



D.3.3: Deliberative roundtables. Findings. *From priorities to policy recommendations*

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Project title: Probing the impact of integrity and integration on societal trust in science

Project acronym: POIESIS

Grant Agreement no.: 101057253



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Project Number:	101057253
Project Acronym:	POIESIS
Project Title:	Probing the impact of integrity and integration on societal trust in science
Title of Deliverable:	Deliberative roundtables – From priorities to policy recommendations
Work Package:	WP3
Due date according to contract:	31/12/2024
Actual delivery date:	21/01/2025
Author(s):	Michel Dubois (CNRS)
Reviewer(s):	Tine Ravn (Aarhus University), Richard Woolley (CSIC)
Editor(s):	Michel Dubois (CNRS)

ABSTRACT:	This deliverable describes the main findings of the deliberative roundtables in the seven POIESIS partner countries.
Keyword List:	roundtable, institutions, policy recommendations

Acknowledgement

The POIESIS project partners wish to thank all those who contributed to the research activities presented in this report, especially the institutional stakeholders who agreed to dedicate some of their valuable time to the co-organization of the roundtables in seven countries.

Executive Summary

This report presents the main results of the research work carried out by the POIESIS project partners as part of workpackage 3. POIESIS develops an extensive research programme to systematically examine the interrelatedness of integrity, integration, and trust, exploring also the role of institutions in fostering a research climate that is conducive to societal trust in science. The global aim of WP3 is to define, at the European level, to what extent and how can institutions provide policies and procedures that enable researchers to act in ways that are conducive to public trust in science.

For this deliverable, the POIESIS consortium opted for a survey methodology that was both qualitative and participatory: qualitative, with 7 roundtables involving more 84 participants; participatory, with a set of institutional stakeholders, involved in the previous phase of the project, working with us as co-organizers. The roundtables were designed to bring together institutional stakeholders in order 1) to assess the relevance and feasibility of the priorities identified in the focus group study (see D.3.2: Focus Groups – Findings. Exploring Institutional Roles in Fostering Public Trust in Science), 2) to explore the potential for translating these overarching priorities into concrete policy recommendations, while anticipating and addressing potential challenges to their implementation; and 3) to discuss the organizational tensions or forms of ambivalence inherent to scientific organizations.

The POIESIS partners did not encounter any difficulties in organizing and running the roundtables, with one notable exception: the Spanish team, which was faced with an exceptional situation. On 29 October, a catastrophic meteorological event occurred in the region of Valencia. Thanks to the rapid mobilization of the Spanish team, a smaller workshop was successfully organized to contribute to this deliverable.

Each roundtable highlighted the main priorities of the participants and the challenges they face. For example, in Denmark, the focus was on social inclusion. In France, the independence of science emerged as a critical issue. In Germany, participants emphasized the need for clear national and European guidelines on good scientific practice. In Portugal, discussions focused on innovative ways to engage the public in science. Beyond individual national examples, these priorities and insights reflect the diverse concerns of participants and the multifaceted nature of the challenges ahead. Several cross-cutting insights emerged, which are crucial to informing and shaping the work that lies ahead:

- Consensus is not given: insofar as the majority of roundtables participants had the opportunity to take part in the earlier phase of WP3, it was to be expected that the priorities identified would be the subject of a relatively consensual reception. However, this was not

always the case. There was still a degree of heterogeneity in the way the priorities were received, both between participants at the same roundtables and between the different roundtables. A priority that appeared to be important in one case was not always considered as such in another context.

- Translating priorities into recommendations: while participants were invited to discuss the implementation of the priorities and the institutional difficulties likely to be encountered, a significant part of the discussions focused on the intrinsic value of the various priorities and how they could be formulated as recommendations. Participants were sometimes critical of the exact wording of the priorities.
- Double-edge argument: anticipating both the potential use and misuse of the priorities emerged as a central theme in the roundtable discussions. Participants highlighted that translating each priority into a policy recommendation carries the risk of different interpretations and applications. For example, while an increase in administrative support is widely seen as necessary, it also raises concerns about the potential for greater administrative control over scientific activities. Similarly, efforts to harmonize codes of conduct are seen as valuable tools for managing cases of misconduct, but they risk imposing a technocratic approach to research integrity. The final wording of any recommendation will require careful consideration of such ambivalence, ensuring a nuanced formulation that avoids oversimplification and takes full account of its wider implications.
- Expected qualities: discussions among participants helped to identify several key qualities that any recommendations should illustrate: a) they should be clearly linked to specific objectives; b) they should avoid merely paraphrasing existing recommendations; c) they should be targeted at easily identifiable groups; d) they should be actionable, leading to tangible and concrete results; and e) they should be realistic and adaptable, in line with available resources and the context in which they are to be implemented. While this is not an exhaustive list, it provides a good basis for further reflection and will undoubtedly inform the next steps of the project.

The roundtable discussions have highlighted the complexity and nuance required to translate identified priorities into actionable policy recommendations. While the common insights and goals identified with the focus groups were frequently, but not always, confirmed by the roundtables, the diversity of perspectives and contexts underscores the need for a flexible and context-sensitive approach.

1. Introduction

1.1. About POIESIS

POIESIS is a three-year project funded by Horizon Europe. This project brings together seven partners: Aarhus University (Denmark), London School of Economics and Political Science (United Kingdom), Wissenschaft im Dialog (Germany), National Technical University of Athens (Greece), Centre National de la Recherche Scientifique (France), Iscte – Instituto Universitário de Lisboa (Portugal), and the Agencia Estatal Consejo Superior de Investigaciones Cientificas (Spain).

POIESIS develops an extensive research programme to systematically **examine the interrelatedness of integrity, integration, and trust, exploring also the role of institutions in fostering a research climate that is conducive to societal trust in science.**

POIESIS aims to do this through (i) the analysis of existing data streams on citizen trust, responsible and questionable research practices, and institutional policies to enhance responsible research; (ii) implementation of a portfolio of small scale studies, specifically tailored to empirically capture the relatedness of integrity, integration, and trust, with a focus on the chains of mediation that connect research practices with, ultimately, the interpretation and assessment of these by wider, non-academic publics; and (iii) conducting a set of participatory research actions in which stakeholders actively co-create knowledge.

The POIESIS project can be characterised by the importance given to the empirical survey methods, but also by the conceptual model adopted by the members of the consortium, the so-called 3i4T for “Integrity, Integration, and Institutions for trust”.

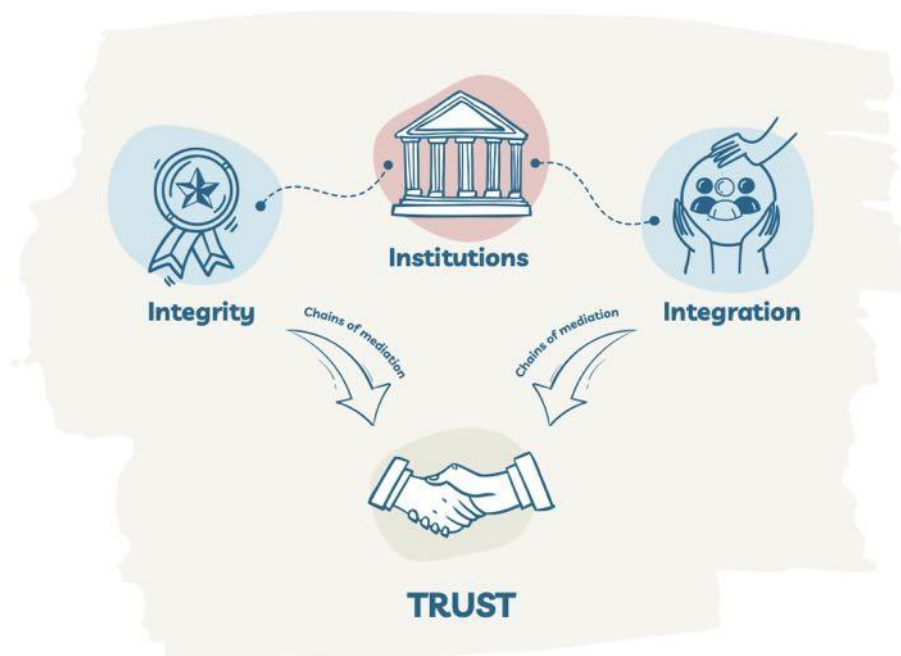


Figure 1 - The 3i4t model

POIESIS considers research integrity and social integration in science as broad concepts facilitated by institutions, which through chains of mediation potentially affect public trust in science. The concept of public trust refers to the confidence individual or social groups may have in the reliability of science and scientists. It is entangled with broader constellations of positive and negative “attitudes” towards science which have been explored in both cross-sectional and longitudinal studies. The concept of integrity relates to the extent to which research practices are in accordance with appropriate ethical, legal, and professional frameworks, obligations, and standards¹. The concept of integration relates to the increased inclusion of citizens and societal stakeholders throughout the different phases of research and innovation cycles². The concept of institutions refers to the key actors and core processes involved in the pursuit of delivering robust and relevant research results in the interests of both science and society. Finally, the concept of “chain of mediation” relates to the mechanisms and

¹ See Horbach, S.P. and W. Halffman, Promoting virtue or punishing fraud: Mapping contrasts in the language of ‘scientific integrity’. *Science and Engineering Ethics*, 2017. 23(6): p. 1461-1485

² See Wilsdon, J. and R. Willis, See-through science: Why public engagement needs to move upstream. 2004: Demos; Stilgoe, J., S.J. Lock, and J. Wilsdon, Why should we promote public engagement with science? *Public understanding of science*, 2014. 23(1): p. 4-15.

processes that connect research practices at the work floor with the interpretation and assessment of these by wider publics³.

1.2. The institutional dimension

The POIESIS project is organised into five main workpackages (WP). The findings presented in this global report D.3.3 were produced as part of WP3 of the POIESIS project, a WP coordinated by the project's CNRS partner in France. The WP3 research protocol was approved by the Sorbonne University Research Ethics Committee (CER) with identifier CER-2023-DUBOIS-POIESIS.

WP3 is primarily designed to address the following research question: **“To what extent and how can institutions provide policies and procedures that enable researchers to act in ways that are conducive to public trust in science?”**

POIESIS' research on institutional processes and actors aims to explore how institutions engage, facilitate, or constrain responsible research practices and how public recognition of such practices in turn influences trust in science. This involves detailed analysis of various actors involved including research performing organizations (RPOs) and research funding organizations (RFOs), and mediating actors such as science journalists, open access repositories, technology transfer offices, scientific publishers, actors in technology assessment, and civil society organisations, which are key to disseminating information, promoting new and improved practices, and mobilising citizens to contribute to research and innovation.

In order to provide effective and robust outcomes, WP3 carries out **participatory research activities involving institutional stakeholders to co-construct knowledge and policy recommendations** about the ways in which institutions can help create fertile conditions for responsible research practices.

The first step in carrying out these participatory research activities resulted in deliverable **D.3.2: Focus Groups – Findings. Exploring Institutional Roles in Fostering Public Trust in Science**. In this first step, more than 130 institutional stakeholders participated in our research activities to identify several critical issues. The current report presents the results of the second step of qualitative research based on deliberative roundtables.

³ See Bauer W. M., Schiele B. (eds), Science Communication: Taking a Step Back to Move Forward, CNRS Editions, 2023.

1.3. Deliberative roundtables

A public deliberative roundtable is a qualitative methodology used in social sciences, particularly in sociology, designed to facilitate open, inclusive, and structured discussions among a diverse group of participants. If the setting up of focus groups is designed to ensure a balance between homogeneity and inter and intra diversity of the participants, the subsequent deliberative roundtable aims to decompartmentalize the collective discussions and bring together different stakeholders, regardless of their institutional functions, affiliations, or experiences.

The overall objective of a deliberative roundtable is to work toward a shared understanding or agreement on complex issues. While consensus is not always achieved, the process encourages participants to engage in critical reflection and compromise. Participants are encouraged to reconsider their preferences and positions in light of discussions, new insights, and arguments presented by others.

In the context of WP3, the roundtables were designed to bring together institutional stakeholders in order 1) to assess the relevance and feasibility of the priorities identified in the focus group study, and 2) to explore the potential for translating these overarching priorities into concrete policy recommendations, while anticipating and addressing potential challenges to their implementation.

These priorities are listed in the table 1 below (see also D.3.2: Focus Groups – Findings. Exploring Institutional Roles in Fostering Public Trust in Science).

For the sake of clarity, it has been decided to group these priorities into four main categories:

- research integrity
- organization of science
- social integration
- science communication

This preliminary analytical classification does not imply that these priorities are independent of each other. They are all potentially part of an integrated approach that emphasizes the importance of creating an “ecosystem” in which scientific work is supported by robust institutional structures, sustained by continuous training, and oriented towards meaningful engagement with society.

Topic	Id	Institutional priority
Research integrity	1	Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries
	2	Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution
	3	Ensure a culture of transparency regarding the institutional handling of misconduct
Organization of science	4	Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management
	5	Encourage scientific institutions to address the organizational tensions, conflicting imperatives they contribute to generate
	6	In-depth revision of the performance evaluation system: Towards more qualitative measures
	7	Ensure science independence and develop public conversation about the private funding of universities and research organisations
	8	Protect own members, and particularly scientists, from external attacks
Social integration	9	Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration
	10	Promote collaborative spaces and buildings: buildings should be designed and built to favour openness
	11	Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups
	12	Implement the inclusion of scientific knowledge in school curricula – the only moment in life when all societal groups can be reached simultaneously – but also foster life-long learning opportunities in this regard
Science communication	13	Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination
	14	Use institutional communicators to make citizens aware of research in the early stages
	15	Avoid assuming a “crisis of trust”, it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided

Table 1 - 15 initial priorities based on WP3 focus groups

The organization of seven roundtables at the European level, bringing together institutional actors, has a two-fold advantage: it makes it possible to take account of the specific features of the various national contexts when formulating the recommendations, but also to anticipate some of the challenges associated with its implementation on the basis of the professional expertise of the participants. In fact, as noted in the earlier phases of the project, not all the partners in the POIESIS project work in the same institutional context. Certain priorities may seem unnecessary in some

contexts but essential in others. This heterogeneity must be taken into account when assessing the relevance of the priorities. Furthermore, even if participants agree on the importance of a particular priority, its implementation may be more or less complex depending on the resources available or local practices. Discussions may help to identify these difficulties and possible ways of overcoming them.

Finally, translating a broad priority into an effective recommendation at the European level also means taking into account a number of factors, such as the pre-existing division of competences between the EU and the member states, the compatibility of proposals with pre-existing policies, or the justification of recommendations by tangible or measurable impacts, etc. These various factors, which were raised unsystematically during the discussions, need to be analyzed in a more methodical way in the following phases of the POIESIS project.

2. Methodology: looking back at the setting up of the roundtables

This section describes how the various roundtables planned for the POIESIS project were set up and how they were run. As this section shows, most partners did not encounter any difficulties in organizing and running the roundtables, with one notable exception: the Spanish team, which was faced with an exceptional situation.

On 29 October, a catastrophic meteorological event occurred in the region of Valencia. This event caused torrential rain and severe flash flooding throughout the region, including parts of the city of Valencia. Although the Spanish roundtable was scheduled to take place in Valencia on the morning of 11 November, with 21 participants confirmed, it was collectively decided on 4 November to cancel the event due to the tragic situation.

Thanks to the rapid mobilization of the Spanish team, a smaller workshop with the collaboration of Professor Félix Lozano, was successfully organized to contribute to this deliverable. As described in the Spanish, national report, the reflection activity was principally designed to offer an opportunity to discuss the priorities identified by the focus group : “the sequence of planned activities was followed in the reflection exercise, with each stage involving the opinions and suggestions of the invited expert, with follow up questions, doubts and discussion involving the POIESIS Spain team” (SP report, p.5). For more details, see national report in Appendix - annex E.

2.1. Selecting the participants

Each of the POIESIS partners had the task of organizing one national roundtable and managing the recruitment of its participants. By default, partners had three types of populations likely to be approached:

- the co-investigators who had participated in previous phases of WP3 (n=24),
- the focus group participants (n=131)
- the mediation experts solicited for interviews in the context of WP2 (n=78)⁴

It was also agreed that, if necessary, partners could contact institutional stakeholders who had not had the opportunity to participate in the focus groups segment. In this case, participants should belong to one of the two following groups: 1) Institutional actors related to research integrity (leaders and managers in research-performing organizations and research funding organizations, editors of peer-reviewed journals and members of the committee on publication ethics, research integrity officers, R&I policy makers, etc.); or 2) Institutional actors related to social integration (open science policy advisers, communication and outreach officers in research performing organizations and research funding organizations, press officers, etc.). Of course, the inclusion of new stakeholders meant that additional introductory work had to be done at the time of the roundtable.

Table 2 below shows the number of participants for each roundtable, broken down by gender and institutional affiliations. A total of 84 people attended the roundtables, of whom 49 were women and 35 were men. See Appendix – annex A of this report for more detailed information on all participants.

Country	Total	Male	Female	RPO	RFO	Others
Denmark	16	7	9	6	3	7
France	12	6	6	10		2
Germany	16	4	12	10		6
Greece	10	8	2	9		1
Portugal	14	1	13	8		6
Spain*	3*	2*	1*	3		
United Kingdom	13	7	6	13		
Total	84	35	49	59	3	22

Table 2 - Deliberative roundtables: number of participants, gender and institutional affiliations (the asterisk in this table is a reminder of Spain's exceptional situation, as mentioned in the introduction to this section)

⁴ See D.2.3 Expert Interviews – Findings available online: <https://poiesis-project.eu/deliverables/>

2.2. Choosing the modalities of the roundtables

The deliberative roundtables were conducted by each consortium partner in their own country, and in their national language. The date and venue were chosen according to local convenience. Partners had the option of organising the roundtable in an in-person format, in a hybrid format or purely online. This flexibility was considered necessary to limit as far as possible the constraints imposed on those wishing to participate. Of course, these variations may have an impact on the nature of interactions between participants. Whereas the in-person discussions often encourage richer, more informal interactions, hybrid or online formats may limit spontaneous exchanges and nuance in group dynamics, while introducing technological or attentional constraints. Table 3 below presents the different modalities for the seven partners.

Country	Date	Venue	Format
Denmark	November 7, 2024	Hotel Ottilia, Copenhagen	In-person
France	December 20, 2024	Centre national de la recherche scientifique, Paris	Hybrid
Germany	October 28, 2024	Wissenschaft Im Dialog, Berlin	In-person
Greece	November 4, 2024	NTUA, Athens	Online
Portugal	November 14, 2024	Iscte – Instituto Universitário de Lisboa	Hybrid
Spain*	November 20, 2024*	Ingenio - CSIC-UPV	Online
United-Kingdom	November 15, 2024	Centre for Higher Education Transformation (CHET), Bristol University	In-person

Table 3 - Deliberative roundtables: date, venue and format (the asterisk in this table is a reminder of Spain's exceptional situation, as mentioned in the introduction to this section)

As this table 3 shows, partners took full advantage of the possibility to modulate the format of the roundtable, with three partners choosing the in-person format (Denmark, Germany, United Kingdom), two choosing the hybrid format (France, Portugal) and two choosing the online format (Greece, Spain). For in-person or hybrid situations, participants' travel and accommodation costs were covered by the partners. Most of the roundtables lasted about 3 hours and gave rise to a rich

exchange of views between the participants. Depending on the schedule, a lunch or dinner was usually organized after the in-person or hybrid roundtables.

2.3. Materials for running the deliberative roundtable

Each partner was expected to organize the national roundtable based on the following basic structure:

- Phase 1 - Introduction
- Phase 2 - Group sessions: relevance and prioritization of recommendations in each of the four thematic areas
- Phase 3 - Collective review of outputs from session on recommendations
- Phase 4 - Group sessions - handling of contradictions and tensions between institutional procedures and principles in research
- Phase 5 - Collective review of outputs from session 2
- Phase 6 - Expert intervention

In order to support partners in running the roundtables efficiently and ensure the coherence of the methodology among countries, the CNRS coordinator provided the materials listed below:

- Guidelines for running the roundtables (see Appendix - annex B)
- The Participant Information Sheet (see Appendix - annex C)
- The Informed Consent form (see Appendix - annex D).

This general agenda could be adapted locally according to constraints and the number of participants. Indeed, it has led to various adaptations without compromising the general objective of WP3. Some partners organized the workshop according to the format of incorporating both group- and plenary discussions (Denmark, Germany, Greece), while others opted for plenary sessions (France, Portugal, United Kingdom).

Each roundtable began with a general presentation of the project and its initial provisional results. The aim of the first session was for each partner to contribute to the discussions on the priorities identified in the focus groups. They were provided by default with the discussion guide described in table 4 below.

Group	Priority	Guiding the discussion
Research Integrity	<ul style="list-style-type: none"> . Implement clear guidelines... . Continuous, career-long training and education programmes... . Ensure a culture of transparency... 	<p>How can institutions ensure that research integrity guidelines are not only clear but also consistently applied across different countries and institutional cultures?</p> <p>What should be the core components of research integrity training, and how can we ensure these programs are adaptable to new challenges as science evolves?</p> <p>What are the best strategies for fostering a culture of transparency when dealing with scientific misconduct, and how can institutions maintain trust throughout this process?</p>
Organization of Science	<ul style="list-style-type: none"> . Increase administrative support... . In-depth revision of the performance evaluation... . Ensure science independence... . Protect own members... 	<p>What types of administrative support do researchers need most, and how can institutions ensure that these services are efficient and accessible throughout the research process?</p> <p>What specific qualitative measures could be introduced into performance evaluation systems to better reflect the broader contributions of scientists beyond publications and grants?</p> <p>How can institutions maintain scientific independence when they receive private funding, and what safeguards should be put in place to avoid conflicts of interest?</p>
Social Integration	<ul style="list-style-type: none"> . Provide scientists with... . Promote collaborative spaces . Develop and consider new ways of consulting citizens... . Implement the inclusion of scientific knowledge in school curricula... 	<p>What types of training and resources are necessary for scientists to effectively engage in social integration?</p> <p>How can the design of physical spaces within scientific institutions encourage more collaboration, openness, and interdisciplinary work among researchers?</p> <p>How can institutions ensure that citizen consultations, such as assemblies, represent diverse voices?</p> <p>What steps should be taken to integrate contemporary scientific knowledge into school curricula?</p>
Science Communication	<ul style="list-style-type: none"> . Insofar as the battle for scientific information... . Use institutional communicators... . Avoid assuming a "crisis of trust"... 	<p>What strategies can be implemented to ensure that scientific communication is relevant and impactful at both the local and global levels?</p> <p>What role should communicators play in shaping public perception and understanding of ongoing research?</p> <p>What alternative language or concepts could be used to discuss the current state of public trust in science, without reinforcing the idea of a "crisis"?</p>

Table 4 – Discussion guide for the roundtables

The aim of the second session was to invite participants to develop a reflexive view of their own organization, based on the following quote from a focus group in the French study:

(...) That's the institution's job, to work in all areas of the institution to limit tensions. Whether it's evaluation processes, recognition processes, human resources support for groups... that's the job I've given myself (...) to work with all the departments in the institution to track down all the places where their processes could come into conflict with scientific integrity, ethics and professional conduct. And that's really the job of the institution. So the outside world is what it is, we don't necessarily have any control over it (...) but what we do have control over, and by that I mean our institutions, is to build an environment within the institution that is as favorable as possible, as conducive as possible, and therefore as free from paradoxical injunctions as far as values are concerned. (France, FG2_2)

This excerpt emphasizes the institution's role in identifying and resolving conflicts between processes (like evaluation and recognition) and the values of scientific integrity and ethics. The partners were invited to ask participants whether the priorities discussed previously were in contradiction with the principles and rules at work in their organization. Partners could also use the following questions to stimulate discussion:

- What kind of institutional processes (e.g., evaluation, funding, human resources) might conflict with scientific integrity, ethics, or professional conduct?
- The excerpt suggests that while institutions cannot control external pressures (e.g., from funders, governments, or public opinion), they can shape their internal environment. How can institutions better protect scientists from these external pressures while still maintaining high standards? What should institutions prioritize when external demands (e.g., competitive grants, rapid publishing) conflict with internal commitments to ethical research practices?
- What types of mentorship or training programs could institutions provide to help early career scientists navigate the pressures of ethical conduct versus institutional expectations?
- How can institutions measure their success in creating an environment free from paradoxical injunctions? What indicators should be used to track progress in aligning institutional processes with scientific integrity and ethics?

2.4. Reformulations, classifications and deviation

The preparation and organization of the roundtables gave rise to discussions on the formulation of priorities. The priorities set out in deliverable 3-2 were not intended to be definitive. Some partners decided to propose reformulations before the discussions (France, Portugal), while others (Germany) made changes, mostly simplifications, based on the discussions between the participants. Variations

in the wording prior to the discussions may have had an impact on the development of the exchanges, but these variations were deemed useful to ensure that the participants were able to grasp the general spirit of the initial priority.

The table 5 below shows the different variations in the wording of the priorities. In addition, while the priorities have been classified into four groups for the sake of clarity, some participants in the German roundtable suggested that this thematic classification should be replaced with a classification based on targeted stakeholders, with a distinction between priorities focusing on individual institutions vs priorities focusing on multiple institutions.

This suggested classification is indicated in bold characters in the table 5 below.

With or without reformulation, the POIESIS partners followed the suggested guidelines for conducting the roundtable discussion, addressing in turn the priorities (phase 1) and the organizational tensions (phase 2), except for the UK partner, who chose to focus the discussion on the Research Excellence Framework (REF). In the UK, the “REF together with the Teaching Excellence Framework (TEF) and Knowledge Excellence Framework (KEF) are designed to increase performance in research, teaching, and outreach but risk becoming instituted as ‘police force for behaviour change’, and it is not sure whether the redirection is right to guarantee a world class research culture. There are also tensions created by research integrity procedures and management. Institutions are working on a culture that bridges gaps between professional and academic staff” (UK Report, p.3).

This choice, which represents a significant deviation from the guideline, has nonetheless provided food for thought for the collective reflection on the organizational tensions likely to interfere with the priorities of research integrity and social integration. Readers interested in the discussions surrounding this REF framework may find it useful to consult the UK report in Appendix - annex E.

Priority	Partner	Reformulation
ID_1	France* Portugal*	Develop and apply harmonised codes of conduct and clear guidelines to promote common standards of scientific integrity across institutions and at European level Implement clear guidelines and codes of conduct and promote standards of integrity in the institutions
ID_2	France*	Establish continuing education and training programmes in research integrity, tailored to the needs of students, researchers and professionals, to enhance skills throughout their careers
ID_3	France*	Establish institutional mechanisms to ensure transparency in the handling of cases of scientific misconduct, while respecting the principles of confidentiality and fairness
ID_4	Germany** Portugal*	Individual Institution - Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management
ID_5	Germany**	Individual institution - Encourage scientific institutions to address the organisational tensions, conflicting imperatives they contribute to generate
ID_6	France* Germany**	Revise the systems for evaluating scientific performance to value qualitative contributions over quantitative indicators Multiple Stakeholders: In-depth revision of the performance evaluation system: Towards more qualitative measures
ID_7	Germany**	Multiple Stakeholders: Ensure science independence
ID_8	France* Germany** Portugal*	Developing appropriate protection measures for scientists facing external attacks, through the provision of dedicated legal, communication and institutional resources. Individual Institution: Protect own members, and particularly scientists, from external attacks Protect scientists from external pressures (e.g., funders, governments, public opinion) while maintaining high standards.
ID_10	France* Germany**	Create and promote accessible collaborative infrastructures (physical and virtual spaces) to strengthen openness and access to scientific culture ('science at street level') Promote collaborative spaces and buildings: buildings should be re-designed to favour openness
ID_11	France* Germany**	Developing innovative participatory mechanisms for consulting citizens and incorporating their input into scientific decision-making at local and regional level. Develop and consider ways of consulting citizens at local and regional level
ID_12	France* Germany** Portugal*	Strengthening the presence of science in educational programmes, with an emphasis on the links between science and society and developing lifelong learning for all ages. Implement the inclusion of scientific knowledge and scientific methods in school curricula – the only moment in life when all societal groups can be reached simultaneously Develop critical thinking among the public on science issues.
ID_13	France* Germany** Portugal*	Combining local participatory strategies and global dissemination actions to better respond to the challenges of science communication at global and local levels. Act at both levels, combining comprehensive participation with mass dissemination Considering the enormous amount of scientific information available (and disinformation), ensure greater coordination between institutions and media/dissemination channels
ID_14	France* Germany** Portugal*	Mobilise institutional mediators to raise public awareness not only of scientific results, but also of research methods, processes and constraints Focus on better rather than on more communication Target institutional communicators to raise public awareness of research in its early stages
ID_15	France* Germany** Portugal*	Promote a nuanced public discourse to build public trust in science, avoiding the use of the term "crisis of confidence" and highlighting positive examples of collaboration and societal impact. Conduct regular trust monitoring and implement conclusions drawn on its results Target institutional communicators to sensitise scientists to public communication

Table 5 – Variations in the wording of the priorities to be discussed during the roundtable (* reformulation before the roundtable; ** reformulation based on the roundtable)

2.5. Data analysis

The qualitative data from the roundtables were collected through audio recordings. When the roundtable was held in-person, the recording was made using a standard digital recorder. When the roundtable was held in a hybrid or online format, the recording was made using the integrated functions of the digital tool used online (zoom, teams, etc.).

