scoping phase.
- *Intermediation* where arts actors can facilitate the connection between stakeholder groups.
- *Engagement* where arts actors can offer spaces for experimentation and exchanges.
- *Dissemination* where arts actors can communicate in creative and innovative ways.

3.3. National and regional frameworks

More and more EU Member States and Associated Countries have been adopting references to Open Science or ORRI in their national strategies for R&I. Success in stimulating PE practices strongly depends on research policy developments and framework conditions, such as institutional and infrastructural support, training and skills for researchers and public officials, and funding requirements and rewards schemes for

²⁵https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/eu-valorisation-policy/knowledge-valorisation-platform/guiding-principles-knowledge-valorisation-implementing-codes-practice_en

²⁶ https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/new-codes-practice-industry-academia-co-creation-and-citizen-engagement-knowledge-valorisation-2024-03-05_en

²⁷ The MLE ‘Knowledge Valorisation – Focus on Skills, Intersectoral Cooperation and Incentive Systems’, examines certain aspects of public engagement in terms of uptake and use of R&I results: <https://projects.research-and-innovation.ec.europa.eu/en/statistics/policy-support-facility/psf-challenge/mutual-learning-exercise-knowledge-valorisation-focus-skills-intersectoral-cooperation-and-incentive>

²⁸<https://op.europa.eu/en/publication-detail/-/publication/869b8d8c-657a-11ed-9f85-01aa75ed71a1/language-en>

researchers. Framework conditions for PE will be further explored under topic 3 of this MLE.

Some European countries as well as regional and national organisations have adopted specific PE Strategies and other policy measures. Examples are provided below.

3.3.1. UK Research and Innovation (UKRI) Public Engagement Strategy

The United Kingdom has been a PE role model for many years. Governmental initiatives have helped to further the involvement of stakeholders including citizens in R&I. Many universities also have specific units devoted to PE.

The main funding body, UK Research and Innovation (UKRI), adopted a new PE strategy²⁹ in 2022 with three main goals:

- Build a sense of shared endeavour by making R&I relevant and accessible to all.
- Make sure the benefits of R&I are shared widely by supporting collaboration and valuing diverse forms of knowledge.
- Create opportunities for all by inspiring and engaging the next generation.

UKRI also supports the Sciencewise programme³⁰ helping decision makers to formulate socially informed policy, with a particular emphasis on science and technology.

3.3.2. The Spanish National Strategy for Open Science

The Spanish National Strategy for Open Science (ENCA) 2023–2027³¹ provides an overview of commitments relating to Open Science, adopted by different public agents in the system. The strategy affirms that both Ministries of Science and of universities acknowledge the importance of participation in R&I, including the involvement of civil society in scientific processes. It also states that “societal participation in research activities should be open at all stages, including citizen science”. One of ENCA’s six key dimensions is citizen science and the general participation of society in all phases of research activities, bringing scientific results closer to the public.

Spain’s Organic Law 2/2023 of 22 March on the University System (LOSU) focuses in Article 12 on the “Promotion of Open Science and Citizen Science.”

3.3.3. The Flemish Science Agenda (Belgium)

The Flemish Science Agenda³² is a strategic document of the Flanders Research Foundation, the public funding agency for R&I in the Flemish region of Belgium, which built upon 10,559 ‘ask for science’ questions submitted by Flemish citizens in 2018. Scientific panels accommodated the questions in 82 overarching topics which reflect the issues that concern the people of Flanders. The topics were then bundled into five categories: Well-being and health, Liveable society, Liveable earth, Foundations and boundaries, and the

²⁹ The UKRI Public Engagement Strategy: <https://www.ukri.org/publications/ukri-public-engagement-strategy/>

³⁰ <https://sciencewise.org.uk/>

³¹ More information on the ENCA: <https://www.ciencia.gob.es/en/Estrategias-y-Planes/Estrategias/ENCA.html>

³² The full text: https://www.fwo.be/media/1023943/vwa_booklet_eng.pdf

Significance and role of science. The resulting inspiration document is to be used by public authorities, researchers, and citizens.