Each partner produced a verbatim transcript of the content of their roundtables. The transcriptions were made in the original national language. Using computer-assisted qualitative data analysis software (CAQDAS/NVivo), the data from the transcripts were coded by each partner using a common coding scheme provided by the coordinator (see Guidelines in Appendix, annex B). Each partner also had the opportunity to adapt this coding guide to the national context and to add new codes according to the themes and sub-themes raised during the discussions (methodological details concerning each national roundtable can be found in appendix, annex E).

As with the focus groups in the earlier phase of the POIESIS project, a cross-country analysis was then performed by the CNRS coordinator based on the reading and coding of the seven national reports produced by POIESIS research partners.

3. Lessons from the deliberative roundtables

The aim of this section is to describe the general findings of the roundtables in relation to the different priorities identified during the first phase of WP3. The structure of the section is based on the distinction between four categories of priorities: research integrity, organization of science, social integration and science communication.

3.1. Research Integrity

The three priorities discussed in this thematic section focused on the need to harmonize codes of conduct (Id1_ “Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries”), to train scientists at all stages of their careers (Id2_ “Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution”) and to develop a culture of transparency in dealing with

misconduct (Id3_“Ensure a culture of transparency regarding the institutional handling of misconduct”).

For this first theme, the discussions highlighted the diversity of situations between the different countries. While all participants agreed on the existence and the need for codes of conduct at the national or European level, fewer mentioned the existence or implementation of training modules on research integrity or institutional procedures to ensure some form of transparency in the handling of cases of fraud and misconduct.

Regarding Id1 on the harmonization of codes, all participants highlighted the current difficulty of navigating between the various codes of conduct available and taking into account the differences in their application depending on the organization and context. In Germany, Id1 was described as the basis for all other recommendations: “We said, okay, guidelines are at the top as a foundation for everything else that can then be offered” (Germany, national report, p. 10). In Greece, “the modernization and the stricter application of the Code of Conduct (...) was proposed as a necessary step and as a solid base for further actions” (Greece, national report, p.7).

But if it is to be fully useful, this work of clarification and consolidation, which is essential at national level, must also be carried out at the European level: as one of the participants in the Danish roundtable pointed out, “establishing a common foundation for cross-country discussions could be highly valuable” (Denmark report, p. 9). However, this issue seems to be being already partly tackled already. According to some participants, a dedicated working group within the European Network of Research Integrity Offices (ENRIO) aims to provide an overview of the different approaches to research integrity across Europe. While ENRIO's role may be to contribute to the harmonization of research integrity policies, it lacks the authority to implement these policies and faces similar challenges to other institutions.

It is important to note that while this priority was perceived as foundational in Germany, Denmark or Greece, it sometimes gave rise to debate. In France, for example, while some participants saw it as a preliminary step to deal with situations of misconduct involving institutions from different countries, others have seen it as a potential risk of an overly technocratic discourse, detached from the realities on the ground. Excessive standardization is seen as likely to “encourage researchers to ‘tick the boxes’ when submitting a project and then ignore everything in the course of the research. (...) what was ultimately lacking was not so much a harmonized European or national code as a forum for sharing best practice at the discipline level” (France, national report, p.7). Overall, this implies a governance model that balances standardization with flexibility, ensures researcher participation and prioritizes the practical applicability of integrity policies in different research contexts.

Regarding Id2, there is a broad consensus on the need to better train scientists at all stages of their careers. However, all participants stressed the difficulty of mobilizing scientists. Junior researchers

are often the ones targeted for training, while their more senior colleagues — who are a critical part of their working environment — are much more difficult to reach. This difficulty was mentioned by a participant at the roundtable in Portugal: “We made a point of going in person to all the units and even so we had very little participation, much less than we would have expected. We tried, before the training, to explain very well to all the researchers what the importance was, why it was important, and even so we had very little participation. In some areas, we have some difficulty, especially those related to integrity. Researchers aren’t prioritizing these topics at all, which is a shame.” (Portugal, national report, p. 10).

Various options were raised to reformulate the priority and make it more effective. Some participants, in Germany for example, felt that training should be mandatory: “Since we place so much value on prevention, we said that these training programmes should be mandatory (...)” (Germany, national report, p.11). Others, such as participants in France, have suggested replacing the notion of training with that of “awareness-building”, in order to reach all staff at all stages of their careers, but also extending pre-existing schemes that focus too narrowly on the youngest scientists: “One participant returned to the issue of the doctoral oath in France, noting that a similar system could be introduced at more advanced career stages, in particular the habilitation to supervise research” (France, national report, p.7). Others, particularly in Greece, suggested broadening the content of these actions to include the issue of links between science and society : “The education of researchers on matters of research integrity should focus on the social mission and contribution of science, on the cultivation of trust in the research process and what it can offer, even to researchers themselves (...)” (Greece, national report, p.7).

Regarding Id3 on transparency, the exchange depended largely on the progress made by the institutions in dealing with scientific misconduct. In France, the National Network of Scientific Integrity Officers (RESINT) has recently developed a standardized protocol for the institutional handling of misconduct on the basis of which each institution is likely to communicate. However, this situation is far from being the global norm. In Germany, the participants agreed on the importance of promoting transparency, but they also stressed the need for organizations to agree on the same concept of transparency: “There needs to be an inter-institutional understanding of what the term ‘transparency culture’ means and implies. It would be counter-productive if this were addressed by individual institutions by themselves with each of them developing their own definition of it” (Germany, national report, p.12). But the issue of transparency is not always taken for granted. In Greece, participants felt that too much transparency could undermine trust in science: “The treatment of “offenders” was an issue that has also been discussed quite extensively. Most of the participants advocated for a more discrete, internal approach of such situations, focusing on precautionary measures, except for some extreme cases, in order not only to avoid “witch hunting”,

but mainly to protect trust in science as the public might make generalizations” (Greece, national report, p.7).

In summary, discussions on the three priorities highlighted the need for a balanced approach regarding the harmonization of codes, the improvement of research integrity training and the promotion of transparency in the handling of misconduct cases. Regarding the harmonization of codes (Id1), while some countries, such as Germany and Greece, saw harmonized codes as fundamental, others, such as France, stressed the importance of flexibility and the need for forums to share best practice at a disciplinary level. On training (Id2), there was broad consensus on its importance, but participants highlighted the difficulty of engaging senior researchers, who play a critical role in shaping institutional culture. Suggestions ranged from making training mandatory to adopting broader awareness-building initiatives that include the social role of science. Finally, on transparency (Id3), the discussions revealed significant differences in institutional progress. While countries such as France have developed standardized protocols, others expressed concerns about potential over-exposure and the risk of creating a 'witch-hunt' atmosphere.

3.2. Organization of Science

The priorities discussed in this thematic section focused in turn on administrative support (Id4_“Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management”), evaluation process (Id6_“In-depth revision of the performance evaluation system: Towards more qualitative measures”), autonomy of science (Id7_“Ensure science independence and develop public conversation about the private funding of universities and research organizations”) and professional protection (Id8_“Protect own members, and particularly scientists, from external attacks”). Section 4 below is dedicated to Id5 (“Encourage scientific institutions to address the organizational tensions, conflicting imperatives they contribute to generate”).

Regarding Id4, there is general agreement that administrative support for scientists should be increased. In Denmark, for example “several participants agreed that the current administrative research support available to researchers is insufficient, given the demands to ensure citizen inclusion, diversity, effective science communication and build international networks etc.” (Denmark, national report, p.9). In Germany, “Participants appreciated the idea of administrative support for researchers in their work. They saw this as the first priority when the objective of the recommendations was to improve scientific working conditions” (Germany, national report, p.14). In France, participants agreed on the idea that “researchers should benefit from more administrative

support. Some participants cited examples from abroad, where colleagues are provided with an assistant who relieves them of most of the administrative tasks, allowing them to concentrate on their research” (France, national report, p.15).

While there is consensus on the general value of this priority, a number of questions were raised. In Denmark, participants questioned the feasibility of such a priority. At a time when research budgets are under increasing pressure, is it realistic to request an increase in administrative support? Isn't there a risk that this priority will be immediately rejected for lack of budgetary realism? In both France and Germany, participants questioned the undesirable effects of increased administrative support. If such support were to be obtained, wouldn't it go hand in hand with a growing influence of administrative control or bureaucracy over scientific work? In Germany, the need for administrative support has also been linked to the lack of internal communication that is a feature of many scientific organizations: “(...) internal knowledge in institutions is related to particular persons but not transmitted formally. It is a challenge to know what kind of knowledge and resources already exists in large institutions and how to bring project knowledge and transfer centres together (...) According to participants, this does not work well because institutions are big and complex (Germany, national report, p.15). This comment can be interpreted as an incentive to replace the demand for increased administrative support with a demand for organizational effort focused on sharing information and available resources.

Regarding Id6, in many roundtables, the research evaluation system has been described as central issue. For most participants, part of the problem with the public image of the scientific community is directly or indirectly due to the importance attached to performance-based assessment in terms of publications and research contracts. In Germany, “participants agreed that revising the performance evaluation system would be the solution to many problems in the scientific system” (Germany, national report, p.12). In Portugal, “the concern about the excessive valorization of publishing scientific articles over other scientific outputs was a common theme in all participants’ discourse. They noted that this emphasis is ingrained in the mindset of researchers, institutions in general” (Portugal, national report, p.13). In Greece, participants consider that organizations should prioritize “qualitative criteria over quantitative ones, or at least a more balanced approach in the evaluation process” (Greece, national report, p.8).

The evaluation system issue seems to be central, both from the point of view of what it values, but also, and at least as importantly, from the point of view of what it fails to value. This point has been particularly discussed in Denmark, Germany and Spain : “Another key challenge identified is the current academic merit and assessment system, which, despite its variations, often fails to reward efforts related to research integrity, science communication, and public engagement in career advancement” (Denmark, national report, p.19); “Improve the career recognition of tasks developed and performed by professionals in Ethics Committees (Often the time dedicated to these institutional

tasks is not appropriately rewarded)" (Spain, national report, p. 9); "participants addressed the problematic system of tenure-track appointments in Germany. Here as well, the clear focus lies on the publication record and no recognition is offered for engagement in science communication for example" (Germany, national report, p. 13). The problem is not so much the somewhat systematic use of purely quantitative indicators, but rather the failure to take into account the different dimensions of scientific activity in its evaluation. How can scientists be persuaded to invest more in communication with the public or in participatory programmes if the evaluation system makes these activities invisible?

In addition, some participants, particularly in the French roundtable, pointed out that the institutions had made significant progress in recent years in diversifying evaluation indicators. However they also pointed that two new problems had arisen: on the one hand, understanding and mastering these new indicators, and on the other, the fact that, despite the indicators officially promoted by the institutions, scientists continued to use traditional evaluation criteria that they were officially supposed to abandon. It is therefore important to distinguish between the formal and informal dimensions of the scientific evaluation system and to take this distinction into account when formulating a recommendation: "calling for more qualitative measurement is not perceived [by the French participants] as necessarily the most useful thing to do at this stage. What does seem useful is, first and foremost, to support researchers in their use of qualitative measurement. It may also be useful to shift the recommendation from the formal dimension of evaluation, which has already been addressed, to the informal dimension of evaluation" (France, national report, p.15).

Regarding Id7 on the independence of science, while this issue is often seen as a central priority, its exact formulation has led to contrasting exchanges. In both Greece and Portugal, the question of the independence of science was addressed primarily through the potential conflicts of interests generated by private or industrial players : "Conflicts of interest were identified as a structural issue, and while there was some positive progress in the efforts to restrain such incidents, there was also some skepticism expressed by a good number of participants about the ability of research institutions to address in their entirety issues linked to the wider national or international social setting" (Greece, national report, p.11). One of the participants in the roundtable held in Portugal pointed out that very often "the subjection of researchers and research projects to private funding (...) is very close to greenwashing" (Portugal, national report, p.16).

However, for others, particularly in France and Germany, the issue of the independence of science must be addressed separately from the debate over research funding. In Germany, one participant observed that in this priority "a whole series of discussions are hidden, mixed in a rather unfortunate way. The first part is, I believe, uncontested. But what does this discussion about private funding mean? What is its purpose? Does it mean eliminating private sector involvement or ending third-party funding altogether? Where does political funding come in?" (Germany, national report, p.14).

The loss of independence can be just as much linked to the use of private funding as to the use by the State of calls for thematic projects. Similarly, the increase in participatory projects involving social stakeholders raises new questions about maintaining or weakening the independence of science. Even though many institutions tend to promote the development of participatory schemes, the social groups associated via these schemes are stakeholders like any others with their own distinct interests. Accordingly, there is still a lot to consider, not only how to develop innovative participatory systems, but also how to ensure that these schemes are not perceived as compromising the independence of science.

Regarding Id8 on the protection of scientists, the reception of this priority was again varied. In Germany, this priority was perceived as unquestionable but ultimately not very innovative, as it was already theoretically covered by the institutions. In Spain and Denmark, emphasis was placed on the need for protection of scientists working on controversial or highly politicized issues. In Denmark, “participants highlighted the challenges of conducting research in politicized fields such as gender, religion, climate, and migration, which often face external pressures and are mistrusted as purely activist. Proposed solutions included creating protective environments for researchers and developing shared institutional guidelines to resist such pressures” (Denmark, national report, p.19). In France, while participants stressed the importance of protecting scientists, they also wondered how this protection might be perceived by the general public and how research integrity might be used to discredit scientists in the eyes of their peers and the general public: “protection of scientists by their institutions is often misperceived and misunderstood by the general public. It is seen as a way of making scientists 'untouchable' in the face of possible suspicion. In addition, participants pointed out that research integrity has become a way of attacking scientists and sometimes forcing them to resign, as in the United States. Such a ‘weaponisation’ of research integrity in Europe in the coming years is undoubtedly to be expected” (France, national report, p.8). Anticipating these new instrumental uses of research integrity at the European level would undoubtedly be useful.

In summary, discussions in this section focused on improving administrative support (Id4), revising the evaluation system (Id6), ensuring scientific independence (Id7) and protecting researchers (Id8). Regarding Id4, there was broad agreement on the need for better administrative support to free researchers from bureaucratic burdens and allow them to focus on their work. However, participants expressed concerns about feasibility due to budgetary constraints and the risk of increased administrative control over scientific work. For Id6, while there was strong support for the inclusion of qualitative metrics, concerns were raised about the persistence of informal practices that continue to prioritize traditional, quantitative measures despite formal policy changes. For Id7, debates centered on conflicts of interest arising from private funding and participatory projects, highlighting the need for safeguards to ensure scientific independence. Finally, for Id8, the protection of scientists was seen as critical, especially for those working in politically sensitive areas. However, concerns

were expressed about the public perception of institutional protection and the potential misuse of research integrity to discredit scientists.

3.3. Social Integration

The four priorities discussed in this thematic section focused in turn on training scientists (Id9_“provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration”), designing appropriate research structures (Id10_“promote collaborative spaces and buildings: buildings should be designed and built to favour openness”), rethinking modes of social integration (Id11_“develop and consider new ways of consulting citizens at local and regional level”) and promoting scientific culture in school curricula (Id12_“Implement the inclusion of scientific knowledge in school curricula – the only moment in life when all societal groups can be reached simultaneously – but also foster life-long learning opportunities”).

Regarding Id9 and Id11, there was a fairly broad consensus on the need to develop real and innovative forms of public engagement and social integration. But it requires the implementation of training and awareness-building initiatives as scientists are described as very uneven in their degree of expertise and interest: “Training is seen as essential by the participants, as not all researchers are prepared for public engagement. As one participant put it: ‘We can’t have scientists who are experts in everything’. Training can be based, for example, on the principles of citizen science but should also focus on how to engage different audiences and address the communication of the uncertainty inherent in the scientific process” (Portugal, national report, p. 19). Beyond the need for such training, participants consistently emphasized the importance of promoting genuine and practical forms of social inclusion. They agreed that social inclusion should not be treated as a mere gesture of conscience or a token for promoting the democratization of science. Instead, a clear understanding of the conditions required for effective social inclusion is essential.

These conditions were discussed more specifically in Germany, and the following main conclusions can be drawn:

“First of all, integration should not be an end to itself. There needs to be a reflection on its objective, the impact one aims to achieve, and the overall question of when it makes sense to engage in social integration and when it does not. This applies both to whether it makes sense for researchers to engage in these activities as for citizens to participate in them. (...) The second important aspect of discussion across roundtables was the continuing lack of recognition for efforts in the field of social integration and science

communication. This aspect is strongly related to the necessary revision of the performance evaluation system. Funders were seen to be able to play a supportive role in this regard. However, without fundamental changes within the scientific system, these efforts can not to be sustainable. (...) Participants further underlined that building competences on planning and execute meaningful integration needs to come with some kind of quality control to ensure that such measures indeed have an objective, a clear target group, an idea about their impact. (...) The last crucial key word in regard to this recommendation was resources. As for many other aspects discussed during the roundtable, it was underlined that researchers, especially in third-party funded projects, are already supposed to do and take care of numerous things at the same time. When they do not invest in social integration or communication measures, this is often not (only) due to a lack of money according to the participants. It is because they do not have the time” (Germany, national report, pp.17-18).

While the id10 priority on opening up scientific infrastructures did not generally attract much attention from participants and did not seem to be a key prioritization, the priority Id12 on the place of scientific culture in in school curricula was frequently mentioned. Hence, there seem to be a broad consensus on the need to foster and increase interest in scientific culture among young people: “Participants agreed on the importance of cultivating interest and knowledge about science in school curricula, particularly to foster a democratic culture and critical thinking” (Denmark, national report, p.21); “participants agreed quickly that the implementation of scientific knowledge and scientific methods in school curricula had highest priority” (Germany, national report, p.16). However, most of the roundtables also stressed that the priority should potentially be extended to a wider audience than schools, and should focus less on the transmission of scientific knowledge and more on the transmission of the research process or, more generally, critical thinking: “Several participants emphasized that the public should be made aware of the scientific process—what it entails, the central role of uncertainty, and the importance of viewing this uncertainty in a positive light rather than negatively (...) researchers should also learn to communicate this uncertainty” (Portugal, national report, p.19); “participants were really convinced that the idea of teaching scientific methods in schools was really crucial to this recommendation” (Germany, national report, p. 17); “In terms of scientific literacy, participants stressed the importance of familiarizing the public not so much with the results of research, but with the research process itself” (France, national report, p.9); “Refer not just to scientific knowledge but also scientific culture, including an understanding of the inherent uncertainty of the scientific methods, and the principles of scientific perspectives and attitudes” (Spain, national report, p.10).

While there seems to be a consensus on the priority given to training and communication around the scientific method, some participants mentioned the importance of integrating perspectives from the history and philosophy of science into these approaches. In Greece, participants “referred to a study that has shown that students taking History and Philosophy courses are much less prone to any

pseudo-scientific views and have more confidence in science” (Germany, national report, p.10). Other participants, notably in Portugal, suggested extending the target audience for such actions to the various parties involved in scientific information, in particular science journalists: “participants mentioned that science journalists play a very important role in this relationship between scientific institutions and society and that such relationships should be worked on and explored for better communication from institutions to the media and public sphere” (Portugal, national report, p.20).

In summary, the discussions in this section focused on training scientists (Id9), designing open and collaborative research infrastructures (Id10), rethinking social inclusion (Id11) and promoting scientific culture (Id12). Participants broadly agreed on the need for innovative approaches to public engagement and social integration (Id 9 and 11), emphasizing that these efforts should go beyond symbolic gestures. However, challenges such as the lack of recognition for outreach efforts and resource constraints were highlighted. The priority to promote collaborative spaces and open research infrastructures (id10) generated limited discussion, suggesting that it was not considered a high priority. In contrast, Id12 on promoting a scientific culture in schools received a lot of attention. Participants stressed the importance of focusing not only on scientific knowledge but also on the process of research, including the role of uncertainty and critical inquiry.

3.4. Science Communication

The three priorities discussed in this final thematic section focused in turn on: combining mass communication with local engagement (Id13_“Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination”), mobilising the institutional mediators (Id14_“Use institutional communicators to make citizens aware of research in the early stages”) and changing the public discourse (Id15_“Avoid assuming a “crisis of trust”, it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided”).

These three priorities were the least well received by participants across all the roundtables. Regarding Id13, participants felt that the wording of the priority as it stood was not clear enough or mixed elements that were problematic on the one hand and too obvious on the other: “The wording of this recommendation was very confusing for participants (...) Beyond this first part of the recommendation, participants perceived the second part as a platitude: ‘It seemed to us like a self-evident requirement to communicate both globally and locally, that comprehensive participation and widespread dissemination are both goals that somehow coexist’” (Germany, national report, p.21). Regarding id14, the priority was perceived as too 'top-down', whereas the emphasis should be on

dialogue and reciprocity: “It is important to move beyond traditional models of communication and increasingly focus on early, continuous, relational communication that can address diverse publics to increase trust in science” (Denmark, national report, p.11). Some participants, particularly in France, “stressed the importance of fostering dialogue between institutional and non-institutional actors in order to better engage audiences currently outside the reach of traditional institutions. Such dialogue between institutional and non-institutional mediators is described as essential to improve public understanding of what science is and how it impacts on society” (France, national report, p.18).

Regarding id15, although participants clearly understood the importance of not artificially fueling the discourse of mistrust towards science, rather than banning one type of public discourse, they favored initiatives that provide regularly updated knowledge. In Germany, for example, “participants came up with the idea of a regular trust monitoring in the public, for example in form of a survey. Rather than just stating that there is no crisis of trust, they insisted that it would be important to actually be informed about what the public thinks. It was proposed that funding organizations should provide the resources for regular trust monitoring” (Germany, national report, p.23).

In summary, the communication priorities were less well received by participants, with significant concerns about their clarity and implementation. Regarding Id13, while there was agreement on the importance of combining global and local communication efforts, the recommendation lacked actionable guidance. Id14 was criticized as being too “top-down”, with participants emphasizing the need for reciprocal and relational communication strategies to build trust. With regard to Id15, participants suggested proactive initiatives such as regular monitoring of public trust to provide a data-driven understanding of public perceptions.

3.5. Other topics

The roundtables covered all of the planned topics, as well as a number of others, including:

- Open science: “The first theme that was missing in the current recommendations according to participants was the one of Open Science. Both smaller groups thought this to be part of the respective other groups’ recommendations – an indication that Open Science is an overarching theme, that cannot easily be broken down in one single dimension but needs to be regarded from a comprehensive perspective” (Germany, national report, p.24).
- Common good: “(...) when you talk about integrity on one side and social integration on the other, I think you need some sort of guiding concept to normatively structure it. And for me, in open, free, democratic societies, that concept can only be the common good” (Germany, national report, p. 24)

- Organizational communication: “It also has to do with the openness “within the walls” of Institutions, among researchers of different faculties, academics, and administrators, as a way for the Institutions to know their functions, their field and their mission and to ensure their unity towards common goals. The lack of communication between those channels was identified as a major issue in most of the Greek Institutions” (Germany, national report, p.8)
- Scientific role: “There is still a lot of educational work to be done to make the general public understand what a scientist is today. And to do this, we need strong communication about the scientific approach and role, regardless of the results” (France, national report, p. 9).

Note: Participants were given the opportunity to rank the priorities discussed during the roundtables. Where these rankings could be achieved, their full descriptions are available in the national reports.

4. About contradictory injunctions

A second phase of the roundtables was devoted to discussing organizational tensions or forms of ambivalence inherent to scientific organizations. The table 6 below lists some of the organizational tensions discussed by the participants in Denmark, France, Greece, Spain and United-Kingdom. In Germany, this issue of identifying internal tensions has been described as a major priority for all scientific institutions: “if the objective of the recommendations [is] to improve public trust in institutions directly, encouraging institutions to go through such a self-reflection process in a comprehensive way would have the highest priority (...)” (Germany, national report, p.15).

Only internal organizational tensions are considered in the table 6 below, i.e. those for which institutional stakeholders have a capacity for action. For a complete list of the tensions discussed, please refer to the national reports.

The list of injunctions discussed during the roundtables clearly shows the different dimensions that call for substantial organizational work. The lack of coherence or proportionality between institutional expectations and the resources provided is a recurring theme. For example, scientists are encouraged to train in integrity and participatory research and to develop communication activities with the public, but not only are the resources available to achieve these objectives limited, but these activities themselves are not generally integrated into career progression. This situation of dissonance can only lead to frustration or disengagement.

Country	Id	Topic	Description
Denmark	DK_1	Institutional expectations vs lack of support	“Several participants highlighted the tension between institutional expectations regarding research communication and the support researchers receive from their institutions. A science communication manager observed that many researchers feel isolated and underprepared to handle potential media storms, which leads to an unwillingness to engage in public discussions. The participant noted that their institution has implemented a help package to support those who are fearful of or have been significantly affected by media storms. However, obtaining support for research communication in general remains challenging due to a lack of institutional resources and limited staff”.
	DK_2	Sharing data vs narrow interpretation of GDPR	“Several participants also noted the tension between the desire to increase international research collaboration and establish shared research databases, and the restrictive interpretations of the General Data Protection Regulations (GDPR) in Denmark. It was further mentioned that sharing data between universities within Denmark can also be challenging” (...) participants emphasized a tension between the push for open science, on the one hand, and security issues and compliance with GDPR, on the other”.
	DK_3	Open science vs protection of research subjects	“(…) the contradiction between open data and the need to protect research and data subjects – for instance in qualitative research - was highlighted as a significant dilemma that occupies university research support staff”
	DK_4	Research evaluation vs social integration	“Several participants highlighted the tension between the desire for increased communication and citizen involvement and the lack of incentives for researchers to prioritize these activities”
France	FR_1	Open science policy vs professional norms	“(…) we've talked about citing or not citing or even subscribing or not subscribing to certain journals, but there is still an obligation for a researcher to cite previous work, even if it has been published in journals by X... you're required to cite it and to be able to cite it, you have to read it. So it's also a bit complicated as, let's say decisions, to say that you're not going to have a subscription with this or that publisher, even if they have other faults. Because if someone has written a very good article in a magazine published by X and I don't cite him even though he has an impact on what I'm writing about, that's not ethical either, or honest”.
	FR_2	Social integration vs research integrity	“I have noticed that, on the pretext of formalising the procedures for recognising the participation of partners (particularly, but not exclusively, private partners) in research projects, the agreements too often contain clauses that are abusive from the point of view of scientific integrity (...) Typical case: the clause stipulates that the partner must always be a co-author of the publications resulting from the collaboration, without requiring the partner to actually participate in the research and/or the manuscript (which amounts to guest or gift authorship)”
	FR_3	Public engagement vs neutrality	“Asking researchers to take responsibility and, on the other hand, asking researchers to be careful about their engagement and public expression (which can be a sign of responsibility towards those in political and socio-economic power).”
	FR_4	Excellence vs slow science	“On the one hand, a discourse on the search for excellence, competition at all costs, glorification of highly cited researchers, and on the other hand,

			recommendations to push for qualitative (rather than quantitative) assessments for laboratories, for recruitment, etc.”
Greece	GR_1	Excellence norms vs Social responsibility	“The hunting for publications (“publish or perish” culture was repeatedly mentioned) and funding which is fueled by the need of Institutions to reach higher rankings may lead not only to the direct undermining of the quality and integrity of research that is being produced, but also to the underestimation of the teaching work of the academic personnel, the production of obsolete knowledge irrelevant with the social needs and ultimately to the underestimation of their basic social responsibilities:
Spain	ES_1	Research evaluation vs research integrity	“(…) the following processes were identified as potentially conflicting with scientific, ethical or professional conduct: curricular evaluation policies that count and assign relevant weights to the number of published articles”
	ES_2	Private funding vs autonomy	“Funding policies (…) In cases of private funding there may be greater pressure for results. This may lead to presenting only those results that favour the interests of the parties directly involved”
United Kingdom	UK_1	Excellence expectation vs research integrity	“The problem of REF arises, when its implementation in the universities unsettles the RI practice and the PE activities, because of a goal conflict: REF seeks to establish a performance class ‘ranking’ for purposes of public funding allocation, whereas RI seeks to safeguard public trust.”

Table 6 – Contradictory injunctions discussed during the roundtables

Another recurring theme in the discussions is the paradoxical demands placed on scientists by their organizations: they are expected to maximize efficiency in terms of production and funding applications while simultaneously engaging in activities (training, public engagement, etc.) that inherently reduce the sought-after efficiency. They are encouraged to support open-access policies by abandoning leading scientific journals that do not comply with these standards, yet they must also maintain competitiveness and alignment with the international state of the art.

Finally, the discussions often highlighted the contradictions inherent in the scientific community. Researchers are often quick to adapt to the general principles put forward by their organizations, but slower to put them into practice. While qualitative and alternative assessment indicators are generally supported by international agreements, it is not uncommon for scientists not to know how to interpret these indicators and are therefore encouraged to revert to using more traditional indicators. This creates a significant gap between what scientists should be doing and what they are actually doing.

5. Concluding remarks

This global report presents the main findings of the roundtables organized by the partners of the POIESIS project as part of its WP3. This work package examines how institutions promote, support or hinder responsible research practices and how public recognition of these practices influences trust in science. The roundtables provided an opportunity for deeper reflection and served as a platform to validate the priorities identified in the focus groups. In particular, they highlighted the need for institutions to take a reflexive approach to identifying and mitigating, as far as possible, the conflicting demands they place on researchers, whether deliberately or not.

Each roundtable highlighted the main priorities of the participants and the challenges they face. In Denmark, the focus was on social inclusion, with an emphasis on citizen participation in the research process and on fostering early curiosity and scientific literacy through school curricula. In France, the independence of science emerged as a critical issue, both for its role in shaping the public image of science and for its importance to scientists themselves. This concern is heightened by the increasing reliance on foundations to attract private funding from investors seeking tax advantages. In Germany, participants emphasized the need for clear national and European guidelines on good scientific practice as a cornerstone of research integrity. An assessment of the performance evaluation system was also identified as a key solution to address systemic challenges in the scientific community. In Greece, stricter enforcement of the Code of Conduct and modernization of the research framework were seen as solid foundations for further progress, along with the integration of research methodology courses in all postgraduate programs across disciplines and universities. In Portugal, discussions focused on innovative ways to engage the public in science, including the role of institutions in creating dedicated spaces, preparing researchers for public engagement, and strengthening collaborations with journalists, municipalities, and local communities. Taken together, these priorities and insights reflect the diverse concerns of participants and the multifaceted nature of the challenges ahead.

Beyond individual national examples, several cross-cutting insights emerged, which are crucial to informing and shaping the work that lies ahead:

- **Consensus is not given:** insofar as the majority of roundtables participants had the opportunity to take part in the earlier phase of WP3, it was to be expected that the priorities identified would be the subject of a relatively consensual reception. However, this was not always the case. There was still a degree of heterogeneity in the way the priorities were received, both between participants at the same roundtables and between the different

roundtables. A priority that appeared to be important in one case was not always considered as such in another context.

- **Translating priorities into recommendations:** while participants were invited to discuss the implementation of the priorities and the institutional difficulties likely to be encountered, a significant part of the discussions focused on the intrinsic value of the various priorities and how they could be formulated as recommendations. Participants were sometimes critical of the exact wording of the priorities.
- **Double-edge argument:** anticipating both the potential use and misuse of the priorities emerged as a central theme in the roundtable discussions. Participants highlighted that translating each priority into a policy recommendation carries the risk of different interpretations and applications. For example, while an increase in administrative support is widely seen as necessary, it also raises concerns about the potential for greater administrative control over scientific activities. Similarly, efforts to harmonize codes of conduct are seen as valuable tools for managing cases of misconduct, but they risk imposing a technocratic approach to research integrity. The final wording of any recommendation will require careful consideration of such ambivalence, ensuring a nuanced formulation that avoids oversimplification and takes full account of its wider implications.
- **Expected qualities:** discussions among participants helped to identify several key qualities that any recommendations should illustrate: a) they should be clearly linked to specific objectives; b) they should avoid merely paraphrasing existing recommendations; c) they should be targeted at easily identifiable groups; d) they should be actionable, leading to tangible and concrete results; and e) they should be realistic and adaptable, in line with available resources and the context in which they are to be implemented. While this is not an exhaustive list, it provides a good basis for further reflection and will undoubtedly inform the next steps of the project.

In summary, the roundtable discussions have highlighted the complexity and nuance required to translate identified priorities into actionable policy recommendations. While the common insights and goals identified with the focus groups were frequently, but not always, confirmed by the roundtables, the diversity of perspectives and contexts underscores the need for a flexible and context-sensitive approach.

APPENDIX

Annex A – List of participants

Denmark

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
P1.1	F	Senior	Manager	Hospital Research Support Unit
P1.2	M	Senior	Research administration consultant	Think tank
P1.3	F	Senior	Manager	RFO
P1.4	M	Senior	Science communication consultant and facilitator	Own company
P1.5	F	Senior	Communication manager	RPO
P1.6	F	Senior	Research consultant	RPO
P2.1	F	Senior	Manager	RFO
P2.2	M	Senior	Manager	RFO
P2.3	M	Senior	Consultant	RPO
P2.4	M	Senior	Diversity consultant	Own company
P2.5	F	Senior	Communication consultant	RPO
P3.1	F	Senior	Project manager	Private organization involved in public engagement in science
P3.2	M	Senior	Manager	Library
P3.3	F	Senior	Associate professor, responsible conduct of research teacher	RPO
P3.4	M	Senior	Communication manager	RPO
P3.5	F	Senior	Consultant	Library

France

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
R_P1	F	Mid	Research integrity officer	RPO
R_P2	F	Mid	Research integrity officer	RPO
R_P3	F	Mid	Open science and science dissemination officer	RPO (University)
R_P4	F	Senior	Head of a national network of integrity officers	RPO (University)
R_P5	M	Early	Open Science liaison officer	RPO
R_P6	M	Senior	Research advisor of national association of universities	RPO (University)
R_P7	M	Senior	Research integrity officer	RPO (University)
R_P8	F	Mid	Research integrity officer	RPO

R_P9	M	Senior	Science communicator and research integrity officer	Hospitals
R_P10	M	Mid	Science for society officer	RPO
R_P11	M	Senior	Former chairman of the scientific council of the french office for scientific integrity	RPO
R_P12	F	Mid	Responsible for public debate in a national commission	Independent national commission

Germany

Participant Id.	Gender	Career stage (early, mid, senior)	Field	Institution
R_P1	Female	Senior	Communication	University
R_P2	Female	Senior	Communication	University
R_P3	Female	Senior	Communication	Non-University Research Centre
R_P4	Female	Senior	Communication	Non-University Research Centre
R_P5	Female	Mid	Communication	University
R_P6	Female	Mid	Good Scientific Practice	University
R_P7	Female	Senior	Good Scientific Practice	University
R_P8	Male	Senior	Good Scientific Practice	University
R_P9	Female	Senior	Good Scientific Practice	University
R_P10	Female	Senior	Good Scientific Practice	University
R_P11	Female	Mid	Good Scientific Practice	Research consortium
R_P12	Male	Mid	Research funding organisation	Foundation
R_P13	Female	Mid	Research funding organisation	Non-profit organisation
R_P14	Male	Senior	Research funding organisation	Foundation
R_P15	Female	Mid	Research funding organisation	Foundation
R_P16	Male	Mid	Research funding organisation	Federal ministry

Greece

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
Participant 1	M	Senior	Responsible for Communication	Democritos Research Center
Participant 2	M	Senior	Professor	NKUA
Participant 3	M	Senior	Professor/Archimandrite	NKUA/Church of Greece
Participant 4	M	Senior	Association President	Medical Law and Bioethics Association
Participant 5	F	Senior	Lecturer/Head of private housing prevention and legal consultant (France)	University in France
Manolis Patiniotis	M	Senior	Professor	NKUA
Participant 7	M	Senior	Professor	NKUA

Participant 8	M	Senior	Science Communicator (novel technologies)	Research Performing Organisation (publicly funded)	
Participant 9	M	Senior	Librarian	NTUA	
Participant expert	10/local	F	Mid	Creative Science Communicator	University in South Wales (UK)

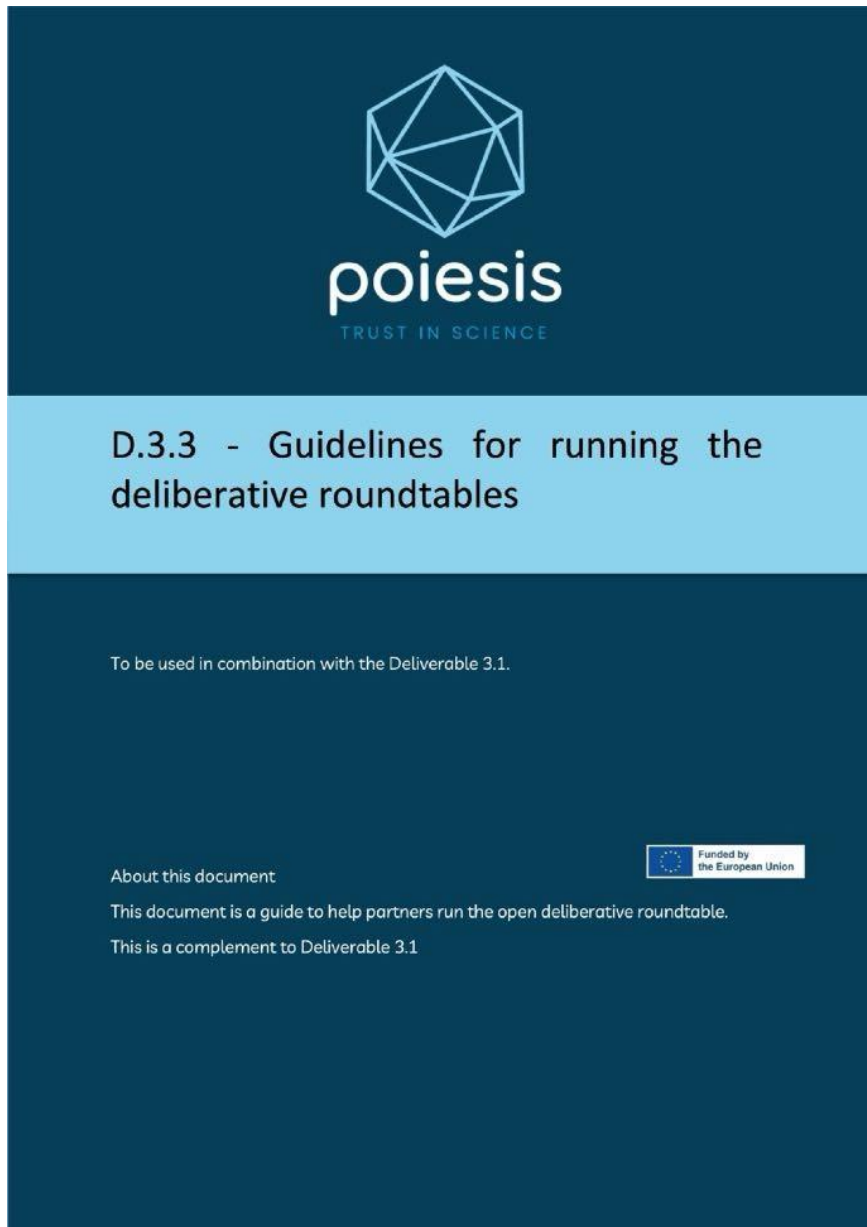
Portugal

Participant Id.	Gender	Career stage	Position	Institution
01	Female	Senior	Coordinator Citizen Science Project	RPO
02	Female	Senior	Researcher	RPO
03	Female	Mid	Research Manager	RPO
04	Female	Senior	Head Communications, Events & Outreach	RPO
05	Female	Junior	Co-founder and co-director	Non-profit initiative for science democratization
06	Male	Mid	Communication office	RPO
07	Female	Junior	Scientific illustrator and designer	Freelancer
08	Female	Mid	Marketing and Community Outreach Officer	Research infrastructure
09	Female	Senior	Project Manager	European Project
10	Female	Mid	Research Support Officer	RPO
11	Female	Mid	Science Communicator	RPO
12	Female	Senior	Science Communicator	RPO
13	Female	Junior	Communications Trainee	European Laboratory
14	Female	Senior	Consultant in communication	Freelancer

United Kingdom

	Gender	Institution
1	M	University of Bristol
2	F	University of Bristol
3	F	University of Bristol
4	M	University of Bristol
5	M	Loughborough
6	M	Brunel
7	F	Sci Comm
8	F	LSE
9	F	LSE
10	F	LSE
11	M	LSE
12	M	LSE
13	M	LSE

Annex B – Guidelines for running the deliberative roundtables



About WP3

The overall goal of WP3 is to conduct participatory research with institutional stakeholders, ultimately generating insights and policy recommendations on how institutions can facilitate the establishment of conducive environments for responsible research practices.

WP3 is primarily designed to address this general research question: To what extent and how can institutions provide policies and procedures that enable researchers to act in ways that are conducive to public trust in science?

The questions or themes aligned with this question can be categorized into two primary groups: firstly, those pertaining to perceptions and attitudes, and secondly, those associated with actions and priorities.

Perceptions and attitudes: How do institutional stakeholders perceive, globally and locally, the level of public trust in science and technology and its implications? How do institutional stakeholders perceive the culture of research integrity and social integration in their own institutional and national environment?

Actions and priorities: To what extent do institutional stakeholders consider that responsible research practices and social integration could be fostered by institutional governance arrangements and policy environments? What kind of institutional governance arrangements and policy environments should be considered as key priorities?

WP3 is divided into two main segments: 1) focus group and 2) public deliberative roundtable. **This document exclusively addresses the segment of the public deliberative roundtable.** For more information on the focus groups segment of WP3, please refer to document D.3.2. “Focus groups – findings. Exploring the institutional roles in fostering public trust in science”.

OBJECTIVES

A public deliberative roundtable is a qualitative methodology used in social sciences, particularly in sociology, designed to facilitate open, inclusive, and structured discussions among a diverse group of participants.

Most of the time, this methodological step comes after the individual interviews or the focus groups⁵. If the setting up of the focus groups is designed to ensure a balance between homogeneity and inter

⁵ Evans R., Kotchetkova I. “Qualitative research and deliberative methods : promise or peril?”, *Qualitative research*, 2009, DOI: 10.1177/1468794109343630

and intra diversity of the participants, the deliberative roundtable aims to decompartmentalize the collective discussions and to bring together different stakeholders, regardless of their institutional functions, affiliations, or experiences.

The overall objective of a deliberative roundtable is to work toward a shared understanding or agreement on complex issues. While consensus is not always achieved, the process encourages participants to engage in critical reflection and compromise. It provides an opportunity to gather a diversity of stakeholders with the general objective to produce “reasonable, well-informed opinions in which participants are willing to revise preferences in light of discussions, new information, claims made by fellow participants”⁶.

More precisely, the deliberative nature of the roundtable refers to different dimensions:

- **Solid informational background:** asked to make a decision or to reach a consensus regarding institutional arrangements or procedures to improve research integrity, social integration or public trust in science, institutional participants should be in the situation to make informed choices, i.e. based on robust information.
- **Priority to interaction and open dialogue:** the various priorities and choices made about how to improve research integrity, social integration and public trust should be reached through public discussions

As an extension of the focus groups stage presented in D.3.2, the deliberative roundtables will allow to address a range of issues :

- what are the main policies and institutional procedures experienced or known by the participants to act on public trust given to science?
- which procedures or decisions could be consider enabling researchers to act in ways that are more conducive to public trust in science?
- What difficulties are associated with implementing these procedures or decisions?
- How are these difficulties likely to be resolved?

The aim of the roundtables will be to investigate how face-to-face interaction between institutional stakeholders belonging to different professional environments could influence the kinds of discussion that take place and the kind of decisions that could be made. It can be expected that

⁶ Fagotto, E. and Fung, A. (2014). Embedding public deliberation in community governance. In *Varieties of Civic Innovation: Deliberative, Collaborative, Network, and Narrative Approaches*, Girouard, J. and Sirianni, C. (eds). Vanderbilt University Press, Nashville.

diversity among the deliberative roundtables participants may contribute to generate an original type of qualitative data.

PARTICIPANTS AND RECRUITMENT STRATEGY

Conducting a deliberative roundtable generally involves recruiting between 15 and 20 participants max.

Compare to other deliberative events such as citizen juries or public forum, this limited scale has a number of advantages: it allows a variety of perspectives to be brought together while ensuring that everyone has the opportunity to express their personal views. It also allows the moderator to keep a certain amount of control over the discussions.

Each national partner is responsible for recruiting participants for the roundtables. They could solicit the co-investigators involved in WP3 focus groups segment: 24 co-investigators have agreed to work with the poiesis project. They could also recruit the participants within the focus group: more than 130 individuals agreed to take part. This makes a total of more than 150 individuals likely to be invited in the 7 deliberative roundtables.

Country	Co-investigators	Focus groups participants
Denmark	3	18
France	3	16
Germany	4	18
Greece	4	17
Portugal	3	20
Spain	3	16
United Kingdom	4	26
	24	131
		n=155

Institutional stakeholders who have not had the opportunity to take part in the focus groups segment may also be approached. In this case, it will be necessary to keep in mind the general principle that these participants should belong to one of the two following groups:

- Institutional actors related to research integrity: leaders and managers in research performing organisations and research funding organisations, editors of peer-reviewed

journals and members of the committee on publication ethics, research integrity officers, R&I policy makers, etc. ;

- Institutional actors related to social integration: open science policy advisers, communication and outreach officers in research performing organisations and research funding organisations, press officers, etc.

Since, in this second case, the degree of prior information may be different depending on the participants' previous level of involvement, it will be necessary to plan a minimum transmission of information during the first part of the roundtable.

Finally, even if task WP3 is specifically dedicated to the production of institutional recommendations, it would seem appropriate for each partner to take into account the list of experts solicited for task 2.3 (see D.2.3 Expert interviews – Findings): 78 mediators, both institutional and non-institutional, and 41 researchers were involved in this task. Institutional mediators appear to be potential contacts for the roundtable.

To ensure the best possible selection of participants, the partners should keep in mind that the general aim of the deliberative roundtables is to open up discussions. As far as possible, therefore, preference should be given to a diverse profile of participants, avoiding bringing together in the roundtable representatives of the same professional role, such as scientific integrity officers or press officers for example. A balance will have to be found, for example by retaining only a limited number from each professional group.

Materials for the roundtable

The materials used for the events should be informed by the findings of the focus groups, targeting specifically relevant aspects of integrity, social integration and public trust for institutional stakeholders.

In particular, **the various key institutional priorities that emerged from the focus groups should be used as element of collective discussion**. Document 3.2 highlighted the following 15 priorities organized below in four sections : research integrity, organization of science, social integration and science communication.

Topic	Institutional Priority
Research integrity	- Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries

	<ul style="list-style-type: none"> - Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution - Ensure a culture of transparency regarding the institutional handling of misconduct
Organization of science	<ul style="list-style-type: none"> - Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management - Encourage scientific institutions to address the organizational tensions, conflicting imperatives they contribute to generate - In-depth revision of the performance evaluation system: Towards more qualitative measures - Ensure science independence and develop public conversation about the private funding of universities and research organisations - Protect own members, and particularly scientists, from external attacks
Social integration	<ul style="list-style-type: none"> - Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration - Promote collaborative spaces and buildings: buildings should be designed and built to favour openness; - Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups ; - Implement the inclusion of scientific knowledge in school curricula – the only moment in life when all societal groups can be reached simultaneously – but also foster life-long learning opportunities in this regard
Science communication	<ul style="list-style-type: none"> - Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination - Use institutional communicators to make citizens aware of research in the early stages - Avoid assuming a “crisis of trust”, it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided

It would also be interesting to get the participants to react to the **empirical material collected during the previous phase of WP3, the interviews and their transcriptions**. In particular participants should be encouraged to consider how they can have an impact on their own organisation, and the difficulties they may encounter in doing so.

In D3.2 we emphasized that several focus groups participants, particularly from Germany, France, and the UK, underscored the tensions, **the conflicting expectations or injunctions that scientists face through their professional endeavors**. For example, scientists are frequently asked to be ever more specialized in their field of research, but also to be ever more capable of communicating to an ever wider public. Scientists are asked to give up publishing in prestigious journals with a high impact factor, while at the same time asked to submit applications to European funding agencies, which presuppose a highly competitive publication record, and so on. But all the tensions and contradictions are not always so visible, in participants views. Therefore it seems useful to get the roundtable participants to reflect on the nature of these contradictions, using interview extracts as a starting point.

OVERVIEW OF THE EVENT

The deliberative roundtable will be held over half a day. The program will be composed approximately as follows:

- **1pm - 1:30pm / Plenary session (15-20 max):** POIESIS presentation and how the deliberative roundtable will work
- **1:30pm – 2:15pm / Group sessions (3 or 4 groups)** Recommendations identified so far within WP3 can be grouped under 4 topics : research integrity, organization of science, social integration and science communication. **Groups are designed to reflect on the scope and difficulty of implementing the recommendations identified during the focus groups**. The groups are also used to identify potentially new recommendations. Each group can discuss a given topic based on a set of questions.

Group 1a) Research integrity	Group 1b) Organization of science
Initial recommendations. <ul style="list-style-type: none"> • Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries 	Initial recommendations. <ul style="list-style-type: none"> • Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management

<ul style="list-style-type: none"> • Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution • Ensure a culture of transparency regarding the institutional handling of misconduct <p>Guiding the discussion</p> <ul style="list-style-type: none"> - How can institutions ensure that research integrity guidelines are not only clear but also consistently applied across different countries and institutional cultures? - What should be the core components of research integrity training, and how can we ensure these programs are adaptable to new challenges as science evolves? - What are the best strategies for fostering a culture of transparency when dealing with scientific misconduct, and how can institutions maintain trust throughout this process? 	<ul style="list-style-type: none"> • In-depth revision of the performance evaluation system: Towards more qualitative measures • Ensure science independence and develop public conversation about the private funding of universities and research organisations • Protect own members, and particularly scientists, from external attacks <p>Guiding the discussion</p> <ul style="list-style-type: none"> - What types of administrative support do researchers need most, and how can institutions ensure that these services are efficient and accessible throughout the research process? - What specific qualitative measures could be introduced into performance evaluation systems to better reflect the broader contributions of scientists beyond publications and grants? - How can institutions maintain scientific independence when they receive private funding, and what safeguards should be put in place to avoid conflicts of interest?
<p>Group 2a) Social integration</p> <p>Initial recommendations</p> <ul style="list-style-type: none"> • Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration • Promote collaborative spaces and buildings: buildings should be designed and built to favour openness; • Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups ; • Implement the inclusion of scientific knowledge in school curricula – the only moment in life when all societal groups can be reached simultaneously – but also foster life-long learning opportunities in this regard <p>Guiding the discussion</p> <ul style="list-style-type: none"> - What types of training and resources are necessary for scientists to effectively engage in social integration? - How can the design of physical spaces within scientific institutions encourage more collaboration, openness, and interdisciplinary work among researchers? - How can institutions ensure that citizen consultations, such as assemblies, represent diverse voices ? - What steps should be taken to integrate contemporary scientific knowledge into school curricula? 	<p>Group 2b) Science communication</p> <p>Initial recommendations</p> <ul style="list-style-type: none"> • Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination • Use institutional communicators to make citizens aware of research in the early stages • Avoid assuming a “crisis of trust”, it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided <p>Guiding the discussion</p> <ul style="list-style-type: none"> - What strategies can be implemented to ensure that scientific communication is relevant and impactful at both the local and global levels? - What role should communicators play in shaping public perception and understanding of ongoing research ? - What alternative language or concepts could be used to discuss the current state of public trust in science, without reinforcing the idea of a "crisis"?

For each group at the end of the discussion, ask participants to rank the WP3 institutional priorities.

- **2:15pm – 2:45pm (Plenary session) - Collective review of outputs from session1** - This section should highlight the difficulties likely to be encountered in implementing the recommendations identified as priorities. It can also be an opportunity to discuss the participants' intention to adopt the priorities identified during the discussion.
- **2:45pm – 3:00pm — Break**
- **3:00pm – 3:45pm Group sessions**

(...) That's the institution's job, to work in all areas of the institution to limit tensions. Whether it's evaluation processes, recognition processes, human resources support for groups... that's the job I've given myself (...) to work with all the departments in the institution to track down all the places where their processes could come into conflict with scientific integrity, ethics and professional conduct. And that's really the job of the institution. So the outside world is what it is, we don't necessarily have any control over it (...) but what we do have control over, and by that I mean our institutions, is to build an environment within the institution that is as favorable as possible, as conducive as possible, and therefore as free from paradoxical injunctions as far as values are concerned. (France, FG2_2)

The extract from the WP3 focus group should be used as a starting point for discussion between the participants: This extract emphasizes the institution's role in identifying and resolving conflicts between processes (like evaluation and recognition) and the values of scientific integrity and ethics. Ask participants to comment on the extract. Ask participants to consider whether the recommendations previously identified are not in contradiction with the principles and rules at work in their organization. If this is the case, participants will be asked to suggest ways in which they can positively address this tension or contradiction. Use freely the following moderator guide to stimulate the discussion:

Q.1 What are some examples of institutional processes (e.g., evaluation, funding, human resources) that might conflict with scientific integrity, ethics, or professional conduct? Examples that can be used for discussion: 1) Scientists are often required to publish in high-impact, prestigious journals to advance their careers and secure funding. At the same time, they are encouraged to support open science initiatives, which may not align with these traditional metrics of success. 2) Scientists are expected to maintain academic independence and integrity, yet they are often encouraged (or required) to collaborate with industry for funding, practical application, and innovation, which can lead to potential conflicts of interest. 3) The scientific community values groundbreaking innovation, but the process of rigorous peer review and replicability can slow down the dissemination of

innovative findings, especially during crises (e.g., COVID-19 research). 4) Researchers are encouraged to be transparent and open with their data and methodologies to build public trust and ensure scientific integrity. At the same time, they may need to protect intellectual property (IP) to secure patents and commercialize their research. 5) Scientists are expected to maintain objectivity and neutrality in their research, but many are increasingly called upon to take advocacy positions on urgent issues like climate change, where inaction could have dire consequences.