3.3.4. The Dutch Research Agenda

The Netherlands has a National Research Agenda (NWA)³³ which was realised through co-design processes under the auspices of the Dutch Research Council, with the input of citizens and scientists.³⁴ In 2018, the NWA was implemented by the Council on assignment from the Department of Education, Science and Culture. It promotes connections between science and society by fostering scientific and societal breakthroughs, encouraging interdisciplinary collaborations, and involving societal partners and the public in research processes. It also emphasises strengthening dialogue through targeted communication, outreach activities, and citizen science. The Council organises events as well as the call ‘Science Communication’, funding projects that aim to strengthen the connection between science and society by offering new science communication concepts to target groups without obvious links with science.³⁵

3.3.5. Open Science Netherlands

Open Science NL³⁶ is a programme aiming at promoting and accelerating the transition to Open Science in the Netherlands, making it the norm within ten years. Key tasks are to “identify, prioritise and fund temporary initiatives and projects aimed at sustainably anchoring Open Science in the Netherlands,” and to “provide a forum for knowledge sharing and stimulate exchange through communities of practice”. It builds upon the National Programme Open Science, which developed the ambitions for Open Science in the Netherlands by 2030 through an open consultation.³⁷ Open Science NL was launched in 2023 and is part of the Dutch Research Council. It has five priority areas, (including citizen science/societal engagement), each coupled with at least one funding instrument.³⁸ The total annual funding is 20 million euros.

3.3.6. The Slovenian Action Plan for Open Science

The Slovenian Action Plan for Open Science prescribes how a specific objective in the Resolution on the Slovenian Scientific Research and Innovation Strategy 2030 can be realised. How to reach the objective “Open Science to improve the research quality, efficiency, and responsiveness of the Resolution” is described in this key strategic document.³⁹ It lists the main activities in the field of Open Science. Several of the objectives and priorities connect to PE, such as actions aimed at developing citizen science and public involvement in scientific research.

³³ <https://www.nwo.nl/en/researchprogrammes/dutch-research-agenda-nwa>

³⁴ The Dutch knowledge community, united in the Knowledge Coalition, grouped almost 12,000 questions sent in by citizens in 140 research cluster questions – namely complex and urgent issues that require research and innovation answers. Twenty-five routes (self-organising networks of institutions, organisations and people) investigated a few of these cluster questions. The routes play an important role in the NWA, fostering innovation in the scientific agenda, the involvement of the entire knowledge chain and the bringing together of relevant parties.

³⁵ <https://www.nwo.nl/en/calls/nwa-science-communication-2024>

³⁶ <https://www.openscience.nl/en>

³⁷ <https://zenodo.org/records/7433767>

³⁸ <https://www.openscience.nl/en/news/open-science-nl-presents-work-programme-for-2024-and-2025>

³⁹ The full text:

<https://www.gov.si/assets/ministrstva/MVZI/Znanost/Nacionalne-strategije-in-dokumenti/2023-Action-Plan-Open-Science-Slovenia.pdf>

3.3.7. Swedish guidelines on Open Science

National recommendations on Open Science⁴⁰ have been elaborated by the National Library of Sweden, in collaboration with R&I stakeholders. The guidelines published in January 2024 encompass six areas: Open access to scholarly publications, Open access to research data, Open research methods, Open Educational Resources, PE in Science, and Infrastructures supporting Open Science. The guidelines stress that public engagement is an important aspect of Open Science to foster knowledge exchange that benefits both science and society.

3.3.8. Norwegian Research Council's Policy for Open Science

The Research Council of Norway has adopted a policy for Open Science,⁴¹ which includes Open Science processes, open innovation and involvement, and citizen science. The council is a partner in the EU-funded project PRO-Ethics, focusing on how research funding organisations can try out ethical ways to involve citizens and societal actors in decision-making processes. The project has developed a framework and guidelines for sound involvement processes.⁴²

4. Inspiring public engagement projects, initiatives and resources

There are numerous projects at European, national, and local levels which promote, develop and experiment with PE, leading to a vast portfolio of methods, activities and lessons learned. This chapter gives a flavour of this richness by describing a few interesting examples.

4.1. Projects and initiatives

In the following sections, examples of inspiring projects within each of the identified types of PE are described.