Q2. The extract suggests that while institutions cannot control external pressures (e.g., from funders, governments, or public opinion), they can shape their internal environment. How can institutions better protect scientists from these external pressures while still maintaining high standards?

Q3. What should institutions prioritize when external demands (e.g., competitive grants, rapid publishing) conflict with internal commitments to ethical research practices?

Q4. What types of mentorship or training programs could institutions provide to help early career scientists navigate the pressures of ethical conduct versus institutional expectations?

Q5. How can institutions measure their success in creating an environment free from paradoxical injunctions? What indicators should be used to track progress in aligning institutional processes with scientific integrity and ethics?

- **3:45pm – 4:15pm / plenary session. Collective review of outputs from group session.** This section should focus on the difficulties likely to be encountered in limiting contradictory injunctions and how to resolve them, based on the recommendations discussed above.
- **4:15pm / plenary session. Reflections on session 1 and 2 by an expert witness** (it is possible to select an expert who has not been involved in the previous stages of the project)
- **5:00pm. Closing event - wine reception**

Data analysis

The data produced during this task are of two types:

- Exchanges between participants
- Priority ranking

The rankings will be compiled in an Excel spreadsheet.

All discussions (plenary and mixed groups sessions) will be recorded and transcribed the national teams. Data coding will be done through computer-assisted qualitative data analysis software (CAQDAS/NVivo) by each partner. We will favor the use of software that allow collaborative coding work online (for ex. Nvivo©).

Just like for the focus group, the coding guide distinguish between sociological notions or concepts - perception, attitude, factor, reasons and recommendations - on the one hand, and empirical dimensions or empirical objects associated with the use of sociological notions - science, trust, integrity, integration or institutions - on the other. The result is a theoretical matrix containing 25 possible codes.

	Science	Trust	Integrity	Integration	institutions
Perception	1	2	3	4	5
Attitude	6	7	8	9	10
Factor	11	12	13	14	15
Rationale	16	17	18	19	20
Recommendations	21	22	23	24	25

This coding approach consists of covering a set of links between sociological concepts and various empirical dimensions, but apart from the fact that not all the codes may have the same probability of being used, the qualitative material may go beyond this matrix in one way or another. It is therefore essential not to have too rigid a vision of this matrix and to add specific codes if necessary, depending on the qualitative material obtained. A

Of course, **given that this task focuses on the question of institutional priorities, the partners are expected to pay particular attention to identifying and coding recommendations. It will also be important to code the practical dimensions associated with these recommendations, the difficulties likely to be encountered and the willingness of participants to act on their own institutions.**

Each partner will be able to conduct the analysis of the content of their roundtable and write a detailed report on the main findings. Just as for the focus groups, the WP leader will integrate all these national reports into one final across-case analysis and deliverable. This final document will be an opportunity to highlight the similarities but also the differences according to the institutional actors enrolled in the research process, as well as the national contexts.

Ethical considerations

We do not expect any potentially critical ethical implications of the research results with regard to human dignity and integrity, or privacy of the participants. There is a limited risk of discovering sensitive information related to institutional handling and management of research integrity. In the consent form, participants will agree to maintain the confidentiality of the information discussed.

The informed consent form will clearly state that the participants give their consent to participate by signing the form. Prior to the roundtable, participants will receive an information letter detailing the objectives of the project and information regarding methodologies, voluntariness, processing of personal data etc.

Annex C – Participation information notice



Participant Information Notice Deliberative Roundtable

Probing the impact of integrity and integration on societal trust in science

POIESIS PROJECT

POIESIS consortium. POIESIS is a research consortium of seven partners: Aarhus University (Denmark), London School of Economics and Political Science (United Kingdom), Wissenschaft im Dialog (Germany), National Technical University of Athens (Greece), Centre National de la Recherche Scientifique (France), Isete – Instituto Universitário de Lisboa (Portugal), Agencia Estatal Consejo Superior de Investigaciones Científicas (Spain)

POIESIS funding: The POIESIS project is funded with a grant from the European Commission (EC) coordinated by the Aarhus University. Grant agreement number: 101057253.

POIESIS IN FRANCE

This project is conducted in France by Michel Dubois, CNRS senior researcher and director of the GEMASS (CNRS – Sorbonne University) and Catherine Guaspere, CNRS Engineer and member of the GEMASS lab.

GENERAL OUTLINE OF THE PROJECT:

The POIESIS project aims to study the relationship between trust, science and research integrity and integration practices in a world where there is increasing need for clear and open scientific information. We aim to run a series of deliberative roundtables including various institutional stakeholders to collect their views on scientific integrity, trust in science and scientific institutions.

Use of Data: Data collection will take the form of audio recording. The discussions will be audio recorded for exclusive use by the researchers. They will not be placed on a public platform. Recordings will be transcribed and anonymized for analysis.

PURPOSE OF THE DELIBERATIVE ROUNDTABLE:

The purpose of this deliberative roundtable is to gather diverse perspectives and opinions on how integrity of researchers and scientific institutions and integration of the public in research affect public trust in science. Your participation in the study is highly valued as it will contribute to the advancement of knowledge in this field of science. Your insights and experiences will contribute to the overall understanding of the issue.



WHAT PARTICIPATION INVOLVES:

Participation in the deliberative roundtable involves attending a half a day session. During this time, you will be asked to share your thoughts, feelings, and experiences in relation to the topic at hand. The discussions will be audio recorded.

Your participation is voluntary. You can end your participation at any moment during the event. You may at any time demand removal of your data by a simple request to the coordinator of the study (Michel Dubois – michel.dubois@cnsr.fr). However, data that have already been published, cannot be removed.

CONFIDENTIALITY:

We value your privacy and assure you that all information shared during the deliberative roundtable will be kept confidential and anonymous.

The partners in the POIESIS consortium share the responsibility for the processing of your personal data that are collected and processed exclusively for the purposes of the study, legally based on Article 6(a) of the General Data Protection Regulation (GDPR). A joint Data Controller Agreement was signed by all partners.

The study is conducted by Michel Dubois (CNRS GEMASS), who you may contact to clear up any doubts, share comments or exercise your rights in relation to the processing of your personal data. You may use the contact indicated above to request access, rectification, erasure or limitation of the processing of your personal data.

RISKS AND BENEFITS:

There are no significant risks involved in participating in this deliberative roundtable. Your participation will contribute to the wider research on this topic and may lead to improved policies, understanding, or services.

EXPENSES:

The participants will be reimbursed by the project for any travel costs associated with taking part in the deliberative roundtable.

Project website: More information about this project is available in the project website: www.poiesis.eu

Annex D – Consent form



CONSENT FORM DELIBERATIVE ROUNDTABLE

Dear Participant,

This form is to seek your agreement to participate in a deliberative roundtable for the European Project POIESIS funded by European Commission under the programme Horizon Europe (HORIZON-WIDERA-2021-ERA-01).

Please read the details provided and confirm your consent by signing at the end.

PURPOSE OF THE DELIBERATIVE ROUNDTABLE:

The purpose of this deliberative roundtable is to gather diverse perspectives and opinions on how integrity of researchers and scientific institutions and integration of the public in research affect public trust in science. Your participation in the study is highly valued as it will contribute to the advancement of knowledge in this field of science. Your insights and experiences will contribute to the overall understanding of the issue.

WHAT PARTICIPATION INVOLVES:

Participation in the deliberative roundtable involves attending a half a day session. During this time, you will be asked to share your thoughts, feelings, and experiences in relation to the topic at hand. The discussions will be audio recorded.

CONFIDENTIALITY:

We value your privacy and assure you that all information shared during the deliberative roundtable will be kept confidential and anonymous. The partners in the POIESIS consortium share the responsibility for the processing of your personal data that are collected and processed exclusively for the purposes of the study, legally based on Article 6(a) of the General Data Protection Regulation (GDPR). A joint Data Controller Agreement was signed by all partners.

In France, the study is conducted by Professor Michel Dubois, CNRS (michel.dubois@cnrs.fr) who you may contact to clear up any doubts, share comments or exercise your rights in relation to the processing of your personal data. You may use the contact indicated above to request access, rectification, erasure or limitation of the processing of your personal data.

The aggregated results of the questionnaires and the transcripts will be shared with the partners within the POIESIS consortium, one of which is located in the United Kingdom, where there is an adequacy decision by the European Commission, and as such implements protective measures and guarantees your rights just like the European Union.



RISKS AND BENEFITS:

There are no significant risks involved in participating in this deliberative roundtable. Your participation will contribute to the wider research on this topic and may lead to improved policies, understanding, or services.

RIGHT TO WITHDRAW:

Participation in this deliberative roundtable is entirely voluntary. You have the right to withdraw at any point during the discussion, or even after the discussion, without any consequences.

EXPENSES:

All expenses associated with your participation will be fully covered by the project.

If you agree to participate in the deliberative roundtable for the European Project POIESIS funded by European Commission under the programme Horizon Europe (HORIZON-WIDERA-2021-ERA-01), please sign below.

« I declare that I have understood the aims of what was proposed to me, as explained by the investigator, that I was given the opportunity to ask any questions about this study and received a clarifying reply to all such questions. I accept participating in the study and consent to my personal data being used in accordance with the information that was given to me. »

Yes No

(Local), ___/___/2024

Name: _____

Signature: _____

Annex E – National Reports



poiesis

TRUST IN SCIENCE

National Report: Deliberative roundtable - *Denmark*

Project title: Probing the impact of integrity and integration on societal trust in science

Project acronym: POIESIS

Grant Agreement no.: 101057253

Lead partner for this deliverable: Centre national de la recherche scientifique (CNRS)

Authors: Mariam Molavyzada and Tine Ravn

Date: December, 2024



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1 Introduction

The POIESIS project examines the relationship between research integrity, societal integration, and trust in research, including the role of various institutions related to research, innovation, communication, and funding in promoting a research climate conducive to societal trust in science. The project conducts a wide range of empirical studies involving various stakeholders.

This report summarises the results of the Danish roundtable workshop. A workshop is held in each of the seven POIESIS project countries as a follow-up to previously conducted focus group interviews (see Dubois, 2024). The main objective is to identify various perspectives and attitudes regarding how research integrity and citizen involvement impact public trust in research, as well as how responsible practices can be designed and implemented. In addition, the workshop aims to present the national and European results and recommendations from the focus group study and to further discuss and validate their institutional relevance and potential for implementation.

The workshop participants include institutional stakeholders, many of whom have previously participated in the focus group study. All are involved in various ways with research integrity and/or public engagement in relation to research, innovation, communication, and research funding.

1.1 Set up of the deliberative roundtable

The Danish deliberative roundtable was conducted on November 7, 2024, at Hotel Ottilia in Copenhagen. It lasted four hours, from 1-5 p.m. A light lunch was served prior to the workshop, and participants were invited to a closing reception.

Twenty people participated in the deliberative roundtable, including the three Danish co-investigators and four POIESIS team members. The three co-investigators are:

- **Marianne Gauffriau:** Research consultant at the IT University of Copenhagen and a specialist in research evaluation, peer review, and bibliometrics.
- **Mia Ulvgraven:** Press and communication consultant at the School of Business and Social Sciences at Aarhus University (AU). Specialist in research communication and dissemination.

- **Lone Bredahl:** Senior consultant at the Library/University of Southern Denmark (SDU). Specialist in research ethics, research integrity, and technology consumer acceptance. Lone is also responsible for courses on responsible conduct of research.

Participants for the deliberative roundtable were primarily recruited from among the focus group participants. In addition, four institutional stakeholders who had not participated in the focus groups accepted the invitation. Formal invitation emails included a description of the objectives of the POIESIS study, with particular attention to the deliberative workshop, as well as an agenda for the day.

The participants who accepted the invitation received a follow-up email two weeks before the deliberative roundtable. The email included an information letter detailing the aim of the POIESIS project and explaining what participation in the deliberative roundtable would involve. They also received a consent form, an information sheet about Aarhus University's handling of personal data, and the global POIESIS report containing findings from the focus group studies conducted across the member countries. Participants were sent a final reminder email the day before the deliberative workshop, which provided practical details such as the meeting room number and parking information.

The twenty participants were divided into three groups – two groups of seven participants and one group of six participants. In each group a co-investigator and at least one POIESIS team member was included to help facilitate the discussion and keep the conversation focused. For details regarding the composition of the groups, please see section 1.2.

Initially, four additional participants accepted the invitation. However, due to illness and conflicting meetings, two had to cancel during the week of the workshop, and two more cancelled on the morning of the event. Due to time limitations, it was not possible to recruit new participants.

All participants received a small gift bag as a symbolic token of appreciation. They were also offered reimbursement for their travel expenses.

Both group discussions and plenary discussions were recorded and subsequently transcribed using the automatic speech recognition (ASR) system WHISPER, which is approved for use by Aarhus University. All transcriptions were checked by two student assistants for correct verbatim translation to improve data validity and reliability. Data coding was done using the qualitative data analysis software program NVivo (by MM). The coding process applied the codebook provided by the study coordinator to allow for an across-case analysis of the seven workshops. Simultaneously, the codebook was tailored to account for the national context but followed a deductive coding strategy overall.

However, emerging themes and sub-themes were also considered and coded inductively.

1.2 Participants in the deliberative roundtable

The following tables outline the composition of participants in the three groups of the Danish deliberative roundtable according to gender, career stage, position, and institution. POIESIS team members are excluded from the tables. No detailed information is provided to maintain the anonymity of the participants. RPO refers to Research Performing Organisation, and RFO refers to Research Funding Organisation.

Table 1.1. Overview of Roundtable Participants

Group 1

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
P1.1	F	Senior	Manager	Hospital Research Support Unit
P1.2	M	Senior	Research administration consultant	Think tank
P1.3	F	Senior	Manager	RFO
P1.4	M	Senior	Science communication consultant and facilitator	Own company
P1.5	F	Senior	Communication manager	RPO
P1.6	F	Senior	Research consultant	RPO

Group 2

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
P2.1	F	Senior	Manager	RFO
P2.2	M	Senior	Manager	RFO
P2.3	M	Senior	Consultant	RPO
P2.4	M	Senior	Diversity consultant	Own company
P2.5	F	Senior	Communication consultant	RPO

Group 3

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
P3.1	F	Senior	Project manager	Private organization involved in public engagement in science
P3.2	M	Senior	Manager	Library
P3.3	F	Senior	Associate professor, responsible conduct of research teacher	RPO
P3.4	M	Senior	Communication manager	RPO
P3.5	F	Senior	Consultant	Library

2 Sequential description of the deliberative roundtable

2.1. Phase 1 Introduction. Introduction and presentation of POIESIS Focus Group Results

The workshop opened with an introduction to the event and an introduction of the participants. Participants were then presented with a brief overview of the POIESIS project and the topic of trust in science, followed by an overview of key national and European results from the focus group study findings (by TR). The presentation concluded with a summary of the main 15 empirical recommendations resulting from the focus group interviews. These 15 recommendations cover the four thematic areas: research integrity, organisation of science, social integration, and science communication. The recommendations are detailed in table 1.2.

Table 1.2. Overview of Focus Group Recommendations

Topic	Institutional Priority
Research integrity	- Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries

	<ul style="list-style-type: none"> - Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution - Ensure a culture of transparency regarding the institutional handling of misconduct
Organization of science	<ul style="list-style-type: none"> - Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management - Encourage scientific institutions to address the organizational tensions, conflicting imperatives they contribute to generate - In-depth revision of the performance evaluation system: Towards more qualitative measures - Ensure science independence and develop public conversation about the private funding of universities and research organisations - Protect own members, and particularly scientists, from external attacks
Social integration	<ul style="list-style-type: none"> - Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration - Promote collaborative spaces and buildings: buildings should be designed and built to favour openness - Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups - Implement the inclusion of scientific knowledge in school curricula - the only moment in life when all societal groups can be reached simultaneously - but also foster life-long learning opportunities in this regard
Science communication	<ul style="list-style-type: none"> - Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination - Use institutional communicators to make citizens aware of research in the early stages - Avoid assuming a "crisis of trust", it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided

2.2. Phase 2 group sessions: relevance and prioritization of recommendations in each of the four thematic areas

For the first group session, participants were asked to discuss one or more of the four thematic areas and the guiding questions related to the thematic and associated recommendations (for a detailed overview of the specific questions, please see the method section in the global report). Secondly, participants were asked to discuss the relevance and prioritization of the 15 recommendations.

2.2.1 Group 1

Group 1 consisted of seven participants, four of whom were employed at RPOs, holding positions as research support unit manager, research consultant, senior researcher, and press & research communication manager. Additionally, one participant worked as a senior consultant at a think tank specializing in research and innovation, another worked as a senior manager at an RFO, and the final participant was a research communication consultant. The composition of the group included five female participants and two male participants, including the co-investigator (MG) and POIESIS coordinator (TR).

Out of the four categories of recommendations, the discussion primarily focused on citizen inclusion, research integrity with a specific emphasis on implementing guidelines across European countries, and research organization with particular attention to securing administrative support during the research process.

Citizen and stakeholder inclusion

The participants agreed that citizen and stakeholder involvement has become increasingly important for researchers, particularly as research funding organizations increasingly prioritize and reward projects that incorporate this element. It was also emphasized that **public engagement in science should be genuine and upstream**, ensuring that all interests are considered throughout the research process. This approach not only improves the quality of science but also helps foster trust in scientific research.

Some participants noted that, to prevent this from becoming an additional burden on individual researchers, citizen and stakeholder involvement could be approached as a **team science effort**. This approach would distribute responsibilities and leverage diverse competencies. The recommendation extended beyond public engagement to address broader issues of research integrity. In this context, **the importance of research support infrastructures** was highlighted as essential for supporting and

enhancing these processes, ensuring they are meaningful rather than becoming mere “tick-box” exercises. One example provided was that research support officers could assist in identifying relevant stakeholders for public and stakeholder engagement processes.

Research integrity

In discussing the relevance of the focus group recommendations, one participant highlighted the first recommendation about implementing guidelines across European countries. The already unmanageable number of guidelines at the national university level was noted as well as the variations in training and guidance provided across faculties, particularly for new and junior staff. Navigating the heterogeneous and diverse landscape of research integrity guidelines and policies was identified as a **challenge to achieving greater harmonization and standardization at the European level**.

Another challenge lies in the current **merit and assessment system** within academia, which, despite its variations, often fails to reward efforts related to research integrity in terms of career advancement. One potential solution could involve research foundations increasing their requirements for researchers to address research integrity issues within granted projects. Participants appeared to agree that such priorities should focus on **awarded projects** rather than adding complexity to the already resource-intensive application phase.

Organization and communication of research

The participants emphasized the importance of having **robust administrative support**, including IT systems, ethics frameworks and committees, and research communication assistance, among other areas. They stressed that research communication efforts should extend beyond the publication stage and be increasingly implemented in earlier phases of the research process. The goal should increasingly be to **communicate the importance and content of the research**, fostering **public curiosity** rather than merely highlighting the impact and relevance of a specific research article.

2.2.2 Group 2

Group 2 comprised six participants, two of whom held managerial positions at RFOs. Three others worked at RPOs in roles such as consultant, communication consultant, and research assistant. The final participant was a consultant specializing in diversity. The group included three female and three male participants, including the co-investigator (MU) and POIESIS team member (MM).

The discussion primarily centred on social integration, particularly involving citizens in research processes and fostering early curiosity and knowledge about science in school curricula. The group also addressed topics such as research integrity guidelines, diversity issues, and the current lack of research support.

Citizen and stakeholder inclusion

Participants agreed on the importance of cultivating interest and knowledge about science in **school curricula**, particularly to foster a democratic culture and critical thinking. One participant cautioned against a **science literacy** framing on 'fixing' citizens, emphasizing instead the need to address systemic problems and hold institutions accountable for building trust. This participant also drew inspiration from practices at other universities, where researchers are required to engage in outreach with schools, and institutions ensure that such efforts are carried out by a diverse group of researchers.

The group generally expressed support for involving citizens in research processes but also discussed the scale and scope of such engagement, emphasizing that its **relevance varies depending on the nature of the research**. A clear prioritization of dedicated engagement efforts was suggested, such as focusing on specific research topics or research grants above a certain size. Two participants representing funding agencies questioned the necessity of including public engagement activities in all research applications, noting that researchers already face numerous requirements in the application process.

Participants did not consider the recommendation to focus on collaborative buildings and spaces particularly important but agreed that science should be accessible and not hide in 'ivory towers'.

Research integrity and diversity

Participants agreed on the **importance of implementing clear research integrity codes and guidelines** but found it challenging to apply them consistently across Europe due to variations among countries and institutions. Striking a **balance between general and detailed recommendations** with cross-country relevance was seen as difficult. Nonetheless, as one participant from a funding organization noted, establishing a common foundation for cross-country discussions could be highly valuable.

Another participant emphasized the need to focus more on **diversity** as a key aspect of research integrity. A participant specializing in science communication highlighted the importance of **integrating science communication** as part of the field of research integrity and raising awareness about established principles for responsible science communication.

Additionally, one participant pointed out a lack of institutional **sanctions for breaches** of research integrity, such as in cases of data leaks, and warned of the potential consequences for maintaining public trust in science.

Organization of research

Several participants agreed that the current administrative research **support available to researchers is insufficient**, given the demands to ensure citizen inclusion, diversity, effective science communication and build international networks etc.

2.2.3 Group 3

Group 3 consisted of seven participants, four of whom were employed at RPOs as a communication manager, associate professor, postdoc, and professor. Two participants were employed at university libraries, working with citizen science and research integrity. The final participant was a project manager at a private organization involved in public engagement. The group included three female and four male participants, including the co-investigator (LB) and two POIESIS team members (SF & AI).

The discussion in the third roundtable group primarily focused on the interlinkage between science communication and citizen involvement in research, recommending a more deliberate approach to both. Additionally, the role of research integrity guidelines and training in building responsible research cultures was discussed, along with the need to increase research support.

Research integrity

Participants agreed on **the need for research integrity guidelines and training courses** as potential avenues for fostering a culture of research integrity. There was a discussion about whether such efforts would also be relevant for – in particular – senior staff, who may not recognize the importance of training and guidelines. Nonetheless, educating young researchers in responsible research practices was generally seen as an effective way to cultivate a strong integrity culture. However, implementing guidelines consistently across countries and institutions was acknowledged as a significant challenge.

Science communication vis-à-vis citizen inclusion

Several participants agreed that **research communication should also occur in the early stages** of a research project and be conducted in a more deliberate manner to build trust. However, several challenges to early communication were also identified: (a) it may not be ideal for researchers working on politicized topics, as they could face significant resistance, and (b) citizens are already overwhelmed with information and may not find all research equally engaging. Consequently, institutions were encouraged to be more **selective about which research areas** and projects are communicated to the public.

The group also discussed the strengths of broader science communication, particularly for general education, as well as the value of involving smaller groups of citizens in research processes through more focused two-way dialogues. The argument was made to **combine communication and engagement more deliberately**, potentially with additional institutional support to better reach interested citizens. It was acknowledged that involving citizens in research is often time-consuming. Additionally, the lack of recognition, in terms of merit for these types of activities, also poses a challenge.

Organisation of Science

The discussion also briefly touched on the recommendation to implement increasingly **qualitative research assessments**. One participant doubted whether this would have any impact on public trust in science.

Overall, participants agreed on the need for additional research support but questioned whether this would be a realistic scenario, as nothing currently indicates an increase in funding for research support resources. At the same time, the group expressed concern that researchers **might not perceive it as assistance but rather as increased control and additional requirements** to fulfil.

2.3. Phase 3 Collective review of outputs from session 1 on recommendations

The collective discussion summarised the different arguments and recommendations discussed in the three roundtable sessions. The following aspects were highlighted:

Science communication:

- It is important to **move beyond traditional models of communication** and increasingly focus on early, continuous, relational communication that can address diverse publics to increase trust in science. This does not necessarily imply that all research

projects should focus on early-stage research communication. Rather, institutions should make **dedicated efforts and set clear priorities** at the institutional level. This effort also requires professional communication and motivated researchers.

- In this regard, one participant raised the question of **institutional roles and responsibilities**, highlighting that science communication and public engagement are not solely the responsibility of universities but encompass a broader societal duty.
- It was mentioned that researchers should be **recognized** for engaging in research communication, rather than only for publishing papers, as is the current norm.

Organization of research

- Two participants emphasized that **increasing research support** is the most important recommendation, as it is crucial for the success of the other three areas of recommendations. A participant from a research foundation noted that, since their budgets have not increased, there will be a **trade-off** between funding additional research support and funding new research projects.

Citizen inclusion

- Several participants highlighted the importance of **sparking curiosity** in science among primary school children. It was also suggested that more attention be given to **broadening engagement activities** to reach a wider range of publics.

Research integrity

- One participant mentioned that cases of **detrimental research practices** - such as those with potential consequences for citizens involved in a project - can reduce trust in science, especially if the researcher is not sanctioned or if the institution's leadership is unaware of the misconduct. Misconduct, the participant argued, should have a greater impact on a researcher's future career.
- Several participants argued that offering **voluntary rather than mandatory research support** encourages better compliance with rules, as it avoids being perceived as burdensome. Once researchers realize how helpful research support can be, they are more likely to seek it out in the future when needed.
- One participant, supported by confirmation from others, also raised the issue that **different research support areas do not always consider or address one another**, consequently maintaining distinctions among research management, research integrity, and

ethics, for instance.

2.4. Phase 4 Group sessions - handling of contradictions and tensions between institutional procedures and principles in research

The second roundtable session focused on tensions between institutional practices and principles in research. All groups discussed an excerpt from a French research support officer, who speaks to the institutional role in identifying and resolving conflicts between procedures (e.g., in relation to evaluation and merits) and values concerning research integrity and ethics. Participants were asked if they recognize such tensions. Additionally, participants were asked to discuss whether the 15 recommendations discussed in the first session conflict with their institutions' procedures in any way and how institutions can address potential contradictions (for the specific wording of the excerpt and guiding questions, please refer to the method section in the global report).

2.4.1 Group 1

The group primarily identified and discussed paradoxes and tensions between principles and praxis in the areas of research communication and research organization.

Research communication

Several participants highlighted the **tension between institutional expectations regarding research communication and the support researchers receive from their institutions**. A science communication manager observed that many researchers feel isolated and underprepared to handle potential media storms, which leads to an unwillingness to engage in public discussions. The participant noted that their institution has implemented a help package to support those who are fearful of or have been significantly affected by media storms. However, obtaining support for research communication in general remains challenging due to a **lack of institutional resources** and limited staff. It was also noted that a contradiction sometimes exists between the broader purpose of science communication - reaching a wider audience and fostering societal impact - and **researchers' motivations and incentives for communicating their work beyond a narrow circle of peers**. It was also noted that, instead of a 'massive' communication approach, the

strategy should be more tailored and focused on selected areas and topics of research.

Receiving support from their institutions is especially important for researchers working in highly **politicized areas of study**. One participant proposed that Universities Denmark should cover the costs of lawsuits filed against Danish researchers.

Organization of research

Another tension mentioned by a participant is the one between institutional goals to recruit and retain researchers and the challenges researchers face. Navigating these types of '**cross-pressures**', numerous requirements, differing norms, and unwritten rules were particularly seen as difficult for international researchers. A participant from a funding organisation noted that such contradictions within universities sometimes pose **challenges for research foundations** in providing guidance, particularly to younger and international researchers.

Research integrity

Several participants also noted the tension between the desire to increase international research collaboration and establish shared research databases, and the restrictive interpretations of the **General Data Protection Regulations** (GDPR) in Denmark. It was further mentioned that **sharing data** between universities within Denmark can also be challenging.

Lastly, there was a discussion about the tension between the goal of reducing the risk of **dual use** and the difficulty in predicting such risks. One participant mentioned that researchers have a hard time predicting them and, at the same time, lack incentives to report them. One proposed solution was to strengthen the requirements and training activities for research areas particularly affected, and to assign someone other than the researcher to review articles and help assess these risks.

2.4.2 Group 2

Group two primarily discussed the examples provided in the discussion material, focusing on five different contradictions between principles and practices (for the specific wording of the examples, please refer to the method section in the global report). The excerpt was briefly mentioned, and a participant working in research integrity support noted that it is not necessarily the task of RI officers to resolve all contradictions. Instead, their role is to engage researchers in

discussions about challenging integrity issues to help enhance integrity practices. However, this is not always the easiest solution for the researchers involved.

Research integrity and open science

One participant mentioned that the stated contradiction between open science publishing and expectations to publish in prestigious journals does not necessarily constitute a challenge. Instead, participants emphasized a **tension between the push for open science, on the one hand, and security issues and compliance with GDPR, on the other**. The issue of **diversity**, such as protecting sensitive information related to gender and sexual orientation, was raised as an important aspect of security concerns - one that could significantly reduce public trust in science if not properly upheld. Similarly, the **contradiction between open data and the need to protect research and data subjects** - for instance in qualitative research - was highlighted as a significant dilemma that occupies university research support staff.

Citizen inclusion and science communication

Several participants highlighted the tension between the desire for increased communication and citizen involvement and the lack of incentives for researchers to prioritize these activities. A participant working at a research funding organisation explained that their organisation explicitly advises researchers not to include their H-index in their CVs, encouraging them to **highlight other qualities and achievements related to scientific impact**, such as leadership qualifications or citizen involvement.

A participant working in science communication highlighted the **various roles of science communication at a university**, such as attracting funding, recruiting new students and course participants, informing citizens, and building trust. These diverse objectives sometimes conflict, and it was recommended that POIESIS science communication recommendations carefully consider these differing purposes and develop aligned, in-depth recommendations.

Politicised research areas

The participants discussed and problematised the challenges of conducting research in **politicized areas**, such as those related to gender, sexuality, and migration, which are often subject to high external pressures. It was noted that such areas are sometimes viewed with mistrust and perceived as purely activist research.

One suggested solution was to develop **shared guidelines for institutions to collectively resist these pressures**. Another long-term solution, proposed by a participant, was to **increase citizen inclusion** earlier in

research programs to help mitigate feelings of alienation or frustration regarding politicized research areas and to foster greater trust in science.

2.4.3 Group 3

The discussion primarily focused on the role of institutions in managing both external and internal pressures. In addition, contradictions related to open science, publishing, and incentive structures were also debated.

Internal and external pressures

In responding to the excerpt and the question of how institutions can help **protect researchers from external pressures**, it was argued that individual research institutions face limitations in navigating a global research system. It was also noted that **efforts to manage external pressures might paradoxically increase internal pressures** by adding additional requirements for researchers. Nonetheless, there appeared to be consensus that, despite differences in institutional and leadership structures, **universities should take an active stance on their 'social contract' with society**. Closer collaboration with institutional leadership is crucial, as the gap between researchers and top-level university management can be significant. In this regard, the question was also raised about the appropriate level for directing recommendations to increase trust in science - should they, for instance, focus on centralized or decentralized levels, such as specific studies or programs?

The need to create more **protective environments for researchers** working in particularly politicized areas was also emphasized as crucial.

Citizen inclusion and science communication

One participant expressed concern that the suggested recommendations might increase the pressure on researchers and argued that actions such as citizen inclusion in research should be voluntary. Generally, participants agreed that citizen and stakeholder inclusion is an important part of the social contract with society. They emphasized **the need to engage a broader public**, both to avoid 'preaching to the choir' and to reach citizens who do not necessarily live near university hubs.

Participants highlighted that the recommendation to include more **science in school curricula** requires a very different skill set and significantly more time from researchers compared to typical academic communication. It was also noted that **science communication demands different formats**,

resources, and institutional support. Moreover, its current lack of recognition constitutes an important challenge.

It was suggested that the recommendation concerning school curricula could potentially be directed at ministries rather than universities. Another idea proposed was for researchers to collaborate more closely with teachers to enhance science-based teaching.

Research integrity and open science

Participants agreed that there might be a potential contradiction between the requirement to publish in high-quality scientific journals and the support for open-access publishing, as open science options are not always of high quality. It was emphasized that a **major problem in the system lies in the publishing structures and the high costs associated with publishing open access** in high-quality scientific journals. One participant referred to this as 'non-sustainable work' and another described it as a 'scandal' that researchers perpetuate by continuing to publish in certain high-quality journals, which remain integral to the research assessment and performance system.

2.5. Collective review of outputs from session 2 and expert observations

The second plenary session yielded several concrete suggestions for **improving the 15 recommendations** discussed during the workshop, as well as for the ongoing development of policy recommendations to foster trust in science.

In general, it was noted that the current 15 recommendations from the focus group study read fairly generically and that it will be essential to revise and develop recommendations so that they are not only agreeable in principle but also capable of directing concrete actions. In this regard, it was also suggested to aim the recommendations more directly at **specific target groups**, e.g. institutions, research foundations, researchers, NGOs and political actors. Secondly, it was noted that the issue of **diversity** in relation to research integrity, communication, and engagement is missing in the existing focus group discussions, and that this may reflect a broader lack of focus within the research ecosystem. In this regard, it was also mentioned that the issue of security and diversity is interlinked in a **dual-use context**, where personal and sensitive data can be leaked and used for harmful purposes.

Citizen inclusion:

- It was suggested to **prioritize citizen and stakeholder inclusion in politicized research areas** with higher levels of mistrust. Examples provided included topics related to religion, integration, gender, climate, and COVID-19. The importance of focusing on **geographical diversity** and inclusion was also highlighted. Additionally, it was suggested that public engagement in science might be particularly relevant in younger and less established research fields, such as AI.

Freedom of research and protections of researchers

- A debate was also opened on whether and how **universities should best protect their researchers**. One view was to establish European guidelines requiring universities to protect and defend researchers facing external pressures, especially in politicized research areas. A communication manager highlighted that universities can protect and support freedom of research and researchers' freedom of speech without necessarily supporting the research in question. Another participant suggested creating institutional **communicative response teams** to help researchers navigate politicized reactions and prevent trust in research from being reduced.

The session concluding with expert observations by Professor Alan Irwin who is an expert in public engagement with science, science communication and science-public relations. In his remarks, Alan highlighted three key points:

- The first point was the importance of the **research community not becoming too defensive** or sensitive in response to external attacks or critical questions, as there is generally a high level of trust in and support for science in Denmark.
- Secondly, institutions should, of course, put their 'own house in order,' but it is also important to remember that **universities are just one actor in a global system** with many drivers. When focusing specifically on universities, it is worth considering **whether university leaders have the appropriate training and capacity** to address the issues discussed in the workshop and whether they are aware of historical and ongoing discussions to avoid reinventing the wheel within their own institutions.
- Thirdly, researchers should individually and collectively reflect on whether they are **sufficiently responsive to public concerns**. One area of focus is the **commercialization of research**, where researchers should be more aware of and take greater responsibility for how their research is used. Another example relates to the publication system, where researchers use taxpayer money intended

for research to fund open-access publishing. Generally, researchers should be more transparent and **open about the internal challenges** within the research system, which they play a role in reproducing.

3 Building trust in science: priorities and institutional engagement

The following sections highlight the main issues, challenges, solutions, and recommendations identified in the group and plenary discussions described in Section 2.

3.1 Institutional engagement with research integrity

Participants emphasized the importance of **implementing clear research integrity codes and guidelines** as they foster a sense of awareness and responsibility among researchers. Participants acknowledged the considerable difficulty in applying these guidelines consistently across Europe. Navigating the heterogeneous and diverse landscape of research integrity guidelines and policies were identified as a significant **challenge to achieving greater harmonization and standardization** at the European level. Hence, striking a balance between general and detailed recommendations with cross-country relevance was deemed challenging.

- A tension was identified between the desire to enhance international research collaboration and the restrictive interpretations of the General Data Protection Regulation (GDPR) in Denmark.
- A tension was also identified between the **push for open science and the need to address security concerns and GDPR** compliance. Protecting sensitive information, such as data on gender and sexual orientation, was highlighted as critical to maintaining public trust in science. Additionally, the conflict between open data and safeguarding research subjects – particularly in qualitative studies – was identified as a key challenge for university research support staff:

"We also deal a lot with the tension between open science and GDPR. For example, when working with qualitative data, like interviewing feminists in the Gulf States, and then the EU requires that all

data must be open. There's something inherently paradoxical about this - how closed you need to be to protect your research participants versus how open you need to be to share knowledge with society. And this is truly a huge dilemma that we are grappling with extensively" (P.2.3, p. 12).

- The current publishing structures and the **high costs associated with open-access publication** in high-quality scientific journals was seen as a major issue of concern.
- One participant highlighted the **lack of institutional sanctions** for breaches of research integrity, such as cases involving data leaks, and warned about the potential consequences for maintaining public trust in science.
- To enhance research integrity procedures and ensure compliance, one potential solution proposed was for **research foundations to increase their requirements** for researchers to address research integrity issues within funded projects.
- The discussion highlighted the tension between reducing **dual-use risks** and the difficulty in predicting them. A proposed solution was to strengthen requirements and training for affected research areas and assign someone other than the researcher to review articles and assess risks.
- It was noted that **diversity in research integrity, communication, and engagement** is missing from the existing focus group discussions, reflecting a broader lack of focus within the research ecosystem.

Table 3.1. Recommendations concerning Research Integrity

Focus group recommendation	Challenges	New recommendations	Best practices
Implement clear guidelines, codes of conduct and promote shared research	Notable cultural and trust differences between countries		

<p>integrity standards across institutions and countries</p>	<p>Too many RI guidelines and few incentives for researchers to comply</p> <p>Lack of sanctions</p>	<p>RFOs could enhance RI compliance through grant requirements</p> <p>Institutions should merit compliance</p> <p>Institutions should offer voluntary research support</p> <p>Institutions should sanction noncompliance</p>	
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3.2 Institutional engagement with the organization of science

Robust administrative support was seen as crucial for enhancing science communication, public and stakeholder engagement, and research integrity. While cost-effective support that can assist across various research areas is valued, increasing support functions was perceived to be challenging given the current political climate favouring reduced administrative costs. As also noted by a funding organization representative, if research foundations allocate more funds to support, there will be less available for new research.

- Several participants expressed concern that researchers might view research support as **increased control and additional requirements less than assistance**. It was suggested by a number of participants that offering **voluntary support**, rather than mandatory, would encourage better compliance with rules.

Adding additional requirements on researchers was generally seen as increasing existing pressures and responsibilities. A potential solution is to address requirements, such as data management, as **collective responsibilities** and team efforts, where diverse competencies are needed for success.

"The solution I sometimes hear is to think more about team science, so that tasks are delegated a bit. It shouldn't all fall on a single PI who has to know everything or be responsible for everything. Instead, tasks are delegated. But perhaps it's more about seeing a team that represents all the necessary competencies, and within that team, there is one or more people who can handle

involving stakeholders" (P.1.1. p. 3).

- Within the research support system, a challenge was identified as **different support areas are sometimes failing to address one another**, which maintains unhelpful distinctions between research management, integrity, and ethics, for instance.
- Another key challenge identified is the **current academic merit and assessment system**, which, despite its variations, often fails to reward efforts related to research integrity, science communication, and public engagement in career advancement.
- Participants also noted that universities need to take a more **active stance on their 'social contract' with society** and more clearly define their institutional roles and responsibilities.

The recommendation regarding the 'protection of members, particularly scientists, from external attacks' was extensively discussed. Participants highlighted the challenges of conducting research in **politicized fields such as gender, religion, climate, and migration**, which often face external pressures and are mistrusted as purely activist. Proposed solutions included creating **protective environments** for researchers and developing **shared institutional guidelines** to resist such pressures.

A university communication manager expresses how she experiences researchers who face a contradiction between expectations and levels of support:

"I just feel that there is quite a long gap between what is written on the nice paper and the reality they actually face when they are often sent out. There are several things; they are often sent out on the edge, quite alone. They feel quite isolated, right? And I think the researchers feel a contradiction between what is expected of them and what they actually receive help with, the competencies or support they actually need to do it" (P. 1.5, p. 24)

It was also noted that **freedom of research** can be defended by research institutions without endorsing the specific scientific stances of researchers. An additional number of suggestions were put forward:

- Universities could offer to **cover the costs of lawsuits** filed by businesses or lobby organizations against researchers with whom they disagree.
- As an example of best practices, one participant mentioned how their university had a **ready emergency response** for when a researcher was on the verge of, or already experiencing, a media storm.

- However, an emergency response is a reactive measure. The participants also discussed, but did not reach a consensus on, whether **early citizen involvement** and research communication in politicized projects could prevent or decrease the intensity of potential media storms.

Table 3.2 Recommendations concerning Science Organisation

Focus group recommendation	Challenges	New recommendations	Best practices
Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management	<p>Political climate challenging the employment of additional research support</p> <p>Trade-off between increasing research support and funding more research</p> <p>Researchers might view research support as increased control and additional requirements</p> <p>Different support areas sometimes failing to address one another</p>	<p>Universities should increase research support</p> <p>Support should be voluntary</p> <p>Support functions could be better integrated</p>	
Protect own members, and particularly scientists, from external attacks	Conducting research in politicized research fields	Clear communication and support from institutions	
		Universities should implement guidelines on how to protect their researchers	One university has an emergency response to help affected researchers of media storms etc.

		Universities should pay for legal costs of court cases against their researchers	
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3.3 Institutional engagement with social integration

Participants emphasized the importance of cultivating interest and knowledge about science in **school curricula**, particularly to foster a democratic culture and critical thinking. Resource, competence and interest challenges related to outreach, engagement, and communication activities were noted. One suggestion was to establish closer collaboration with teachers on research-based teaching. It was **cautioned against framing 'science literacy' as a way to 'fix' citizens**, instead highlighting the need to address systemic issues and hold institutions accountable for building trust. An additional number of points and recommendations were suggested:

- The scale and scope of engagement were discussed, with participants noting that its **relevance varies** depending on the nature of the research.
- Greater attention should be given to **broadening engagement activities** to reach a wider range of publics.
- **Citizen and stakeholder inclusion should be prioritized in politicized research areas** with higher levels of mistrust, such as topics related to religion, integration, gender, climate, and COVID-19. The importance of ensuring geographical diversity and inclusion was also emphasized.

A challenge mentioned is that researchers lack incentives to prioritize citizen and stakeholder inclusion, particularly when the benefits to their own projects are not immediately clear. In this regard, the current **assessment and incentive structures** within academia do not sufficiently support these types of engagement activities.

" I think this in general as well, without getting into specific recommendations, but everything about communication and citizen inclusion - whether it's the recommendations here or in general - we need to communicate more and include more. There's an issue with the incentive structure: it's not...

It's not career-promoting as things stand today." (P 2.5, p.13)

A general solution suggested to the challenges of increasing citizen inclusion is for institutions to **identify specific research areas where greater citizen involvement is particular desired**. Another idea was for institutions to require citizen inclusion in research projects that receive grants exceeding a certain threshold. Regarding the latter suggestion, a consensus does not seem to have emerged on the mandatory implementation of citizen inclusion. A participant representing a funding organization states:

"Yes, you have to consider why you would want to do it [citizen inclusion]. And there are probably two main reasons for that. On the one hand, it's based on the argument that involving citizens can sometimes enhance the quality of research. And that argument could appeal to researchers who aren't already engaging in it. The other part is that it can increase public trust in research overall if people feel they are more involved, rather than it being something that's done somewhere far away and simply handed down as implementations. But that first part should be relatively easy to sell to researchers in one way or another. At the same time, I don't believe you can impose a requirement on everyone to do it. If you do, it becomes an add-on that just creates more hassle"(P.2.2, p. 9).

Table 3.3 Recommendations concerning Social Integration

Focus group recommendation	Challenges	New recommendations	Best practices
Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration	<p>There is a lack of incentives for researchers</p> <p>Researchers tend to focus very narrowly on a small circle of interested people</p>	<p>Universities should merit engagement activities</p> <p>Research support should be increased</p> <p>A focus on team science and shared responsibilities could be highlighted</p>	<p>Some research foundations requires researchers to describe how they will ensure, that their research results will have an impact - who will they contact and what will they do with the results</p>

<p>Implement the inclusion of scientific knowledge in school curricula</p>	<p>There is a lack of incentives, resources and competences to teach school children</p>	<p>Greater collaboration with schoolteachers on science-based teaching could be initiated.</p>	
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3.4 Institutional engagement with science communication

Participants generally agreed that research communication should go beyond the publication stage and be integrated into earlier phases of the research process. However, **early science communication** may pose challenges for researchers working on politicized topics, who could face resistance, and for citizens already overwhelmed with information, who may not find all research equally engaging. Institutions were therefore encouraged to be more focused, deliberate and selective in choosing which research areas and projects to communicate early, with clear priorities set and with a perspective to disseminate to groups that are hard to reach.

The goal of science communication should increasingly focus on highlighting the importance and content of research, fostering public curiosity. Additionally, participants emphasized:

- the challenge that researchers' might not have strong motivations and incentives for communicating their work beyond a narrow circle of peers
- The challenges that communication departments and researchers might not have the resources to increase early stage communication or are interested in communicating prior to the publication phase
- The importance of **integrating science communication as part of the field of research integrity**. As one communication expert highlights:

(...) I would say that it's absolutely crucial to have some clear recommendations - at the very least to ensure that researchers are aware of their responsibilities. There's some training involved in that, and it also makes my work easier, so we don't end up with as many messy cases afterward. But what I feel is MISSING here is actually -or rather, I feel that things are too fragmented. Research integrity and communication are treated as separate entities in how we approach things here. We have these four separate boxes, so to speak. I would really like to see communication-responsible research communication-recognized as a part of responsible research practices, and for that to be included in the recommendations. In Denmark, we have the Danish

Universities' principles for good research communication (P. 2.7, p.3).

- A recommendation to create institutional **communicative response teams** to help researchers navigate politicized reactions and prevent trust in research from being reduced.
- Research communication is likely to improve if universities assure researchers of their support during media storms

Table 3.4 Recommendations concerning Science Communication

Focus group recommendation	Challenges	Recommendations	Best practices
Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination	The public is not interested in every research project	Institutions should be selective and prioritize research areas that require the most communication	
	Researchers struggle to communicate with a broader audience		Some research foundations require researchers to outline how they will ensure their results have an impact, including who they will contact and how they will use the findings
	Researchers lack media training	Increase training and research support for science communication Establish communicative response teams to help researchers navigate politicized reactions	

3.5 Other themes

All the main themes discussed have been included in the previous sections

4 Conclusion

Participants in the Danish roundtable workshop agreed on the importance of the majority of the 15 focus group recommendations, while also proposing various specifications and new suggestions for action.

In general, it was noted that the current 15 recommendations from the focus group study read somewhat generically, and that revising and developing them is essential to ensure they lead to concrete actions, not just general agreement. It was suggested that the recommendations be targeted more directly at specific groups, such as institutions, research foundations, researchers, NGOs, and political actors. Additionally, it was noted that the issue of diversity in research integrity, communication, and engagement is missing from the focus group discussions, potentially reflecting a broader gap in the research ecosystem.

The roundtable covered a broad range of issues, thematically addressed within the four interlinked areas of research integrity, citizen inclusion, science communication, and the organization of science.

Participants emphasized the importance of implementing clear research integrity codes and guidelines to foster awareness and responsibility among researchers. However, applying these guidelines consistently across Europe was seen as highly challenging due to the diverse landscape of research integrity policies.

Participants generally identified a need for additional research support and emphasized the importance of institutions clearly defining their role in fulfilling their 'social contract' with society. This includes setting clear priorities for deliberate efforts in areas such as (early) science communication, public and stakeholder inclusion, and other activities that encompass the social aspects of third mission initiatives. It was suggested to prioritize citizen and stakeholder inclusion in politicized research areas with higher levels of mistrust. Emphasis was also placed on ensuring geographical diversity and broad inclusion.

There was also consensus on the lack of training, resources, and recognition within the existing performance and assessment structures for researchers to engage in and prioritize these activities. In this context, a tension exists between institutional expectations for

research communication and the level of support provided to researchers to meet these demands.

The recommendation to protect members, including researchers, from external attacks was emphasized as very important. Participants agreed on the urgency for universities to implement clear, shared guidelines to create protective environments for researchers and safeguard freedom of research, particularly in highly politicized areas of research.

References

Dubois, M. (2024). *D.3.2: Focus Groups - Findings. Exploring Institutional Roles in Fostering Public Trust in Science*. POIESIS. European Commission.



poiesis
TRUST IN SCIENCE

National Report: Deliberative Roundtable - *France*

Project title: Probing the impact of integrity and integration on societal trust in science

Project acronym: POIESIS

Grant Agreement no.: 101057253

Lead partner for this deliverable: Centre national de la recherche scientifique (CNRS)

Author: Michel Dubois (Centre national de la recherche scientifique)



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1 Introduction

The purpose of this document is to report on the roundtable held in France as part of WP3 of the POIESIS project. The aim of the roundtable was to discuss the main recommendations that had emerged from the 22 focus groups held in an earlier phase of WP3.

Section 1 of this report outlines the organizational context and introduces the participants of the roundtable. Section 2 provides an account of how the roundtable was conducted and summarizes the various topics discussed. Finally, Section 3 highlights the key insights and conclusions that emerged from the participants' exchanges.

1.1 Set up of the deliberative roundtable

The roundtable for France took place on 20 December in Paris at the Centre National de la Recherche Scientifique. Originally scheduled for November, as with most of the other partners, it was postponed by one month due to various constraints faced by the French partner. The final date was agreed with the co-investigators involved, particularly as a meeting of the national network of scientific integrity officers was scheduled to take place in Paris the day before.

Regarding the selection of participants, priority was given to the co-investigators who had been previously involved in organising the focus groups¹. Of the three french co-investigators, two were able to attend the roundtable:

- **Caroline Strube**, CNRS researcher in neurobiology and member of CNRS Mission à l'intégrité scientifique created in 2018 in charge of investigating misconduct cases and setting up training initiatives;
- **Olivier le Gall**, senior research fellow at the Institut national de recherche pour l'agriculture, l'alimentation et l'environnement (INRAE), Olivier Le Gall has been INRAE Deputy Director in charge of the Institute's research programme. He has been President of the French Council for Scientific Integrity (COFIS), the scientific council of the French office for scientific integrity (OFIS).

In the selection of participants who had been part of the previous focus groups, the aim was to cover a wide range of expertise, from citizen science to research integrity and open science. Finally, on rare occasions, it was decided to invite people who had not participate to earlier stages of the project, to enable them to bring a fresh perspective to the project and its early results.

¹ See D.3-2 Focus Groups. Findings. Exploring Institutional Roles in Forstering Public Trust in Science.

There were very few refusals to participate, generally due to time constraints, and most of those approached continue to express an interest in the project and in communicating its results. It was not necessary to organise a preparatory meeting, as had been the case with the focus groups, but some participants requested additional information on the general modus operandi of the roundtable and the objectives sought. This information was provided a week before the roundtable. The information leaflet and the consent form were also sent to participants approximately one week before the date of the roundtable.

To provide maximum flexibility, it was planned that the roundtable would take place on a hybrid basis, i.e. with the option of being on site or at a distance using a videoconferencing application. Nearly half the participants chose to be on site, and the other half remotely. For some participants coming from outside the Paris region, train tickets and overnight stays were paid for.

The round table was organised in the morning, with a welcome coffee starting at 9am and discussions lasting until 12.30pm. Participants were offered lunch in a restaurant, close to the CNRS location. The general atmosphere was excellent and participants were able to express themselves fully during the roundtable.

Given the limited number of participants, it was finally decided not to create parallel sub-groups. All discussions took place in plenary sessions and all participants were able to express their views on all the planned topics.

The programme of the roundtable was divided into 4 main phases: 1) an introduction by the national partner, 2) a collective discussion of the recommendations identified during the focus group, 3) a classification of the recommendations, 4) and a short phase focusing on the paradoxical injunctions. Given the extended time used for the collective discussion on the recommendations, it was finally decided to carry out the ranking exercise after the event. Participants also had the opportunity to send afterward the partner examples of paradoxical injunctions in their work environment and possible measures to try to eliminate or mitigate them. Finally, given the difficulties in planning the roundtable due to the national partner's constraints, the idea of bringing in an external expert to close the roundtable could not be carried through.

1.2 Participants in the deliberative roundtable

The table 1 below lists the participants of the roundtable and provides some information on their background while respecting the participants' anonymity.

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
R_P1	F	Mid	Research integrity officer	RPO

R_P2	F	Mid	Research integrity officer	RPO
R_P3	F	Mid	Open science and science dissemination officer	University
R_P4	F	Senior	Head of a national network of integrity officers	University
R_P5	M	Early	Open Science liaison officer	RPO
R_P6	M	Senior	Research advisor of national association of universities	University
R_P7	M	Senior	Research integrity officer	University
R_P8	F	Mid	Research integrity officer	RPO
R_P9	M	Senior	Science communicator and research integrity officer	Hospitals
R_P10	M	Mid	Science for society officer	RPO
R_P11	M	Senior	Former chairman of the scientific council of the french office for scientific integrity	RPO
R_P12	F	Mid	Responsible for public debate in a national commission	Independent national commission

Table 1 - List of participants

The roundtable composition achieved a balanced gender representation, with 6 women and 6 men. The participation of early career researchers was minimal, with only one participant, as the focus was on using experience and career trajectories to enrich the discussion on recommendations. Reflecting the thematic scope of the project, the group included 5 “social integration” experts and 7 “research integrity” specialists. Notably, many of the participants hold prominent positions within their research organisations, which span both basic research and collaborative projects with private sector partners.

2 Sequential description of the deliberative roundtable

This section provides a brief description of the different phases of the deliberative roundtable. The perspective adopted consists of describing synthetically the exchanges, in terms of both form and content, sequentially, one sequence after another.

2.1. Phase 1 – Introduction

The roundtable opened with a preliminary round of introduction. Each participant got to speak for 2-3 minutes to introduce themselves and describe their professional background. It should be noted that the degree of mutual acquaintance among the participants varied. Even if the majority of them had had the opportunity to take part in the focus groups, they had not necessarily taken part in the same one.

After this preliminary step, the national partner gave a global overview of the POIESIS project. In addition to the general description of the project, it has been decided to focus on the main findings describes in the following deliverables:

- D1.3 POIESIS Indicators of trust
- D2.2 Public Deliberative Workshops - Findings

- D2.3 Expert interviews - findings
- D3.2 Focus groups - Findings. Exploring Institutional Roles in Fostering Public Trust in Science.

This is not the chronological order in which the results were produced, but it does introduce the core of the roundtable, i.e. the discussion of the recommendations arising from the focus groups. These recommendations are listed in the table 2 below.

Topic	Id	Institutional priority
Research integrity	1	Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries
	2	Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution
	3	Ensure a culture of transparency regarding the institutional handling of misconduct
Organization of science	4	Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management
	5	Encourage scientific institutions to address the organizational tensions, conflicting imperatives they contribute to generate
	6	In-depth revision of the performance evaluation system: Towards more qualitative measures
	7	Ensure science independence and develop public conversation about the private funding of universities and research organisations
	8	Protect own members, and particularly scientists, from external attacks
Social integration	9	Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration
	10	Promote collaborative spaces and buildings: buildings should be designed and built to favour openness
	11	Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups
	12	Implement the inclusion of scientific knowledge in school curricula - the only moment in life when all societal groups can be reached simultaneously - but also foster life-long learning opportunities in this regard
Science communication	13	Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination
	14	Use institutional communicators to make citizens aware of research in the early stages
	15	Avoid assuming a "crisis of trust", it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided

Table 2 - 15 initial key institutional priorities based on focus groups

Once the objective of the round table was clearly understood by all the partners, the recommendations were discussed in four stages, with a first stage for recommendations relating to research integrity, a second stage for organisation of science, a third stage for social integration and a fourth stage for scientific communication. This thematic organisation did not pose any particular difficulties.