4.1.1. Co-design

4.1.1.1. Germany: Citizens' Council Research

In order to strengthen PE and citizen participation in research policy, the German Federal Ministry of Education and Research invited 55 randomly selected citizens from a variety of societal groups to form the 'citizens' council research' (*Bürgerat Forschung*). The objective was to develop guiding principles and recommendations for policymakers and researchers in order to make future participation processes more attractive and accessible for citizens. The results were distilled in a citizens' report (*Bürgergutachten*), which was published and presented to the Ministry of Education and Research in 2022.⁴³

⁴⁰ <https://kb.se/samverkan-och-utveckling/nytt-fran-kb/nyheter-samverkan-och-utveckling/2024-01-15-national-guidelines-for-promoting-open-science-in-sweden.html>

⁴¹ <https://www.forskningsradet.no/en/research-policy-strategy/open-science/policy/>

⁴² <https://pro-ethics.eu/news/new-ethics-framework-is-available>

⁴³ <https://www.buergerat.de/en/news/more-citizen-participation-in-research/>

4.1.1.2. *France: The National Citizen Convention for Climate*

The Citizens' Convention on Climate⁴⁴ was a deliberative exercise in 2019 and 2020, where 150 randomly selected French citizens' opinions and recommendations to national policymakers were collected. Participants were asked to define a set of measures that would allow France to achieve a reduction of at least 40 percent of greenhouse gas emissions by 2030 (compared to 1990) in a spirit of social justice.

4.1.1.3. *Ireland: Creating Our Future*

Creating Our Future⁴⁵ was a governmental campaign to stimulate a national conversation on research that generated over 18,000 ideas from the Irish public. The submissions were analysed and synthesised into 16 thematic areas, leading to an 'Expert Committee Report', launched in 2022, and a database of ideas that will help to inspire future research.

4.1.1.4. *Denmark: Consensus Conferences*

The Consensus Conference⁴⁶ is a democratic method for collecting qualified inputs from citizens to a decision-making process. The citizens receive information about a topic, form and discuss their opinions, and consult experts with the aim of reaching consensus on a list of policy recommendations. The selected citizens represent a wide range of lived experiences without professional knowledge of the topic, and also have various backgrounds. The method is especially well suited for involving citizens in technical, controversial, and complex problems.

The Consensus Conference concept was created in the United States in the 1960's and was initially used to resolve issues around emerging biomedical technologies. Since 1987, Consensus Conferences have been organised in Denmark. The method has been applied successfully over the years on subjects such as gene technology, GMOs, edu-tech, mobility, treatment of infertility, environment, surveillance and much more.

4.1.1.5. *Italy: Citizens' Jury on Responsible Smart Mobility*

In 2022, a Citizens' Jury engaged 24 Lombardy citizens, selected according to specific socio-demographics criteria, to learn, discuss and deliberate about regional Responsible Smart Mobility (a key theme of the Lombardy Smart Specialisation Strategy). Jurors provided specific recommendations on how to insert responsibility issues like privacy and profiling, digital and economic inclusion, and accessibility, in preparation of a Lombardy Region Call for Innovation Projects on local mobility data-driven services. Citizens' recommendations have been included as a requirement for applicants to consider in their project proposals and in the execution of the winning projects. The deliberative exercise was part of the EU Horizon 2020 project TRANSFORM.⁴⁷

4.1.1.6. *EU: the VOICES project*

VOICES was a ground-breaking consultation, using the opinions of people across the EU to shape the future of European research related to urban waste and innovation. 1,000 citizens participated in focus groups run by science museums and science centres all over Europe, expressing their hopes, fears, concerns, and ideas. The results of the consultation

⁴⁴ <https://www.conventioncitoyennepourleclimat.fr/en/>

⁴⁵ <https://www.creatingourfuture.ie>

⁴⁶ <https://participedia.net/method/163>

⁴⁷ <https://www.transform-project.eu>

have informed policy and were fed into several research calls for the Horizon 2020 framework programme.⁴⁸

4.1.1.7. EU: the CIMULACT project

The EU-funded CIMULACT project⁴⁹ engaged citizens, along with a variety of other societal actors, in redefining the European R&I agenda in the context of Horizon 2020. The project engaged more than 1,000 citizens in 30 European countries to formulate their visions for desirable sustainable futures. These visions were debated, further developed together with other actors, and transformed into recommendations for future R&I policies and topics.