2.2. Phase 2 –Research integrity

In this part of the roundtable, the discussion was organised around the following three recommendations:

- Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries
- Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution
- Ensure a culture of transparency regarding the institutional handling of misconduct

Participants remained fairly divided on the utility of harmonising codes of conduct. Some stressed the usefulness of these harmonised codes, particularly in dealing with cases involving different international institutional affiliations, while others highlighted the risks of an overarching approach, divorced from the realities on the ground, which could encourage researchers to 'tick the boxes' when submitting a project and then ignore everything in the course of the research. **Some participants emphasised that what was ultimately lacking was not so much a harmonised European or national code as a forum for sharing best practice at the discipline level.**

Participants emphasised the need to raise awareness rather than provide training, and to talk about responsible research rather than scientific integrity. Some pointed out that there were already many initiatives in this area and that it would not necessarily be easy to come up with an original recommendation on the subject. **One participant returned to the issue of the doctoral oath in France, noting that a similar system could be introduced for more advanced career stages, in particular the habilitation to supervise research.**

All participants agreed on the importance of dealing with misconduct in a more transparent way, while keeping confidential what needs to be kept confidential. Participants welcomed the efforts of the French national network of integrity officers to describe the process for dealing with scientific misconduct. **Scientific institutions should be encouraged to do a better job of communicating the process for the handling of misconduct.**

2.3. Phase 3 – Organization of science

In this part of the roundtable, the discussion was organised around the following four recommendations²:

² The recommendation "Encourage scientific institutions to address the organizational tensions, conflicting imperatives they contribute to generate" has been discussed separately. See section 2.7.

- Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management
- In-depth revision of the performance evaluation system: Towards more qualitative measures
- Ensure science independence and develop public conversation about the private funding of universities and research organisations
- Protect own members, and particularly scientists, from external attacks

The participants recognised the importance of improving administrative support for researchers. One of them mentioned the situation of his colleagues in Germany, who systematically benefit from the support of an assistant to manage the administrative part of their work, a situation that does not exist in France. **However, participants also highlighted the risk that administrative support generally goes hand in hand with increasing administrative power over research. Each recommendation is described as potentially having positive and negative effects.**

The issue of evaluation and performance indicators was discussed in depth. Participants generally acknowledged the decline in the use of purely quantitative indicators, but pointed out that these had been replaced by a plethora of qualitative indicators whose usefulness and operation were no longer clear to anyone. In addition, the informal dimension of evaluation was repeatedly emphasised: **institutional evaluation is one thing, but perceived evaluation, which helps to build reputation, is primarily a matter for professional communities and is closely linked to integrity issues.** Finally, some participants pointed out that researchers are often contradictory. They regularly criticise quantitative indicators but use them anyway.

The issue of the independence of science has often been presented as a key priority. **This issue is seen as central to the public image of science, but also to scientists themselves, at a time when their organisations are multiplying the number of foundations designed to attract financial support from private investors looking for tax breaks.** Participants pointed out that this issue of independence is also inextricably linked to the issue of citizen participation, as social groups are stakeholders like any other.

Participants pointed out that the functional protection of scientists by their institutions is often misperceived and misunderstood by the general public. It is seen as a way of making scientists 'untouchable' in the face of possible suspicion. In addition, participants pointed out that **research integrity has become a way of attacking scientists and sometimes forcing them to resign**, as in the United States. Such a weaponisation of research integrity in Europe in the coming years is undoubtedly to be expected.

2.4. Phase 4 – Social Integration

In this part of the roundtable, the discussion was organised around the following four recommendations :

- Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration
- Promote collaborative spaces and buildings: buildings should be designed and built to favour openness
- Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups
- Implement the inclusion of scientific knowledge in school curricula - the only moment in life when all societal groups can be reached simultaneously - but also foster life-long learning opportunities in this regard

Participants agreed that French scientists are frequently not very familiar with participatory research or citizen science. They stressed the importance of having a nuanced vision of participatory research - contributory, collaborative or co-creative - but also of having exchange situations where scientists are made aware of non-scientific expertise. These are initiatives that remain very difficult to implement because they require a lot of time and the institutions are generally encouraging researchers to publish and submit projects more quickly. They also raise new issues of scientific integrity. However, **they can have a significant impact on trust in science by bringing citizens into contact with the research process.**

Participants acknowledge the potential benefits of using physical and virtual infrastructures to bring science closer to citizens ("science at the street level"). Among the initiatives discussed, participants mentioned the experience of a medical journal and an organisation that had integrated patients into various decision processes. However, these experiments were considered rare. **Social integration is still too often linked to data collection, but this contributory dimension should not be overlooked at a time when we are talking about the biodiversity crisis.**

In terms of scientific literacy, participants stressed **the importance of familiarising the public not so much with the results of research, but with the research process itself.** From this point of view, it is important to rethink part of science teaching. Rather than talking about training, we need to talk about lifelong learning.

2.5. Phase 5 – Science communication

In this part of the roundtable, the discussion was organised around the following three recommendations

- Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination
- Use institutional communicators to make citizens aware of research in the early stages
- Avoid assuming a "crisis of trust", it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided

Participants pointed out that these three important **recommendations take a top-down approach to communication, whereas what is needed is to create situations of interaction and reciprocity.**

Participants emphasised the value of mobilising institutional mediators, but **it is also necessary to turn to non-institutional mediators to reach audiences that would otherwise be inaccessible.**

Finally, participants agreed on the need to combine mass communication and participatory awareness-raising activities, but in both cases they felt that the role of the scientist is still poorly understood. **There is still a lot of educational work to be done to make the general public understand what a scientist is today.** And to do this, we need strong communication about the scientific approach and role, regardless of the results.

2.6. Ranking exercise

On the basis of the rankings submitted by the participants, the priority order collectively defined is as follow (by decreasing order of priority):

1. In-depth revision of the performance evaluation system: Towards more qualitative measures
2. Ensure science independence and develop public conversation about the private funding of universities and research organisations
3. Implement the inclusion of scientific knowledge in school curricula - the only moment in life when all societal groups can be reached simultaneously - but also foster life-long learning opportunities in this regard
4. Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration
5. Ensure a culture of transparency regarding the institutional handling of misconduct
6. Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution
7. Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination
8. Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups
9. Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries
10. Promote collaborative spaces and buildings: buildings should be designed and built to favour openness
11. Protect own members, and particularly scientists, from external attacks
12. Use institutional communicators to make citizens aware of research in the early stages
13. Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management

14. Avoid assuming a "crisis of trust", it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided

2.7. About paradoxical injunctions

During the roundtable, all participants were asked to read the following transcript from a focus group focusing on paradoxical injunctions and to try to identify some of them in their own professional environment.

(...) That's the institution's job, to work in all areas of the institution to limit tensions. Whether it's evaluation processes, recognition processes, human resources support for groups... that's the job I've given myself (...) to work with all the departments in the institution to track down all the places where their processes could come into conflict with scientific integrity, ethics and professional conduct. And that's really the job of the institution. So the outside world is what it is, we don't necessarily have any control over it (...) but what we do have control over, and by that I mean our institutions, is to build an environment within the institution that is as favorable as possible, as conducive as possible, and therefore as free from paradoxical injunctions as far as values are concerned. (France, FG2_2)

The following table lists the situations of paradoxical injunctions identified by participants during or after the roundtable.

I	Part	Paradoxical injunction
d	icip	
1	R_P6	'(...) we've talked about citing or not citing or even subscribing or not subscribing to certain journals, but there is still an obligation for a researcher to cite previous work, even if it has been published in journals by X... you're required to cite it and to be able to cite it, you have to read it. So it's also a bit complicated as, let's say decisions, to say that you're not going to have a subscription with this or that publisher, even if they have other faults. Because if someone has written a very good article in a magazine published by X and I don't cite him even though he has an impact on what I'm writing about, that's not ethical either, or honest'.
2	R_P4	"The first imperative is 'you must publish', the second is 'you must produce reliable, original, useful and saleable results'. Both are controlled by various forms of evaluation. However, they correspond to timeframes that do not always coincide: that of research, that of publication and that of evaluation. This leads to misconduct in terms of data (you have to produce something quickly, and it has to be 'remarkable' if possible) and publication (you have to publish quickly) in order to obtain

an evaluation that will allow you to continue receiving funding, maintain your social position in your research community, laboratory or institution, and/or obtain a promotion, apply for a qualification, apply for a job, etc.).

The logic of project-based funding encourages the creation of "research entrepreneurs" who specialise in managing projects. They tend to regard young researchers and their colleagues as their 'employees'. But not everyone reaps the same benefits, and these performance-oriented 'research entrepreneurs' distance themselves from the research activity, delegating it (sometimes largely) to others, but willingly demanding to be signatories on publications.

The triptych of research-evaluation-publication is thus subject to temporalities and imperatives that become contradictory, because in order to achieve quality, researchers cannot always fit into timetables (for evaluation and publication) that do not correspond to the time and the demands for rigour and honesty in research."

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- 3 R_P3 "I have noticed that, on the pretext of formalising the procedures for recognising the participation of partners (particularly, but not exclusively, private partners) in research projects, the agreements too often contain clauses that are abusive from the point of view of scientific integrity (...) Typical case: the clause stipulates that the partner must always be a co-author of the publications resulting from the collaboration, without requiring the partner to actually participate in the research and/or the manuscript (which amounts to guest or gift authorship").
-
- 4 R_P3 "While the very definition of the habilitation for research supervision is a diploma that gives the right to supervise dissertations on the basis of proven ability to supervise students, there is in fact no obligation to train researchers (...) The exercise is most often entirely focused on presenting a scientific report to date and a (more or less realistic) project for the future, without any mention of the dimension it is supposed to measure: the ability to supervise research. And there is no mention of 'how research is done' (and therefore of ethics, integrity, open science, etc.)."
-
- 5 R_P3 Openness and knowledge sharing vs. an evaluation model that values (impact factor, etc.) a publication model that can act as a brake on openness, and that places little or no value on the resources and time spent on managing openness (data curation) and knowledge sharing (outreach).
-
- 6 R_P7 "Asking researchers to take responsibility and, on the other hand, asking researchers to be careful about their engagement and public expression (which can be a sign of responsibility towards those in political and socio-economic power)."
-
- 7 R_P7 "On the one hand, an invitation to do research with private partners, to register patents, etc., and on the other hand, an incentive to do open science, to share resources (gitlab, github), etc."
-
- 8 R_P7 "On the one hand, we are encouraged to carry out 'disinterested' research to improve knowledge for the benefit of society; on the other hand, we are asked to seek funding (i.e. to spend a lot of time researching, but not in the field of research, but in the search for money) through targeted calls for projects (with
-

fashionable topics) or through private funders (whose objectives are, in the end, necessarily commercial)."

- 9 R_P7 "On the one hand, a discourse on the search for excellence, competition at all costs, glorification of highly cited researchers, and on the other hand, recommendations to push for qualitative (rather than quantitative) assessments for laboratories, for recruitment, etc."
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3 Building trust in science: priorities and institutional engagement

This section analyses the discussions on the proposed recommendations. Before going into the analysis, it is important to emphasize that, at the beginning of the roundtable, the national partner made it clear that, in their current state, the recommendations put forward for discussion were more "general guidelines" than operational recommendations. And that part of the operationalisation would depend precisely on the discussions at the various roundtables. This section provides detailed transcripts of the discussions in the original language, accompanied by an English translation.

3.1 Institutional engagement with research integrity

What should institutions be encouraged to do in terms of research integrity? The three recommendations discussed in this thematic section focused in turn on the need to harmonise codes of conduct ("Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries") to train scientists at all stage of their careers ("Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution") and to develop a culture of transparency in dealing with misconduct ("Ensure a culture of transparency regarding the institutional handling of misconduct").

Of these three recommendations, only the third one (a culture of transparency) achieved real consensus, with a focused discussion on the nature of what should be made visible. Participants felt that some of the misunderstandings and misconceptions surrounding the institutional handling of scientific misconduct were due to a lack of communication on the part of the institutions. Institutions should therefore be encouraged to communicate about this treatment, but not so much about the cases themselves, which should be kept confidential, but about the process as such. In the following excerpt, one participant emphasises the risk that a lack of communication about the institution's handling of misconduct could undermine trust in the institution:

« (...) si on prend la comparaison avec un processus judiciaire par exemple, il y a des étapes du processus qui n'ont pas à être publiques et c'est normal. Dans l'enquête, il y a des choses qui doivent rester confidentielles, etc. Mais par contre, le processus lui-même, il est clair, et on est capable de dire à tout le monde, tout public, les publics les plus concernés, les plus polémiques, on en est là dans le processus actuellement (...) ça veut dire qu'il faut avoir une cartographie du processus, une roadmap du processus de traitement des cas de mauvaise conduite et d'être capable de dire « On en est là ». Pour montrer que la situation avance et que les observateurs, par exemple, ne soit pas tenté de penser que le poisson est en train d'être noyé parce qu'on ne peut pas en parler, parce qu'on ne veut pas en parler. Donc si on ne peut pas, c'est qu'on ne veut pas. » (R P11)

"If we make the comparison with a court case, for example, there are stages in the process that don't have to be public, and that's normal. In an investigation there are things that have to remain confidential and so on. But on the other hand, the process itself is clear and we are able to say to everybody, to any audience, including those who are most concerned and most controversial, that this is where we are in the process at the moment (...) That means that we need to have a map of the process, a roadmap of the process for dealing with cases of misconduct, and to be able to say 'this is where we are'. To show that the situation is progressing and that observers, for example, are not tempted to think that the fish is being drowned because we can't talk about it, because we don't want to talk about it. So if you can't, you don't want to." (R P11)

The parallel with a court case is a reminder of the need to strike a balance between what we show and what we keep hidden, if only to protect people. Therefore, it is important to prioritise openness and transparency over the procedural aspect of dealing with misconduct. Letting people know where the institution stands in terms of handling with cases is a simple way of anticipating the diffuse but potentially negative perception that the institution does not, in principle, do the work it is supposed to do.

If we adopt this perspective, rather than recommending in general terms that a culture of transparency should be developed, we need to use a more operational formulation along the following lines: **"Encourage RPOs and RFOs dependent on European funding to develop and implement a well-defined, structured process for handling cases of misconduct, accompanied by clear public communication at each critical stage."** This is just one example of rewording, but it is a way of showing how the roundtable discussions should be used as a source of inspiration to move from vague guidelines to proposals that can lead to concrete actions. **It is also imaginable that this general revised recommendation could be coupled with more specific recommendations related to the different components of the POIESIS conceptual model, in particular to the actors in the mediation chain.**

The issues of harmonisation and training were the subject of more contradictory discussions among participants. For example, training is certainly considered important, but those who regularly carry out these actions avoid using the term 'training'. They prefer to use the term 'awareness-building' in order to reach people who would not normally be involved in training initiatives. This distinction between training and awareness-building is developed in the following extract:

« (...) il y a un gros problème dans la terminologie (...) je prends toujours soin de ne pas dire que je propose une formation mais bien une action de sensibilisation... et cette action ne porte pas sur l'intégrité scientifique, c'est sur une recherche intègre et responsable. Je pense vraiment que ça c'est important et c'est tout simple,

"There's a huge problem with the terminology (...) I'm always careful not to say I'm offering training, but an awareness-building initiative... and this initiative is not about research integrity, it's about honest and responsible research. I think it's really important, and it's quite simple, but when I go into a lab I say: 'careful, I'm

mais si j'arrive dans un labo, je dis : « attention, je ne viens pas faire une conférence sur l'intégrité scientifique, je viens faire une action de sensibilisation, on va faire des ateliers ». Et ça ça fonctionne beaucoup mieux... avec toujours un laboratoire en entier et pas justement s'adresser à des catégories. C'est très bien d'avoir des formations pour les doctorants et je soutiens ça... tout ce qu'on fait pour les entrants dans les différents organismes, tout ça c'est super. Mais après ça, je pense qu'il faut viser plus des actions de sensibilisation que de formation... et d'ailleurs on forme pas. Pour moi on peut former aux bonnes pratiques mais on ne forme pas à l'intégrité scientifique... » (R_P1)

not here to give a lecture on scientific integrity, I'm here to build awareness, we're going to do some workshops'. And that works much better... always with a whole lab and not just targeted categories. It's very good to have training courses for PhD students and I support that... everything we do for new recruits in the different organisations is great. But after that, I think we need to focus more on awareness building than on training... and besides, we don't train. As far as I'm concerned, we can educate people in good practice, but we don't educate them in scientific integrity..." (R_P1)

Beyond the discussion of terminology, this extract highlights the different criteria for success identified by the participant: 1) **a communication situation that favours interaction (workshop) over top-down transmission of information**, 2) a pedagogical approach centred on the discussion of experiments by **all members of the laboratory rather than by a specific population**, 3) **an 'awareness-building' approach focused primarily on 'best practices' adapted to the scale of disciplinary communities** rather than on formal, overarching principles of scientific integrity.

Concerning harmonising codes of conduct, participants clearly emphasised the usefulness of such harmonisation in dealing with misconduct associated with several institutions in different countries. They stressed that a harmonised code at European level, setting out the main reference principles, could certainly be useful for the scientific community, but also for the general public, which often has difficulty understanding what a scientist is. However, **most of the discussion focused on the risks associated with excessive standardization**. The following extracts cover some of the risks discussed during the round table:

« Bon, il y a les codes de bonne conduite et puis il y a la mise en œuvre dans les projets. On le voit, nous, assez fréquemment à l'échelle de notre organisme, les projets se montent en regard de bonnes pratiques de code de bonne conduite. Et puis, au moment de leur mise en œuvre, il y a quand même des questions qui se posent. Et ce qui est important, c'est d'avoir des espaces où ça peut être discuté. » (R_P10)

"Well, there are codes of conduct and then there's the implementation in projects. As we see it in our organization, projects are often set up according to the best practices of the code of conduct. And then, when they are implemented, questions arise. And it's important to have forums where this can be discussed" (R_P10)

« je crois qu'il faut faire attention de ne pas donner des recommandations qui poussent un peu la maladie actuelle dans toutes les gouvernances, qui est de normaliser à fond en étant toujours plus éloigné de la réalité du travail. Parce que ça aboutit à quoi? A ce que les gens apprennent à faire semblant. Ils font semblant comme on vient de le dire. Ils font des bons projets qui sont pile poil dans toutes les normes, mais sauf qu'après ça ne suit pas, ça ne suit pas. Parce que toute façon les conditions ne sont pas réunies non plus pour que ça suive (...) là où il y a des manquements à l'intégrité scientifique, il y a des gens qui sont très

"I think we have to be careful not to make recommendations that encourage the current sickness in all administrations, which is to standardise to the hilt by moving further and further away from the reality of work. Because what does that lead to? People learn to pretend. They pretend, as we've just said. They come up with good projects that meet all the standards, but then it doesn't work, it doesn't work. Because in any case the conditions aren't right for it to follow (...) Where there are breaches of scientific integrity, there are people who are very lonely. Either they are alone because they choose to be, or they are alone because the

seuls. Soit une solitude choisie et fabriquée pour se protéger de certaines pratiques, soit une solitude objective parce que l'environnement de travail fait qu'il n'y a pas d'espace de délibérations » (R P4)

« la plupart des outils dont on se dote viennent pour beaucoup des sciences dures et les normes en fait disciplinaires ne sont pas du tout les mêmes quand on va voir les sciences humaines et sociales (...) je pense qu'il y a un vrai danger dès lors qu'on essaie de graver dans le marbre des règles qui vont s'appliquer à tous, tout le temps, dans tous les contextes, et qu'on ne les édicte que d'un seul point de vue (...) ce que j'essaie de faire, c'est de mettre l'accent non pas sur un jeu de règles qui ne conviendra qu'à certains et qui serait plus ou moins bien appliqué par tous, au prix de nombreuses limites. J'essaie de graver dans le marbre la nécessité du dialogue (...) » (R P3)

working environment means that there is no room for deliberation". (R_P4)

"Most of the tools we use come from the natural or physical sciences, and the disciplinary standards are not at all the same when you go into the humanities and social sciences (...).) I think there's a real danger if we try to set in stone rules that apply to everyone, all the time, in every context, and if we only set them from one point of view (...) What I'm trying to do is not to emphasise a set of rules that will only suit some people and that will be more or less well applied by everyone, at the cost of many limitations. I'm trying to write in stone the need for dialogue." (R_P3)

Each excerpt highlights a particular dimension of the problem. The first highlights the gap that may sometimes exist between theoretical compliance with codes of conduct and their actual application in practice. One can test a researcher's familiarity with an abstract and harmonised code of conduct, but what about assessing whether the code is actually put into practice in the course of research? Peer review seems ill-suited to ensuring effective compliance with the general principles. The second excerpt highlights a general trend towards more harmonisation and more standardisation, and the relative adaptability of actors: faced with constant demands for standardisation, actors become experts in the art of "pretending". However, as one participant pointed out, beyond learning to cope with institutional demands, researchers are very often left alone with their problems. Finally, the third extract highlights the fact that the issue of standardisation is too often based on a 'one-size-fits-all' approach that ignores the differences in disciplinary cultures.

What these different extracts have in common is that they express a degree of scepticism about the value of moving further towards the standardisation of codes. They suggest an alternative approach centred on the development of flexible and adaptable frameworks. Frameworks that are linked to general principles that can be adapted according to disciplinary contexts. Frameworks that encourage open dialogue to identify and address the challenges of implementing codes of conduct. Frameworks that ensure a bottom-up approach to adapting general principles of scientific integrity to the reality of practice.

3.2 Institutional engagement with the organization of science

What should institutions be encouraged to do in terms of organization of science? The four recommendations discussed in this thematic section focused in turn on the administrative support ("Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management"), evaluation

process ("In-depth revision of the performance evaluation system: Towards more qualitative measures"), autonomy of science ("Ensure science independence and develop public conversation about the private funding of universities and research organisations") and professional protection ("Protect own members, and particularly scientists, from external attacks").

There is a relatively broad consensus that researchers should benefit from more administrative support. Some participants cited examples from abroad, where colleagues are provided with an assistant who relieves them of most of the administrative tasks, allowing them to concentrate on their research. However, with a possible increase in administrative support, some participants also see a risk of increased administrative power, as in the following extract:

« (...)Je le vois dans les universités, le rôle du délégué à la protection des données par exemple, qui monte de façon importante et qui peut être un soutien très apprécié de la part des collègues. En revanche, il y a une tendance dans les universités (...) à ce qu'il y ait une augmentation du pouvoir administratif sur la recherche. Je pense qu'il faut bien distinguer les deux et les chercheurs souffrent aussi du pouvoir administratif qui cherche à imposer des normes administratives qui ne correspondent pas aux normes scientifiques du processus de recherche. » (R_P4)

"I can see this in universities, for example with the role of the data protection officer, which is growing significantly and can be a very welcome support for colleagues. On the other hand, there is a tendency in universities (...) for administrative power over research to increase. I think we need to distinguish between the two, and researchers also suffer from administrative power that tries to impose administrative standards that are not in line with the scientific standards of the research process" (R_P4)

But most of the discussions between the participants focused on the issues of evaluation and independence. In terms of evaluation, participants felt that considerable efforts had already been made to move away from purely quantitative evaluations. In other words, calling for more qualitative measurement is not perceived as necessarily the most useful thing to do at this stage. What does seem useful is, first and foremost, to support researchers in their use of qualitative measurement. It may also be useful to shift the recommendation from the formal dimension of evaluation, which has already been addressed, to the informal dimension of evaluation. These two points are discussed in the following extracts:

« (...)on a tellement critiqué les indicateurs quantitatifs qu'aujourd'hui, on a de plus en plus d'indicateurs d'impact sociétaux qui sont produits dans des conditions hallucinantes (...) on va de plus en plus vers des indicateurs qui sont de plus en plus farfelus » (R_P3)

"We have been so critical about quantitative indicators that today we have more and more social impact indicators that are produced under ridiculous conditions (...) we are increasingly moving towards indicators that are more and more absurd." (R_P3)

« On a fait évoluer les guides d'évaluation pour justement intégrer des points autour de la science ouverte et de l'intégrité scientifique. (...) Et aujourd'hui, les membres des jurys nous disent en fait, qu'on a tellement de critères qualitatifs à juger qu'on revient vers le quantitatif parce qu'on est complètement perdus. Donc ils nous alertent sur le fait que réviser les

"We changed the evaluation guidelines to include points about open science and scientific integrity. (...) And today the panel members are telling us that we have so many qualitative criteria to judge that we are going back to the quantitative because we are completely lost. So they're warning us that revising evaluation systems towards more qualitative criteria without support

systèmes d'évaluation vers plus de qualitatif sans accompagnement, ça peut être contreproductif. Donc ne pas oublier cet impératif d'accompagner et de former ceux qui au final vont les mobiliser, ces systèmes d'évaluation et en être les acteurs » (R P10)

can be counterproductive. So we mustn't forget the need to support and train those who will ultimately use and participate in these evaluation systems." (R_P10)

« ... à l'intérieur de l'évaluation, il y a la partie institutionnelle qui grosso modo est normée et qui peut être parfois un peu difficile à faire vivre, et puis toute la partie informelle qui tient au statut social de la personne dans sa communauté (...) le ressenti de l'évaluation par les chercheurs est quelque chose d'important, d'autant plus que c'est eux mêmes qui évaluent (...) en matière d'évaluation institutionnelle, il n'y a pas une seule institution qui n'a pas adopté DORA, et pourtant il y a très peu de comités d'évaluation qui ne continuent pas à regarder les facteurs d'impact. Donc ça, c'est de l'initiative des évaluateurs qui, dès qu'ils sortent de la pièce, deviennent des chercheurs, ne veulent pas être évalués par ce biais là... » (R P11)

"Within evaluation, there is the institutional part, which is more or less standardised and can sometimes be a bit difficult to implement, and then there is the whole informal part, which has to do with the social status of the individual in his or her community (...) how researchers feel about evaluation is something important, especially since they are the ones who evaluate (...) in terms of institutional evaluation, there's not a single institution that hasn't adopted DORA, and yet there are very few evaluation committees that don't continue to look at impact factors. So this is the initiative of the evaluators who, as soon as they leave the room and become researchers, don't want to be evaluated in this way..." (R_P11)

These extracts are all incentives **to develop a specific recommendation on evaluation, but to give it more precise contours, either by directing it towards the use of the qualitative indicators, or directing it towards the more informal dimensions of evaluation.** This brings us back to a problem identified in the discussion on the harmonisation of codes of conduct. At first sight there is little resistance to change in evaluation methods, but this does not mean that old practices mechanically disappear. Evaluators may have good reasons for maintaining discrepancies between institutional recommendations and how they choose to act. This may be related, as mentioned in the extract, to a lack of information on how to properly use and interpret new indicators. Evaluators may also feel that traditional indicators offer a sense of familiarity that newer indicators lack. They may also doubt about the reliability or fairness of the qualitative indicators, seeing them as too subjective. But we can also imagine that, since evaluation is always carried out by peers, researchers who value quantitative criteria for themselves in the course of their work will not easily abandon these criteria when they become evaluators. In all cases, the focus should be on the scope and appropriate use of non-quantitative indicators.

The other recommendation that draws most of the attention concerns the independence of science and the way in which this independence is both perceived by the general public and potentially challenged by changes in the conditions under which science is practised. This perceived independence of science is a key factor in public trust. However, it sometimes appears to have been weakened either by private funding of research or by the development of participatory research mechanisms. These different factors are highlighted in the extracts below.

« ... la première réaction des publics, ça va être qui finance telle ou telle étude ? (...) systématiquement, l'indépendance de la science est questionnée... le public veut savoir qui paye. Et on a comme ça des

"the first reaction of the public is going to be, who is funding this or that study? (...) systematically, the independence of science is questioned... the public wants to know who is paying. And just like that, we

organismes qui ont perdu en crédibilité à cause de financements (...) il y a toujours une suspicion autour d'un industriel qui aurait un intérêt lucratif à ce que l'étude dise ça plutôt que ça (...)» (R_P12)

have organisations that have lost credibility because of funding (...) there is always a suspicion that an industrial company has a lucrative interest in the study saying one thing rather than another." (R_P12)

« ça me paraît primordial, il y a même une certaine urgence. On voit que de plus en plus d'organismes nationaux de recherche créent leur fondation (...) Donc il ne faut pas se leurrer, ce sont des dispositifs de défiscalisation qui permettent effectivement le financement privé de la recherche. C'est quand même le premier objectif et on voit bien que ça s'est fait sans débat public et même sans débat interne. Et ça pose des questions. » (R_P10)

"I think it's vital, in fact it's a matter of urgency. We can see that more and more national research organisations are setting up their own foundations (...) So let's not fool ourselves, these are tax exemption schemes that effectively allow private funding of research. After all, that's the primary objective, and it's clear that this was done without any public or even internal debate. And that raises questions" (R_P10)

« avec la recherche participative les citoyens sont constitués en associations ou en parties prenantes, et ça pose exactement le même type de questions que quand on fait des recherches partenariales avec un partenaire privé (...) Là ce sont des porteurs d'enjeux citoyens au lieu d'être des porteurs d'enjeux financiers. Mais n'empêche, ce sont des enjeux. Et donc du coup, il y a des questions de neutralité de la science qui est produite, de la connaissance qui est produite dans ces projets participatifs (...) il faut les poser, il ne faut pas mettre un tabou dessus. » (R_P11)

With participatory research, citizens are constituted as associations or stakeholders, and this raises exactly the same type of questions as when we carry out collaborative research with a private partner (...) In this case, the stakeholders are citizens rather than financial interests. But they are still stakeholders. And so there are questions about the neutrality of the science that is produced, the knowledge that is produced in these participatory projects (...) we must raise them, we must not put a taboo on them (...) (R_P11).

« je vois monter un profil de chercheurs entrepreneurs qui ont, parfois, pas toujours, des pratiques qui vont à l'opposé de l'intégrité scientifique. Mais ce profil de chercheur entrepreneur il est facilité, voir encouragé par toute une espère d'économie de la connaissance qui s'est développée depuis pas mal de temps... » (R_P4)

"I see a growing profile of entrepreneurial researchers who sometimes, not always, have practices that conflict with scientific integrity. But this profile of the entrepreneurial researcher is facilitated, even encouraged, by a whole knowledge economy that has been developing for some time now" (R_P4)

If we go back to the preliminary wording of the recommendation related to independence - Ensure science independence and develop public conversation about the private funding of universities and research organisations - this initial wording does indeed touch on an important problem closely associated with the issue of public trust, but seems **too disconnected from the actual instruments of private funding of research and ignorant in principle of the diversity of stakeholders likely to weaken the independence of science**. The revised recommendation should be able to clearly specify concerns related to corporate sponsorships, tax-exemption schemes enabling private funding. It should also be seen as an invitation to extend the conversation about interference with the independence of science by taking into account the diversity of stakeholders.

3.3 Institutional engagement with social integration

What should institutions be encouraged to do in terms of social integration? The four recommendations discussed in this thematic section focused in turn on training scientists ("provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social

integration”), designing appropriate research structures (“promote collaborative spaces and buildings: buildings should be designed and built to favour openness”), rethinking modes of social integration (“develop and consider new ways of consulting citizens at local and regional level”) and promoting scientific culture in school curricula (“Implement the inclusion of scientific knowledge in school curricula - the only moment in life when all societal groups can be reached simultaneously - but also foster life-long learning opportunities”).

All four recommendations received a positive response. While several participants highlighted the challenges to scientific independence posed by the growing emphasis on social integration, none suggested that such integration could undermine trust in science. On the contrary, **participatory research - even at the most basic level, such as data collection - was recognised as an excellent way of involving citizens in the research process.** Some participants mentioned a number of original social integration initiatives, as shown in the extracts below:

« Il y a un journal médical (...) qui depuis dix ans a intégré les patients dans sa rédaction (...) il a dans son staff trois patients qui sont salariés. Les patients ont la possibilité, d'écrire des articles et ils ont une rubrique régulière avec des courts articles dans un journal. Les patients contribuent également à la relecture des articles, dans l'évaluation pour les pairs et parfois dans certains domaines, c'est 70 % des articles qui en plus ont un patient parmi les évaluateurs. Ils essayent, et ça, c'est un peu plus complexe, de les faire participer aux recherches et à l'initiation des recherches et qu'ils participent à la stratégie du journal» (R P9)

There's a medical journal (...) which has had patients on its editorial board for ten years (...) it has three paid patients on its staff. Patients have the opportunity to write articles and they have a regular column of short articles in a newspaper. Patients are also involved in proofreading articles, peer reviewing and sometimes, in certain areas, 70% of the articles have a patient as one of the reviewers. They try - and this is a bit more complex - to get them involved in research and in initiating research and in the strategy of the journal. (R_P9).

« j'ai pu participé à un programme de sciences participatives (...) Et les citoyens ont été intégrés vraiment dès le début dans le protocole qui avait été mis en place et ensuite dans l'expérimentation et ensuite dans les résultats. Et ça, c'était super parce qu'il y avait une vraie intégration, une vraie compréhension sur la durée, l'explication du protocole et la construction du protocole. C'était un peu long effectivement, mais globalement, c'était extrêmement intéressant. Donc je pense que personne ne s'est ennuyé. Alors oui, ça a pris du temps, certainement à l'équipe de chercheurs, mais c'était en tout cas très satisfaisant pour l'ensemble. » (R P12)

"I was able to take part in a participatory science programme (...) And the citizens were really involved from the beginning in the protocol that was set up and then in the experiment and then in the results. And that was great because there was real integration, real understanding over time, explanation of the protocol and construction of the protocol. It was a bit long, but overall it was extremely interesting. So I don't think anybody got bored. So yes, it took time, certainly for the research team, but it was very satisfying for everybody" (R_P12)

Trust in science is not built on knowledge alone, but requires a basic understanding of how that knowledge is produced, through the involvement of non-scientists at different stages of the development and implementation of research protocols. However, **such social integration requires considerable time and energy.** This is one of the many paradoxical demands placed on the scientific community: on the one hand, scientists are encouraged to publish and obtain funding at high speed; on the other hand, they are encouraged to develop social integration systems which, by definition, contradict the imperative of rapid productivity. Worse still, according to participants, participatory research is sometimes perceived negatively by the scientific

community, as a degraded form of knowledge. **The focus of any definitive recommendation should therefore be on reducing any paradoxical demand and effectively managing any effort to address the practical challenges of promoting social integration.** Finally, one of the participants pointed out that this integrative dimension should not be framed as a 'gadget', as an 'add-on', but as a fully-fledged part of the research mission. This is still far from being taken for granted by most French scientists.

3.4 Institutional engagement with science communication

What should institutions be encouraged to do in terms of science communication? The three recommendations discussed in this thematic section focused in turn on combining mass communication with local engagement ("Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination"), mobilising the institutional mediators ("Use institutional communicators to make citizens aware of research in the early stages") and changing the public discourse ("Avoid assuming a "crisis of trust", it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided").

While the value of these three recommendations was acknowledged, recommendations 2 and 3 were also slightly criticised for adopting a too top-down perspective on scientific communication. Participants agreed on the need to strike a balance between mass communication and public engagement. They all agreed on the need to shift the focus of scientific communication from the presentation of findings to the processes that produced them. But they also stressed the importance of fostering dialogue between institutional and non-institutional actors in order to better engage audiences currently outside the reach of traditional institutions. **Such dialogue between institutional and non-institutional mediators is described as essential to improve public understanding of what science is and how it impacts on society.**

« (...) les institutions peuvent évidemment déployer des actions pour aller toucher le grand public. Mais il y a aussi d'autres acteurs quand même dans la société dont c'est le cœur de métier. Et il s'agit aussi de communiquer avec ses intermédiaires, de les alimenter, d'engager un dialogue avec eux pour qu'ils continuent à faire leur métier, c'est-à-dire d'aller chercher les publics, y compris là où c'est parfois difficile de les trouver. Donc voilà, les médiateurs institutionnels, les mobiliser, oui, mais, mais aussi pour s'adresser à leurs collègues qui ne sont pas institutionnels mais qui sont au contact des publics.» (R_P10)

"Institutions can, of course, take action to reach out to the general public. But there are also other actors in society whose core business is to do so. And it's also a question of communicating with these intermediaries, nurturing them, engaging in dialogue with them, so that they can continue to do their job, which is to reach out to the public, even where it's sometimes difficult to find them. So there you have it, the institutional mediators, mobilising them, yes, but also addressing their colleagues who are not institutional but who are in contact with the public". (R_P10).

« (...) le citoyen a du mal à comprendre ce qu'est un scientifique (...) il se demande qui est le « vrai » chercheur ? Quelles sont les règles de chacun ? Quels sont les financements de chacun ? Et pour moi, c'est

"Citizens have difficulty understanding what a scientist is (...) they wonder who the 'real' researcher is? What are the rules? How are they funded? And for me, this first element of characterisation is what is

ce premier élément de caractérisation qui manque dans la communication scientifique. Avant de faire dialoguer des acteurs ensemble, il faudrait déjà comprendre à qui on parle, d'où on se parle. Et pour moi, ça, c'est quand même un élément manquant et qui revient en permanence dans les débats publics, on est tout le temps confronté à ça... » (R P12)

missing in science communication. Before you can get people to talk to each other, you have to understand who you're talking to and where you're talking from. And for me that's a missing element that comes up again and again in public debates, we're always confronted with it..." (R_P12)

These two extracts underline the fact that scientific communication cannot be limited to messages disseminated by scientific institutions to the general public. **It must involve the complex chain of mediators involved in scientific communication in order to maximise its reach and effectiveness.** On the other hand, if this open communication is to claim to create conditions of interest or even commitment, it must be able to provide what is described as a **basic building block: an understanding of the professional identity of the scientist** and the values that define his or her social role. These two factors should enable us to target our recommendations more effectively, giving priority to dialogue between institutional and non-institutional actors and making the professional identity of the scientist a communication priority.

Conclusion

The roundtable organised in France as part of the POIESIS project highlighted some of the considerable work that still needs to be done. The recommendations that emerged from the discussion groups appear to be more like guidelines, pointing to a range of possible perspectives. It now seems necessary to anchor them more firmly in the conceptual model specific to the POIESIS project.

While it will be useful to review all the contributions from the roundtables, the discussions in France have already identified a number of key transversal points to keep in mind.

- 1) Any final recommendation must be able to anticipate its uses and abuses. For example, the increase in administrative support has been described by some participants as a potential administrative power take-over. The desire to harmonise codes of conduct is seen by some as a potential risk of technocratising integrity. Other exemple, strengthening the functional protection of scientists may seem legitimate, but it can also be perceveid as a form of corporatist protection. The final wording will have to anticipate this plasticity of interpretation of the recommendations. In short, we must avoid an oversimplified view of the recommendations and their implications.
- 2) The facts and process about which recommendations are made have formal dimensions that are easily identifiable, but they also have informal dimensions that are more difficult to specify. As has been pointed out in relation to the evaluation process, the issue is not so much institutional support for formal procedures, but rather the more informal uses that these procedures generate. Researchers adapt to

changes in their working environment in different ways, and their capacity to adapt needs to be taken into account.

- 3) Although selected on the basis of the focus groups, some of the recommendations put forward still do not achieve consensus. Given that the roundtable brought together participants from the focus groups, we might have expected some continuity. This was confirmed in many cases, but not systematically. This was particularly evident in the case of the harmonisation of codes of conduct, which opened the discussion on research integrity. It will no doubt be necessary to take account of these differences on a case-by-case basis.
- 4) Any final recommendations must be based on an in-depth knowledge of existing recommendations. One of the participants, who was already involved in two European projects on responsible science, stressed that for a recommendation to be considered "admissible", it had to find its place in the set of pre-existing recommendations, in other words, its added value had to be easily discernible in relation to the pre-existing recommendations on the same topics. This observation should undoubtedly encourage us to identify possible overlaps with existing recommendations before finalising them.
- 5) The issue of independence remains a key issue in building trust in science. But while this independence is a characteristic generally valued by the scientific community, structural changes in that community are likely to weaken it or make it less visible to the general public. By affirming the need to put "science at the service of society", an ecosystem of stakeholders is encouraged to collaborate or engage in dialogue with the scientific community. The nature and conditions of this dialogue are part of the contemporary perception of the independence of science
- 6) Another part of the trust issue lies in the ability of the scientific community and all those involved in scientific communication to involve the general public in the concrete modalities of the research process. Participatory science is one possibility, but it is time and resource consuming. It is the responsibility of the institutions to ensure the feasibility of this type of research.
- 7) More generally, scientific institutions should be encouraged to identify and assess the extent of their conflicting or paradoxical demands, with the aim of minimising them wherever possible.



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TRUST IN SCIENCE

National Report: Deliberative roundtable - *Germany*

**Project title: Probing the impact of integrity and
integration on societal trust in science**

Project acronym: POIESIS

Grant Agreement no.: 101057253

Lead partner for this deliverable: *Centre national de la recherche
scientifique (CNRS)*

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1 Introduction

This national report presents the set up (section 1) and realisation (section 2) of the POIESIS Roundtable event in Germany and introduces the key results of its analysis (section 3). The main objective of the roundtable was to discuss the international recommendations on the role of institutions that have been drafted on the basis of the 22 POIESIS focus groups earlier this year.

1.1 Set up of the deliberative roundtable

The German deliberative Roundtable took place on the 28th of October 2024. This date had been determined as early as in June with the project's PCIs to make sure that they would be able to attend in any case. In July, invitations to attend were sent out to the 18 participants of the German focus groups. It was decided very early to have the roundtable as an in-person afternoon event in Berlin, on the premises of Wissenschaft im Dialog (WiD). Once most focus groups participants had given feedback of whether they would be able to attend or not, additional invitations were sent out in September to 'external' stakeholders with relevant profiles. It was aimed to achieve a balance between participants working in communication, the field of Good Scientific Practice and research funding as well as to have different kinds of institutions represented at the event (universities, non-university research centres, different kinds of funding organisations). This worked very well. In the end, 16 participants attended the event, of which 8 had already been part of the focus groups, either as PCI or participants. Participants received a confirmation e-mail after their acceptance of the event invitation and then another e-mail with further information and the informed consent sheet one week ahead of the roundtable. This latter email also contained a short summary of the German focus group results (see Appendix 4). Participants signed the informed consent during the first plenary session.

The event started at 12:30 with an informal lunch to welcome the participants. At 13:30, the first plenary session began. POIESIS member Anne-Sophie Behm-Bahtat ensured the moderator role at the event and her colleague, Liliann Fischer, supported her by moderating one of the two small groups. The roundtable lasted until 18:15. At its end, all participants were gifted a small bag with a WiD-soap and some chocolate. Half of the participants stayed for a workshop dinner at a nearby restaurant afterwards.

1.2 Participants in the deliberative roundtable

The following table lists the participants of the roundtable and provides some information on their background while respecting the participants' anonymity.

Deliberative roundtable

Participant Id.	Gender	Career stage (early, mid, senior)	Field	Institution
R_P1	Female	Senior	Communication	University
R_P2	Female	Senior	Communication	University
R_P3	Female	Senior	Communication	Non-University Research Centre
R_P4	Female	Senior	Communication	Non-University Research Centre
R_P5	Female	Mid	Communication	University
R_P6	Female	Mid	Good Scientific Practice	University
R_P7	Female	Senior	Good Scientific Practice	University
R_P8	Male	Senior	Good Scientific Practice	University
R_P9	Female	Senior	Good Scientific Practice	University
R_P10	Female	Senior	Good Scientific Practice	University
R_P11	Female	Mid	Good Scientific Practice	Research consortium
R_P12	Male	Mid	Research funding organisation	Foundation
R_P13	Female	Mid	Research funding organisation	Non-profit organisation
R_P14	Male	Senior	Research funding organisation	Foundation

R_P15	Female	Mid	Research funding organisation	Foundation
R_P16	Male	Mid	Research funding organisation	Federal ministry

2 Sequential description of the deliberative roundtable

The following section provides a brief and sequential description of the different phases of the roundtable. The roundtable had an introduction and two plenary as well as two small group sessions. The division into small groups was determined in advance and remained stable throughout the event. Each small group had 8 participants who were chosen to represent a mix of participants from different fields of profession as well as of former focus group members and 'new' experts.

2.1. Phase 1: Introduction

The first plenary session started with an interactive round of introduction. A sitting order had been set beforehand, ensuring that everybody would sit next to someone they did not know before. Participants were given 2-3 minutes to discuss in pairs. Then, they were asked to respectively present their neighbours, stating their name, their field of profession and whether they had been part of the focus groups or not.

As a next step, a short presentation of the POIESIS project was held and then the results of the focus groups presented. It was planned to compare national and international recommendations at this point. For reasons of time constraints, though, the focus was put on the international recommendations here as these were supposed to be the main point of discussion afterwards. In retrospective, it would have been more valuable to take the time to include the national recommendations as well.

As a last step, the agenda and objectives of the day were presented and then, the participants were sent into the first small group session to start the discussion.

2.2. Phase 2: Group session 1 – 2 groups, 8 participants each

The small groups during the roundtable were split according to the dimensions of the international recommendations: Group 1 discussed recommendations for research integrity / Good Scientific Practice and organisation of science and Group 2 discussed recommendations for public integration and science communication. The given objective of this first one-hour-long group session was to discuss and rank the respective proposed recommendations. To initiate the discussion, the groups were asked to work using the Think-Pair-Share method. All recommendations had been handed out to the participants and also hung on a pinboard. Participants were given 5-10 minutes to reflect on these recommendations alone and then discuss in pairs what they thought about

them, how relevant they considered them for their institutions and the German institutional system and what difficulties or challenges came to their mind when reading them. After these 10-15 minutes of bilateral discussion, each pair shared their main thoughts with the rest of the group, and it was tried to achieve a ranking order for the recommendations.

2.2.1 Group 1 – Good Scientific Practice and Organisation of Science

Participants in group 1, session 1 expressed general doubts about the wording of many of the recommendations and about the way they are divided into dimensions. In general, it was unclear to the participants what the dimension of “organisation of science” was about. They particularly underlined that the reform of the performance evaluation system is also an important factor for Good Scientific Practice. It was discussed in much detail who the addressees of the different recommendations should be and that ranking them was very difficult as they are situated at very different levels. This is why the participants reorganised the recommendations for the organisation of science into two categories: those that require collaboration among multiple actors and those that individual institutions can begin addressing on their own, even though successful implementation would still involve additional stakeholders. Participants also altered some of the recommendations as can be seen in the following table.

The results of the ranking, as far as participants could agree, are:

Good Scientific Practice	Organisation of Science	
<ol style="list-style-type: none"> 1. Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries 2. Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution 3. Ensure a culture of transparency regarding the institutional handling of misconduct 	<p>Multiple stakeholders (same priority):</p>	
	<p>In-depth revision of the performance evaluation system: Towards more qualitative measures</p>	<p>Ensure science independence and develop public conversation about the private funding of universities and research organisations</p>
	<p>Individual institutions:</p> <ol style="list-style-type: none"> 1. Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and (data management) 2. Encourage scientific institutions to address the organisational tensions, conflicting imperatives they contribute to generate 3. Protect own members, and particularly scientists, from external attacks 	

For more details and reasons for these ranking decisions, see section 3.1 and 3.2 and photos in Appendix 2.

2.2.2 Group 2 – Public Integration and Science Communication

Participants in group 2, session 1 also discussed the recommendations very critically. Particularly the recommendations for science communication were perceived to be very problematic (see section 3.4). The rigid breakdown of recommendations into four dimensions was not seen to be helpful, especially the split-up of societal integration and science communication. The ranking exercise was described as very challenging in this group as well, for the same reasons as in group 1. An attempt was made anyway, even though the participants underlined that this applies only to their altered recommendations, not the original ones:

Social Integration	Science Communication
<ol style="list-style-type: none"> 1. Implement the inclusion of scientific knowledge and <i>scientific methods</i> in school curricula - the only moment in life when all societal groups can be reached simultaneously —but also foster life-long learning opportunities in this regard 2. Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration 3. Develop and consider new ways of consulting citizens at local and regional level. 4. Promote collaborative spaces and buildings: buildings should be <i>re-designed</i> and built to favour openness 	<p>The participants did not agree with any of these recommendations but rather used them as a departing point for related discussions (see section 3.4). As far as they could rank them, albeit with great restrictions and modifications, this was the result:</p> <ol style="list-style-type: none"> 1. Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination 2. Use institutional communicators to make citizens aware of research in the early stages Focus on <i>better</i> rather than on <i>more</i> communication 3. Avoid assuming a "crisis of trust", it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided Conduct regular trust monitoring and implement conclusions drawn on its results

For more details and reasons for these ranking decisions, see section 3.3 and 3.4 and photos in Appendix 2.

2.3. Phase 3: Plenary session 1 – Collective review of outputs from group session 1

In this second plenary session, which lasted around one hour, 1-2 participants per group presented their main discussion points and ranking results. These were commented by members of the respective other group that had not yet in detail discussed the other topics and recommendations. No alternative ranking was necessary here: as far as a ranking was possible, there was consensus of how it would look like. Rather than focusing on the issue of ranking, participants discussed extensively the different dimensions and levels the recommendations address (or do not address) as well as potential alternatives of their structure (by addressees for example). Further, participants collected key aspects they thought were missing in these recommendations, e.g. benevolence / orientation towards the common good as a main value to pursue and the entire topic of access and open science (for a more comprehensive list, see section 3.5).

After this session, there was a coffee break where discussions continued.

2.4. Phase 4: Group session 2 – 2 groups, 8 participants each

The intensive discussions in group session 1 showed a) a clear need to define addressees for the individual recommendations and b) did not leave time to confer about potential approaches to practically implement the recommendations. For those reasons, the POIESIS team spontaneously changed plans for group session 2. Instead of following the initial plan to discuss the given quote from the French focus group, the small groups were asked to address specifically the two issues mentioned above. To not neglect the inner-institutional tensions and conflicts we were initially interested in in this session, the groups were asked to focus their implementation approaches and challenges first of all on the inner-institutional context.

2.4.1 Group 1 – Good Scientific Practice and Organisation of Science

In group 1, focussing on the recommendations of Good Scientific Practice and the organisation of science, it was rather easy to separate recommendations that could be addressed, even if not solved, by individual institutions and those who would need the involvement of many more stakeholders. Umbrella organisations, funders, publishers and politics were identified as crucial here. From this discussion evolved a new mapping of the recommendations that was perceived as much clearer even though it mixed both thematic dimensions (see Appendix 2). After that, the group split up into three smaller groups. Each chose one recommendation that they wanted to discuss further regarding a potential implication. The recommendations that were chosen were: the performance evaluation system; the administrative support for researchers; and the continuous education programmes. The smaller groups then shared their ideas with the rest of group 1 and discussed them further.

2.4.2 Group 2 – Public Integration and Science Communication

While it was tried to focus the discussion in group 2 on addressees of the recommendations as well, this was much more difficult as participants clearly still perceived the need to discuss the recommendations as such and their meaningfulness. They worked through the different recommendations and adjusted them in a way they found more suitable. They also discussed missing aspects in the recommendations, namely science-based policy advice and the question of how to identify actual scientific experts. In the end, the group also split in smaller groups and discussed some of the altered recommendations in more detail. In the end, the smaller groups could still

present their ideas to the others but there was not much time to discuss them further.

2.5. Phase 5: Plenary session 2 – Collective review of outputs from group session 2

In phase 5, all participants came back together in the plenary and briefly presented the results of their discussions. This second collective review of outputs led, especially in the field of science communication, to very fundamental discussions (e.g. “should science communication be mandatory for researchers?”). These discussions were certainly interesting but did not contribute to the advancement of the debate on the recommendations.

An expert talk was perceived inappropriate in the German context, since many of the leading experts in the field of science communication and Good Scientific Practice were part of the event. Instead, the last 30 minutes of this last plenary session were dedicated to the question whether institutions can be “anchors of trust” and what their role might and should be in this regard.

3 Building trust in science: priorities and institutional engagement

The following chapter will present the main points of discussion, critique and consideration participants brought up during the roundtable event. It is following the four topical dimensions along which the international recommendations were structured. Each starts with the presentation of some comprehensive arguments regarding the respective dimension. Then, more specific points on the individual recommendations are made.

From a very general point of view, participants across all stakeholder groups were very critical towards the international recommendations in their current state. There were several main reasons for this, which were expressed as a general critique and then many times again during the discussions in relation to individual recommendations.

First of all, and clearly as the most recurrent point of critique, participants noted that there are no addressees or target groups formulated for the recommendations. Some could be addressed by individual scientific institutions, for others very different stakeholders are needed. Participants underlined that if the recommendations are to be ‘painful’ in the sense that they are to be taken seriously and have some true impact, it needs to become very clear who is responsible for implementing them, how and under which circumstances.

Related to that, it was noted that the recommendations are formulated at very different levels and therefore address very different ‘dimensions of action’:

"I think things are on such different levels. So, the first recommendation can be addressed by an organisation on its own, for example. Yes, I can say that I want to professionalise my support for researchers. But the performance evaluation system is something that we, as a culture in science, have implemented even across national borders." - Group 1, Group session 1

Some have been perceived as very general ("ensure science independence") and others as very specific ("buildings should be designed and built to favour openness"). It was further noted repeatedly that recommendations were too complex and often did not imply one but several recommendations to be discussed (and ranked) separately from one another (e.g. school curricula and life-long learning; the independence of science and private funding). Further discussions concerned the division of recommendations into four topical dimensions which were perceived to be artificial to some point (see especially section 3.4).

All these observations led participants to conclude that it was almost impossible to rank the recommendations in order of priority:

"I have the impression that I am supposed to rank apples, pears and bananas and that feels problematic." (Group 1, Group session 1).

"I find it a bit difficult to rank anything at all when things are so different. What is the ranking supposed to be? Is it about urgency? Is it about fundamentals? Is it about the scope for action, temporality or the independence of the scientific system? The independence of science is a basic prerequisite for us to be able to talk about science at all, then I don't even need to talk about innovation." (Plenary session 2)

Beyond that, participants underlined that some of the aspects currently divided into different dimensions should actually be part of one necessary comprehensive cultural change within institutions. Considering them separately from one another would actually prevent a comprehensive change that is desperately needed as was already discussed by the German focus groups.

Lastly, participants raised the question what the actual objective of the recommendations were - to directly contribute to more trust in science? Or rather to do so indirectly by creating better working conditions for researchers? It became clear that the actual objective of the recommendations would shape the priority participants would give them: *"I would indeed ask myself, what is the ultimate objective? If, in the end, it's about building trust in science, then this middle card is a very decisive one." (Group 1, Group session 1)*

As mentioned above, these general points of critique came up repeatedly, also when discussing individual recommendations. Some suggestions have also been made of how to improve the process of formulating recommendations (see section 3.5). In the following sections, the individual dimensions and recommendations are considered in more detail without however repeating the critical aspects addressed in a general way above. The individual recommendations are discussed in the ranking order participants agreed on, starting always with the most important one.