4.1.2. Co-creation

4.1.2.1. EU: Co-creating solutions for climate-neutral cities

Within the context of the EU-funded MOSAIC project, the cities of Milan (IT) and Göteborg (SE) executed a quadruple-helix co-creation process to address challenges in relation to climate neutrality.⁵⁰ Through a facilitated process which lasted several months, citizens together with city representatives, researchers and private companies, developed shared solutions to challenges such as achieving more sustainable mobility and better access to information in relation to air quality. These solutions brought a deeper understanding of socially acceptable innovations which cities should and will develop in the future.

4.1.2.2. Flanders: the Amai! Project

The project 'Amai!'⁵¹ (Flemish exclamation for 'wow!') aims to involve citizens in the development of new AI applications, by bringing together citizens, civil society organisations and AI experts around four themes (climate, mobility, health and work) with an overarching theme of digital inclusion. It aims to make people not particularly interested in technology reflect about AI through topics that concern them and to co-create relevant solutions. Almost 1,000 ideas for AI solutions have been submitted over three years and 14 of them are now being realised. The project is run by the Flemish knowledge centre for Citizen Science, together with the Knowledge Centre Data & Society in Flanders, Belgium.

4.1.2.3. EU: ORION Open Science

The ORION Open Science EU project (2017–2021) aimed to explore different ways of opening the research process and R&I funding schemes within the life sciences, and to bring in perspectives from society. Co-creation experiments involving multiple stakeholders were conducted around three challenges: opening up the research engine; identifying risks and opportunities presented by disruptive technologies; and running citizen science projects in fundamental research.⁵²

4.1.2.4. The Netherlands and beyond: Science Shops

Science Shops were first established in the Netherlands in the 1970s. Their main aim is to assist community-based social organisations, NGOs and/or individuals in solving specific scientific-societal problems. Through participatory research new knowledge is developed with and for organisations and people that otherwise do not have access to research.

⁴⁸ <https://voicesproject.eu>

⁴⁹ <https://www.cimulact.eu>

⁵⁰ <https://mosaic-mission.eu/pilots>

⁵¹ <https://amai.vlaanderen/>

⁵² <https://www.orion-openscience.eu/>

Science Shops are often located within a university and their services are free of charge. Science Shops have been established in many countries, including Belgium, Germany, Ireland, Lithuania, and Slovenia. There is also an international network for science shops: the Living Knowledge.⁵³

4.1.3. Co-assessment

4.1.3.1. Ireland: #DiscussAI

‘Think-ins’ are part of the collaborative #DiscussAI programme in Ireland. This programme of public events about AI and how the technology impacts our lives and society is run by ADAPT, a multi-disciplinary Irish research centre for AI driven technology. Through the #DiscussAI programme, ADAPT researchers seek to engage communities and individuals across the country in conversations that raise and answer questions and generate ideas for new research. The evaluation approach of the Think-ins has been co-created with participants, including citizens, who were also involved in the evaluation process.⁵⁴

4.1.4. Science Communication

In order for PE exercises to succeed, science communication skills are needed to make the topic accessible. Science events and festivals organised to inform and inspire people often offer a mix of communication and engagement activities. This section offers two national examples, although similar kinds of events are organised in many countries. In addition, two capacity building initiatives are briefly described.

4.1.4.1. Sweden: Researchers’ Friday

This national science festival takes place annually the last week of September in 30 cities across Sweden and online. The festival has been organised as part of the European Researchers’ Night since 2006 and is coordinated by VA (Public & Science). Key activities include:

- Researchers’ Grand Prix, a competition that challenges researchers to present their research in a captivating, inspiring and educational way in just four minutes. The audience and expert judges jointly decide on the winner.⁵⁵
- A mass experiment, which is a citizen science project engaging schools and citizens across the country.⁵⁶
- The ‘borrow a researcher’ initiative, where schools and workplaces can book a researcher to visit them and discuss the practicalities as well as the societal context of their research – either in person or online.⁵⁷

4.1.4.2. Germany: Science Years

“Science Years” have been key annual events since 2000 aiming to raise awareness of science and research among the German public and engage citizens in dialogue. A new motto of every Science Year connects to a series of events, campaigns and contests

⁵³ <https://livingknowledge.org/>

⁵⁴ The full evaluation report: https://bit.ly/Think-In_Eval2023

⁵⁵ <https://forskargrandprix.se/researchers-grand-prix/>

⁵⁶ <https://forskarefredag.se/researchers-night/mass-experiments/>

⁵⁷ <https://forskarefredag.se/european-researchers-night/borrow-a-researcher/>

throughout Germany and serves as a proving ground for innovative formats. Science Years are a joint initiative of the Federal Ministry of Education and Research and Wissenschaft im Dialog (WiD), the German organisation for science communication.

4.1.4.3. *The Netherlands: National Expertise Centre Science & Society (NEWS)*

NEWS, a new national centre for science communication and PE expertise in the Netherlands, is to be launched in 2024. Initiated by the previous Minister for Science, it aims to foster the connection between science and society through better science communication⁵⁸ and therefore encourages PE with science.

4.1.4.4. *Germany: #FactoryWisskomm*

The German Federal Ministry of Education and Research launched the #FactoryWisskomm strategy process in 2020. About 150 experts within science and communication were invited to co-develop recommendations in six action areas, among them Participatory Science Communication.⁵⁹ The aim of the initiative is to improve conditions for responsible science communication and PE, including opportunities for scientists to build such skills, the development of quality assessment and evaluation, and the promotion of innovative and participatory formats. #FactoryWisskomm will continue until 2025.

4.2. Key ongoing EU PE projects

Under the SiS and SwafS programmes in the seventh and Horizon 2020 framework programmes, the EU supported several projects on PE and RRI at territorial level.⁶⁰ HE provides funding to projects developing virtual platforms offering resources and services to support actors within ORRI, citizen science, science communication, and Open Science. A few useful examples are provided below:

- **REINFORCING** (2023–2027) is a project that will provide a one-stop hub of resources for ORRI, including PE tools,⁶¹ stemming from more than ten years of RRI projects and initiatives in Europe and beyond.
- **The EU-citizen.science platform**, resulting from an EU project,⁶² is now managed and enhanced by the EU-funded project European Citizen Science (2022–2026). The platform provides networking opportunities, capacity building, selected high-quality resources, and a database of citizen science projects.
- **COALESCE** (2023–2027)⁶³ aims to establish a virtual European Competence Centre for Science Communication by building on and adding to existing forms of excellence in science communication, PE, and co-creation practices. Through co-creation with stakeholders, the project aims to transform the knowledge from projects funded through the EU Science with and for Society (SwafS-19) programme, as well as other science communication projects, into resources and tools to achieve evidence-based and interdisciplinary science communication.

⁵⁸ <https://zenodo.org/records/7808844>

⁵⁹ https://www.bmbf.de/bmbf/shareddocs/downloads/files/factory_wisskomm_english.pdf?__blob=publicationFile&v=6

⁶⁰ An extensive analysis of all these projects: <https://ec.europa.eu/newsroom/horizon2020/items/694847/en>

⁶¹ <https://www.reinforcing.eu>

⁶² <https://eu-citizen.science>

⁶³ <https://coalesceproject.eu>

- The **PATTERN**⁶⁴ project (2023–2026) will provide training material and curricula on open science for teachers and students, and training opportunities for researchers.

4.3. PE resources

There is a wealth of toolkits, checklists, guides, platforms, and other resources available to inspire and help policymakers, organisations and individuals to work with PE. A few examples are provided below:

- **The Competence Centre for Participatory and Deliberative Democracy**⁶⁵ by the European Commission's Joint Research Centre (JRC), aimed at supporting the development of socially robust policy through citizen engagement. The Centre offers both a Community of Practice and a database of resources.
- **The European Knowledge Valorisation Platform**⁶⁶ provides a repository of resources which allows searching through participatory approaches and cooperation spaces. The platform also includes a recent study on Fostering knowledge valorisation through citizen engagement.⁶⁷
- **The 10 Principles of Citizen Science** by the European Citizen Science Association (ECSA), is recognised as the main reference that describes citizen science activities and their contribution to R&I. The principles are also translated into many languages.⁶⁸
- **The Public Engagement Principles**,⁶⁹ developed by The Berlin School of Public Engagement and Open Science.
- **The European Science Engagement Platform**⁷⁰ provides resources, methods, and tools, hosted by the European Science Engagement Association (EUSEA).
- **Involvement tools**⁷¹ collected by the UK-based public participation charity Involve. The Knowledge Base section also provides tips on how to plan and implement participation exercises.
- **The Action Catalogue**⁷² provided by the EU-funded Engage2020 project, collects a wide variety of engagement methods that can be selected according to several criteria.
- **The NCCPE's Public Engagement resources**.⁷³

⁶⁴ <https://www.pattern-openresearch.eu/>

⁶⁵ https://knowledge4policy.ec.europa.eu/participatory-democracy_en

⁶⁶ https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/eu-valorisation-policy/knowledge-valorisation-platform_en

⁶⁷ The full study:

<https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/a4368265-ca3f-11ee-95d9-01aa75ed71a1>

⁶⁸ <https://zenodo.org/records/5127534#.YPrkNEBCRhE>

⁶⁹ <https://www.publicengagement.berlin/the-principles>

⁷⁰ <https://eusea.info/platform/about-platform-and-purpose/>

⁷¹ <https://www.involve.org.uk/resources>

⁷² <http://actioncatalogue.eu/search>

⁷³ <https://www.publicengagement.ac.uk/resources>

5. Reflections and conclusions

Citizens' and stakeholders' contribution to knowledge is an important aspect of Open Science, as well as of excellent R&I. PE has become more and more visible, expected, and required in R&I processes in recent years. Involvement of citizens and stakeholders in such processes can lead to better and more sustainable and acceptable solutions, advancements, and innovations.

However, PE can be more challenging than collaborations within the triple-helix (Industry, Academia, Policy) as it requires integration of citizens' forms of knowledge, such as collective intelligence, into R&I activities, outcomes and policies. In order for PE exercises to succeed, science communication skills are needed to make the topic accessible and engaging. Awareness raising and conversations around R&I also play a crucial role in opening-up science and familiarising the public with research and key scientific issues. Such activities can spark curiosity, boost interest, improve science literacy and foster informed decision-making, but they are less useful when the objective is to involve citizens and stakeholders in addressing societal concerns and topical challenges related to R&I.

PE needs to be conducted in a thorough manner and should not be improvised. When supporting PE, it is therefore key to include instruments such as dedicated training opportunities for researchers and policymakers, or funding in order to either foster the adoption of the necessary skills or enable the engagement of professional facilitators. A badly conducted PE process can lead to adverse impacts (i.e. citizens lose confidence in participatory processes and/or trust in institutions conducting bad exercises) but also to a lot of frustration for those involved (i.e. researchers and civil servants).

There is a wealth of resources and projects related to PE in Europe offering a wide range of support and tools for deployment. However, it is important to adapt methodologies to objectives, local conditions, context, and target groups. The public can be very heterogeneous, and different ways of connecting with and involving the people are needed. Furthermore, it is crucial to ensure that PE processes equally bring tangible benefits to citizens, as this will determine their interest and willingness to participate. Such benefits include the possibility to influence R&I policies and activities, and therefore, for example, contribute to sustainability transition.

By way of example, citizens are nowadays often asked (e.g. through consultation processes) to share their needs, ideas, data and potential solutions to challenges that cities they live in are facing. To motivate them to do so, it is imperative that their contributions are acknowledged and used. Ideally, they are also involved in the development of solutions. Furthermore, it is important to address issues of fair compensation and remuneration of citizens' time (e.g. providing incentives or rewards). In the most advanced engaging experiences, like co-creation for collaborative innovation, shared IPR and intellectual property management should be considered.

Even though PE aims for equal participation, it can be challenging to reach non-privileged groups. Inclusivity, to ensure that the different groups of the public get an equal voice in the process, should therefore be a key aspect when developing PE activities. During the first MLE meeting, some ideas on how to include different groups were discussed, among them collaborations with museums, national education agencies, local not-for-profit associations, libraries and schools.

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This thematic report provides an introductory overview of Public Engagement in Research and Innovation in Europe, as discussed during the first meeting of the Mutual Learning Exercise on Public Engagement in Research and Innovation. Various policies, frameworks, resources, and projects (mainly EU funded) to promote Public Engagement practices are described. The report aims to inspire and help public actors and policymakers to promote and support public engagement.

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