3.1 Institutional engagement with research integrity

Among the four dimensions - research integrity, organisation of science, social integration, science communication - research integrity was considered the least controversial by participants. However, they noted that several recommendations that were attributed to other dimensions - especially the performance evaluation system - were also a crucial factor for research integrity and the successful implementation of guidelines of Good Scientific Practice.

1) Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries

The recommendation to implement clear guidelines for Good Scientific Practice at the national and European level was perceived crucial in the dimension of research integrity. It was seen as the basis for all other recommendations in this dimension: *"We said, okay, guidelines are at the top as a foundation for everything else that can then be offered"* (Plenary Phase 1).

However, participants stressed that these guidelines already exist to some point and that it should be avoided to create double structures. In the European context, this would be the ALLEA European Code of Conduct for Research Integrity. For Germany, there are the existing DFG Guidelines, which are already mandatory for all research institutions in Germany to be eligible to receive DFG funding (see also German Focus Group report).

This is perceived as an important regulatory basis but particularly the research integrity officers among the participants underlined that there is much room for improvement in the implementation of these guidelines. Every institution 'does their own thing' for now. It would be useful to have a clearer modular framework to be used by all institutions and adapted to their individual needs. They also underlined that requirements for Good Scientific Practice vary strongly across disciplines. A regular exchange within disciplines (across institutions) would help streamlining these for each discipline. Participants therefore called for more specific instead of more generic guidelines and codes of conduct.

"It has this general framework. But, for example, a physicist has different specifics to consider than a linguist. Fostering that kind of exchange, and for example creating The Code of Conduct for Physics or something like that, might be more meaningful than just adding more general rules and creating another worldwide code or something."
(Group 1, Group session 1)

From a linguistic perspective, participants warned to be careful about wordings in the recommendations and not inflate them too much 'with always more plurals' (guidelines, codes of conduct etc.).

2) Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution

Based on the guidelines for Good Scientific Practice, participants agreed that continuous, career-long training was necessary for all research-related personnel in scientific institutions at all career stages: from student to professor. However, once again it was underlined that requirements for such education programmes might vary a lot depending on the topic and the target group.

Participants quickly came to the conclusion that in the German context, the objective should not be to *offer* such training programmes – as such offers already exist to a large extent – but rather to make career-long training on Good Scientific Practice *mandatory*. The ideal way to do so would be to integrate them into the curricula of each study programme.

"We support continuous training and development programmes for students, researchers, and other professionals in institutions. We all find it meaningful and necessary. We would go further and make it mandatory, ideally integrating it into the curriculum so that it is simply accepted, even if training is already available right now. But for that, guidelines are needed as a foundation." (Plenary Phase 1)

"Since we place so much value on prevention, we said that these training programmes should be mandatory to ensure that scientific misconduct does not occur at all." (Plenary Phase 1)

Even though it seems to be the easiest idea to include education programmes on Good Scientific Practice into study curricula, research integrity officers were not very optimistic regarding the chances for this to happen. They underlined the enormous difficulty to get any new content into study curricula and this for several reasons: first of all, the curricula are already full, and established professors are often not willing to let content go for 'new topics'. This does not only apply to Good Scientific Practice but also to AI, digitalisation etc. Established stakeholders are keen to protect their 'vested rights'. Further, they generally depart from the idea that they, of course, do good scientific work and therefore automatically educate their students on the process. The necessity to implement dedicated programmes for that is not seen or accepted (see also German Focus Group report). According to participants, it is even more difficult to implement change in study curricula 'from the outside' of the respective discipline. By bringing trainings and education programmes on the way already, by showing how useful they are, and then making gradual progress, respective stakeholders might be convinced 'from the inside' which might be a more promising way towards the goal.

When discussing potential ways of implementing such training and education programmes beyond study curricula, participants underlined that sustainable and long-lasting structures as well as infrastructures these programmes are attached to should be created. Such structures would also guarantee some kind of quality control regarding the training that is not given at the moment.

Participants also stressed that it is crucial to create awareness and support knowledge about what exists already in scientific institutions to avoid the emergence of competing structures.

Participants concluded that the objective should be to develop one overarching modular programme, that can be used and individualised by all institutions. A modular structure is strongly advised as different institutions, and even different departments might have varying needs in this regard. A 'one size fits all' approach does not work in this case. The programmes should not be developed by an individual institution, though,

but need to come from a larger organisation, such as the HRK, to avoid resentments and rejection that exists between some scientific institutions.

Finally, it was underlined that such education programmes and training should also exist in the field of public integration and science communication and that first attempts in this regard are already made but that need to be pursued with more perseverance.

3) Ensure a culture of transparency regarding the institutional handling of misconduct

Participants struggled with the term transparency culture as it is a very broad term that needs to be filled with meaningful content. They were wondering whether transparency culture would equal a 'culture of error' (Fehlerkultur) in which making mistakes would be rather encouraged and supported than hidden.

"Connected to the idea of a culture of error, I immediately think of the establishment of a healthy and positive research culture as an institutional responsibility. This goes along with the understanding and positive approach to Good Scientific Practice." (Group 1, Group session 1)

In this regard, two important key terms raised by the participants were: *prevention* - to avoid that misconduct even happens, for example by means of mandatory education programs - and clear and transparent *sanctions* - to make clear what consequences there are when misconduct arises.

In general, participants supported this recommendation but once again, as for the former ones, they stressed that it needs a comprehensive framework and a standardisation. There needs to be an inter-institutional understanding of what the term 'transparency culture' means and implies. It would be contra-productive if this was addressed by individual institutions by themselves with each of them developing their own definition of it.

3.2 Institutional engagement with the organisation of science

While the dimension of research integrity was rather clear to the participants, they were very unsure about what 'the organisation of science' should actually refer to. The implicit idea that this dimension was all about actors in management and administration came up several times - also related to the fact that clear addressees of the recommendations were missing. Especially the performance evaluation system was perceived to not belong into this dimension. For the further formulation of recommendations, it was suggested to be very careful with wordings and to make dimensions clearer if they are to be maintained.

As in this dimension, the recommendations were situated at such different levels, participants re-ordered them before ranking. They stated that the work on the performance evaluation system and safeguarding scientific freedom were to be addressed comprehensively by a variety of stakeholders in the scientific system and had the same priority. The other three recommendations could be addressed by individual institutions and are

discussed in the following section according to the importance participants attributed to them (see also section 2.2.1).

Various stakeholders from the scientific system

As stated above, participants underlined that no ranking was possible in regard to the in-depth revision of the performance evaluation system and safeguarding scientific freedom, but the former motivated a much larger discussion than the latter.

1) *In-depth revision of the performance evaluation system: Towards more qualitative measures*

Participants agreed that revising the performance evaluation system would be the solution to many problems in the scientific system. Many of them underlined that they see this as part of Good Scientific Practice because less 'quantitative' pressure would prevent researchers from taking shortcuts just to fulfil publication criteria. Changing the current culture of 'publish or perish' would avoid lots of scientific misbehaviour. This perspective was supported by participants from research funding organisation. A change in the performance evaluation system was further seen to be deeply connected to necessary changes in the entire field of public integration (and science communication if one wanted to separate both).

"Not only resources but also time and recognition are needed. It's one thing to have funding, but if a doctoral advisor demands five papers within two months published in top journals like Nature or The Lancet, having funds available for a science communication project won't help if there's no time to work on it, because scientific performance is measured by different criteria." (Plenary Phase 2)

In the plenary discussion, participants agreed that the question of revising the performance evaluation system had a problem of the 'first mover'. Individuals or institutions trying to exit the current system risk high costs and losses in the own reputation or career. The current behaviour and also communication of institutions in this regard is perceived to be very ambivalent and several concrete examples were discussed in this context.

"On an aggregated level, it is highly ambivalent, even schizophrenic. Universities drop out of the ranking system, issue a press release saying they won't participate anymore, but three years later, they quietly rejoin - however without any public announcement." (Group 1, Group session 2)

Participants identified **four points of action** when it came to the question of how to actually change the performance evaluation system:

First, participants underlined that **CoARA** (The Coalition for Advancing Research Assessment) already exists. Instead of working towards something new and therefore creating competing structures, institutions should join the initiative and implement its guidelines. This can be done at the level of individual institutions: each of them can join and thereby give it more weight.

"We were convinced that this already exists, at least at the European level. CoARA, for example, comes to mind. We believe it should mainly be about promoting its implementation, signing letters of intent, joining, etc. That could be one way forward. Otherwise, we know this can quickly become a mere wishful thought." (Plenary Phase 1)

Secondly, the ambivalent behaviour of institutions regarding the **ranking system** was criticised. Participants stated that everybody is aware that criteria for university rankings are insufficient and clearly do not contribute to a (cultural) change regarding the performance evaluation system. However, all institutions participate anyway. According to the participants, the interests of the 'big players' (i.e. universities) are clear, those of funders and publishers as well. What is needed is the self-confidence of individual institutions to say: 'we do not do this anymore, we do not need to compete with Harvard'. Here, the self-reflexion process of institutions comes to play (see below).

Thirdly, participants addressed the problematic system of **tenure-track appointments** in Germany. Here as well, the clear focus lies on the publication record and no recognition is offered for engagement in science communication for example. Especially the participants from research funding organisations stressed that they see science itself to be in duty to change things here. Participants observe it to follow the same dynamic as university rankings: nobody likes it, but everybody participates in it. Change is needed, but it needs to come from inside science itself. Participants also had some clear ideas of how this could look like:

"The premise would be that you can still get a professorship in Germany without having to engage in science communication. That's the condition. Yet, many people do it voluntarily because they are intrinsically motivated. These people need to be relieved in such a way that, for example, if you're required to have eight peer-reviewed papers a year, you could say, "Okay, I'll only do five," because five are sufficient to show quality. The other three could be compensated for through science communication efforts." (Plenary Phase 2)

As a last point in regard to the revision of the performance evaluation system, participants underlined that politics should **stabilise funding** in some areas, as it does for example in medical research already. This would help scientists to break the cycle of the continuous hunt for third-party funding and publications.

"For example, building a good patient cohort can take decades. Drawing valuable insights from them for chronic diseases, for instance, takes time and cannot be fully financed through third-party funds. Consistent funding is needed, and that is where politics come into play." (Plenary Phase 2)

Altogether participants all agreed that a revision of the performance evaluation system was long needed. But one could also feel some frustration in the discussion as this is not something new but already known for long. Not much has happened in this regard so far, though – certainly because a whole cultural change and also much courage is needed:

"We can only appeal to people: "walk the talk." You can't complain about the criteria and then participate anyway. We know there is a first-mover problem. We know that incentives are distributed differently. It's a paradox, but someone has to break the vicious cycle." (Plenary Phase 2)

2) ~~Ensure science independence and develop public conversation about the private funding of universities and research organisations~~

Participants decided to focus their discussion on 'ensuring science independence' and to not further consider the private funding of scientific institutions as they had the impression that too many different things were mingled together in this recommendation. There was no doubt about the importance of both these topics, but they should not be taken together:

"I think that on this card, a whole series of discussions are hidden, mixed in a rather unfortunate way. The first part is, I believe, uncontested. But what does this discussion about private funding mean? What is its purpose? Does it mean eliminating private sector involvement or ending third-party funding altogether? Where does political funding come in? That's also missing." (Plenary Phase 1)

As stated in the quote, the need to ensure the independence of science was uncontested among participants. It was perceived as a basis and prerequisite, but not really something to discuss further.

Individual institutions

Among the remaining three recommendations in the dimension of the organisation of science, particularly the one about increasing administrative support sparked in-depth discussions among the participants.

1) *Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations(, and data management)*

Participants appreciated the idea of administrative support for researchers in their work. They saw this as the first priority when the objective of the recommendations was to improve scientific working conditions. They emphasized, though, that such support would need to be helpful and not actually burdening because of always more administrative processes: *"We actually do not want more bureaucracy but less"* (Group 1, Group session 2). An 'enabling culture' was called for:

"From the spirit of it, a term like "enabling culture" should be included. For administrations, it should not be about a "control culture" but about facilitating everything possible." (Group 1, Group session 1)

"When we say that administration should embody an enabling culture and be service-oriented, this is every researcher's dream." (Plenary Phase 1)

Participants also discussed the funding of such administrative support:

"And when expanding, of course, there is the question of funding, because... money doesn't just increase. So, everything that is expanded in management, impacts funds in research." (Group 1, Group session 1)

Considering how such increased administrative support for scientists could be implemented, participants underlined that such evolution would need to be part of an **organisational development process**. Such processes are considered to be particularly difficult in universities where each faculty and department pursues their own interests, power questions prevail etc. Additionally, organisational development processes are always 'on top', much time and resources are needed to go through with them. However, these resources are often unavailable.

One crucial aspect in regard to the administrative support for scientists is **internal knowledge management** also related to internal communication processes. Participants stated that lots of internal knowledge in institutions is related to particular persons but not transmitted formally. It is a challenge to know what kind of knowledge and resources already exists in large institutions and how to bring project knowledge and transfer centres together for example. According to participants, this does not work well because institutions are big and complex. It would need dedicated positions with people taking over the responsibility and continuously working on these topics on the one hand; on the other hand, vanities and egos of key actors holding on to their 'own' knowledge hinder the implementation of new structures.

Participants identified three main requirements to successfully undergo an organisational development process that could lead to increased administrative support for scientists:

First, **role models and leading figures** who can lead others through such a process are needed. Interestingly, this same point was made in the other small group when discussing a necessary cultural change within institutions to provide scientists with resources and knowledge to engage in meaningful public integration.

"What is needed are role models. It takes leadership figures to guide change processes effectively and respectfully so that resistance does not grow too large and then nothing happens in the end." (Group 1, Group session 2)

"We have already said that for a cultural change in institutions, it is not enough just to provide money and resources; it must be implemented." (Group 2, Group session 2)

Secondly, "[...] if you want to implement it as stated, you will also need **resources**" (Group 1, Group session 2) to realise such an organisational development process in a comprehensive way.

And lastly, a **clear division and allocation of roles and responsibilities** is crucial to avoid diffusions of accountability, especially when it comes to all kinds of intersections. Participants reminded that all kinds of change processes always come with lots of emotions and sensitivities which need to be considered.

2) *Encourage scientific institutions to address the organisational tensions, conflicting imperatives they contribute to generate*

Participants found the formulation of the recommendation difficult but interpreted that the actual idea behind it was that institutions should go through a self-reflection process on their role and responsibilities. On this basis, they argued that if the objective of the recommendations was to improve public trust in institutions directly, encouraging institutions

to go through such a self-reflection process in a comprehensive way would have the highest priority in the ranking. It was perceived that institutions having a clear idea of their own role in society would have a strong and positive outside effect.

"If the overall process is about trust in the institution of science, then this second point - encouraging scientific institutions to deal with organisational tensions and contradictory demands they contribute to - is a crucial one. In other words, developing a sufficient self-understanding as an institution: What is all this meant to achieve? This is especially important if you want to engage with society on these topics." (Plenary Phase 1)

3) *Protect own members, and particularly scientists, from external attacks*

This recommendation once again was totally uncontested among scientists but seemed rather as a platitude than an actual meaningful recommendation. Participants also argued that this should be part of the self-reflection process institutions should go through. They further underlined existing attempts to institutionalise support in case of external attacks, for example in form of the SciComm Support¹.

3.3 Institutional engagement with social integration

Participants mostly discussed the topics of social integration and science communication together. After having been presented with the 3i4t-model at the beginning of the event they were surprised by the split into separate dimensions. This differentiation was not perceived to be very constructive, especially for the field of science communication (see section 3.4).

Very generally, and in the same way as for research integrity, participants underlined that there needs to be a comprehensive cultural change ("Kulturwandel") in the field of social integration and science communication. It was stressed that many challenges in this regard are not exclusively a question of resources but very much of recognition. Public integration needs to become an integral part of the research process rather than an add-on. Participants perceived an existent risk of integration measures to be done 'pro forma' without any deeper reflection or impact which would have a detrimental effect on trust and also be a huge waste of resources (see also recommendation 2).

1) **Implement the inclusion of scientific knowledge in school curricula - the only moment in life when all societal groups can be reached simultaneously - ~~but also foster life-long learning opportunities in this regard~~**

In the dimension of public integration, participants agreed quickly that the implementation of scientific knowledge *and scientific methods* in school curricula had highest priority. However, they insisted to delete the life-

¹ See <https://scicomm-support.de/> for more information.

long learning aspect as it is again another dimension and addresses a totally different target group.

As a second crucial change, participants emphasised that the recommendation should not focus on scientific knowledge but rather on scientific methods and processes including knowledge about scientific institutions and how they work together. This aspect was underlined many times by several participants and was perceived to be crucial.

"This is the central necessary change to this recommendation: not to limit it to knowledge but also to include scientific methodology. This should include critical questioning, some knowledge of empiricism, an evidence-based approach, logic, and other such elements, as well as some understanding of the scientific process: how it actually works, because the public knows very, very little about it. How do scientific publications come about? Who are the reviewers, and such matters? These are all part of methodology, and I think it absolutely must be included, because merely imparting knowledge alone - to add briefly - allows room for interests to be introduced. Because who defines what knowledge is? Methodology is the key." (Group 2, Group session 1)

"We placed the inclusion of scientific knowledge in the curriculum at the top. However, even there, it would be important to complement it with methodology, not just scientific knowledge but also conveying knowledge about the scientific process. Because that, in turn, is actually the basis for enabling laypeople to participate in science in any participatory way." (Plenary Phase 1)

The recommendation in its new shape also sparked a debate about the actual addresses, so about who would be able to implement this. Participants recognised that for this recommendation to be successfully implemented, it would need many different actors to come on board - because not only the school curricula would need to be changed but teachers would also need to learn how to teach about scientific methodology. As a first step in this regard, they suggested integrating learning to teach scientific methods within practical seminars future teachers already have.

"This is not a recommendation for trust but a clear educational mandate for universities in my opinion." (Group 2, Group session 1)

"But conceptually, if we say that scientific knowledge and methodology should be taught in schools, we can't say that teachers don't need to be taught it." (Group 2, Group session 2)

During this debate, participants once again stressed the importance of the recommendations' exact phrasing:

"When it says: "implement in the curriculum," it really means the schools and teachers are responsible. "Writing the curriculum" refers to the ministries of education. "Training the teachers" is up to the universities. It all hinges on small words that ultimately determine where the recommendation goes." (Group 2, Group session 1)

It could be observed that participants were really convinced that the idea of teaching scientific methods in schools was really crucial to this recommendation.

And finally, one participant underlined why learning about methods should not only be applied to school curricula but has a much broader dimension - from schools to policy advice:

"Perhaps this aspect that we [discussed] that scientific work and methods should be included [in school curricula] should be scalable at all levels. From the local level of a transdisciplinary science project, such as a citizen science project, up to political institutions and political consulting, for example. How do other institutions, such as political institutions, rely on science, and how is that communicated? It is always very results-oriented, and what is missing is making scientific methodology and work visible. The same applies to media, whether science journalism or media coverage of scientific findings in general. How are scientific methods presented there? How is scientific work explained? In other words, principles that are inherent to science or scientific work should always be mapped when drawing on or referring to scientific knowledge. How is it generated? How is it worked with? Why are there perhaps no clear answers?" (Plenary Phase 2)

2) Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration

This recommendation led to a broad debate about how to create sustainable and meaningful processes of social integration from different perspectives that also relates to the next recommendation on ways of consulting with citizens.

First of all, integration should not be an end to itself. There needs to be a reflection on its **objective**, the impact one aims to achieve, and the overall question of when it makes sense to engage in social integration and when it does not. This applies both to whether it makes sense for researchers to engage in these activities as for citizens to participate in them.

"So, it's not something that can or should be done for everything. There must be a connection and relevance to the public; otherwise, we could offer many things, and no one would come. Therefore, it's not necessary to create public participation for everything. It probably isn't feasible for every topic anyway. The recommendation we have here is formulated in such a general way that it should fit everything, but maybe it doesn't. It doesn't need to be applied to everything but rather where it makes sense for both sides; otherwise, no one will be satisfied, as someone mentioned. Then people are simply disappointed and don't know what became of their input, especially when the process takes years or more. This should be considered so that [social integration] isn't seen as a universal solution." (Group 2, Group session 1)

If such questions are not addressed before entering a process of social integration, the danger of pseudo participation arises. Further, one might lose sight for the fact that research processes, communication etc., basically all aspects of the research project become more complex and difficult when having an integrative part in it. Therefore, it should only be done when there is a clear objective behind it.

From the funders' perspective, it was stated that it is first of all crucial that all these reflections are clearly communicated when applying for funding. They further considered that it would be helpful if there were stronger interconnections and collaborations of different stakeholders in

this field to advise the funders on what measures and incentives to support social integration are actually useful and which are not. They did not themselves want to be seen as agenda setters in this regard.

The second important aspect of discussion was the continuing lack of **recognition** for efforts in the field of social integration and science communication. This aspect is strongly related to the necessary revision of the performance evaluation system (see section 3.2). Funders were seen to be able to play a supportive role in this regard. However, without fundamental changes within the scientific system, these efforts can not be sustainable.

"And funding can certainly make it clear that "we don't just care about counting publications and calling the project successful once that happens"." (Plenary Phase 1)

Participants further underlined that building **competences** on planning and execute meaningful integration needs to come with some kind of **quality control** to ensure that such measures indeed have an objective, a clear target group, an idea about their impact. It was underlined that the words 'sustainable and meaningful' in the recommendation need to be filled with actual content.

"Sometimes, I felt like a bit of soul was missing. When [participation] is only seen as a trend, it doesn't build trust. It just feels formalised, and no one asks, "Is this necessary here?"" (Plenary Phase 2)

"Competence-building also comes with potentially stricter selection criteria. It raises the question: should everyone engage in science communication, or should it be about supporting a quality-assured science communication?" (Plenary Phase 2)

The last crucial key word in regard to this recommendation was **resources**. As for many other aspects discussed during the roundtable, it was underlined that researchers, especially in third-party funded projects, are already supposed to do and take care of numerous things at the same time. When they do not invest in social integration or communication measures, this is often not (only) due to a lack of money according to the participants. It is because they do not have the time.

"Oh, now I also have to involve laypeople in my process and communicate to the public, on top of the expectations and time pressure I'm already facing." So, it must be very clear regarding recognition, resources, support, and training, to whom these tasks are assigned and to what extent the scientists are expected to perform them." (Group 2, Group session 1)

"Yes, this is again the question of resources. Do I get something in return? Do I get the training needed? The necessary knowledge is included, but ultimately, it is also a question of money and time. Personally, I think if it is demanded, there must also be a certain support infrastructure." (Group 2, Group session 1)

Additionally, participants noted that researchers who put themselves in the spotlight become vulnerable and potentially targets of attack. This is why part of the necessary infrastructure and resources should also be a support system in case something like this happens.

When it comes to the question of who could actually implement these ideas, participants see research funding organisations of all kinds in the duty, because they are able to provide the financial basis to make this possible. Participants acknowledged that they partly already do so as science communication and outreach are increasingly part of funding calls. In a second step, research coordinators and the executive level of scientific institutions would need to actually implement respective measures. Here, a significant shift in perspective is required for these actors to prioritise competence development over the mere production of scientific results. In the same way as for the organisational development process (see section 3.2), participants stressed that a different kind of leadership culture is needed for this to happen.

3) Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups

Overall, the discussions regarding recommendations 2 and 3 of social integration and 1 and 2 of science communication all resembled one another. They all basically were about necessary basic principles and conditions for good social integration - including science communication.

In regard to the specific recommendation of considering ways of consulting citizens at local and regional levels, participants considered that no 'new' ways are needed. Rather, we should reflect on what there already is - a lot in the German context - and how it can be used in a meaningful way.

Without repeating all arguments from above, participants stressed again that social integration is not suitable for all topics. The recommendation as it is currently worded sounds as if there should be forms of integration for every scientific project and topic. This can and should not be the objective. Instead of this, there needs to be a precise decision for each research project where, when, and to which degree one needs social integration and/or science communication. The reflection on this question should be an integral part of each research project and each funding application. It should become clear that researchers have thought and discussed about these topics, no matter the outcome. This suggestion was exactly the same that has been made in the focus groups and was very crucial, also to the 'new' participants in the roundtable.

Participants also underlined again that social integration needs to and can be useful for both sides - citizens and researchers:

"I always find it interesting to have an ear to the crowd - to hear what people want to see in research. Not that they can dictate to us or the scientists. But there are ideas out there that scientists might not come up with on their own." (Group 2, Group session 1)

However, decision making power regarding research agendas should not be delegated to citizens and careful expectation management from all sides is necessary when engaging in social integration, according to the participants.

Participants also made two further and more concrete **suggestions** in regard to this recommendation:

They suggested first of all that laypeople who are involved in scientific research should receive training and acquire basic knowledge about the field of research and about the scientific process they will be part of. This would make them feel empowered and better integrated, not just 'used' as data collectors.

Secondly, and in relation to the self-reflection process institutions should go through (see section 3.2), it was put forward that institutions should reflect on their particular position towards social integration and where and when it can be implied successfully. This might not only take place at the overall institutional but also at a departmental level. The objective here would be to lighten the burden on the shoulders of individual researchers to 're-invent the wheel' all by themselves each single time.

4) Promote collaborative spaces and buildings: buildings should be designed and built to favour openness

All participants were rather puzzled by this recommendation and even irritated by its concreteness in comparison to many others. They clearly stated that new buildings favouring openness would be great to have, but that this is an entirely unrealistic idea.

"For me, buildings are at the very bottom of the list, as they are somewhat of a nice-to-have." (Group 2, Group session 1)

Instead, one might think about smaller things to change to favour openness. More generally, participants interpreted the recommendation to actually be about **access to science**, which is a very crucial topic but not well reflected in this recommendation.

3.4 Institutional engagement with science communication

As previously mentioned, participants particularly struggled with the recommendations on science communication and this for several reasons. They underlined that the differentiation between the broader concept of social integration that is used in the POIESIS 3i4t model and 'pure' science communication as it is done here conveys a very particular and outdated image of science communication. They also insisted that practitioner could not work with those recommendations the way they are.

"We struggled significantly in the area of science communication. We noticed that almost all recommendations are framed as if they go from sender to receiver. But science communication needs to be much more audience-focused, considering local contexts. Of course, there are differences between disciplines - some topics work better than others - but fundamentally, communication should stem from life realities and contexts, not the broad masses. The society (singular) approach doesn't work. Many of us were bothered by the "comprehensive and far-reaching" language. [...] Instead, talk about local contexts or use best practices. Which target audiences are being addressed? Use clear wording to bring more realism to these recommendations." (Plenary Phase 1)

"I believe that if, from a user perspective, I hand these recommendations, especially the first one, to someone who should actually practice communication, it might come across as a bit naive in the best case. In

the worst case, it's absolutely overwhelming." (Group 2, Group session 1)

"I want to say this very cautiously: some of these recommendations show signs of protecting vested interests, in my opinion. Now, there's talk of participation. Yes, science communication is important. So, we're adding it in separately. But this is counterproductive." (Plenary Phase 1)

"If it's divided that way, make sure it doesn't give the wrong impression, unless that's the intention." (Plenary Phase 1)

Albeit the criticism, participants reflected on the fact that this impression they had might also stem from the particular debates and the science communication culture we have in Germany. It might be perceived differently elsewhere.

"But it also includes different cultural approaches to science communication in different countries. What does it mean? We can't agree on it in Germany. I'd like to know how it works in other countries; that's a big task." (Plenary Phase 1)

In the context of this discussion, many dimensions of science communication and social integration came up, that had already been debated in the focus groups. Among them were the questions whether every researcher should communicate (common understanding: no); that a change of perspective towards the target groups is needed when aiming to communicate successfully; that researchers need to have a comprehensive concept and reflect on their objectives and target groups when planning to communicate - in the same way as for social integration activities; that if this is not done, the risk of pseudo communication is as dangerous for trust as pseudo participation; that very generally science communication lacks visibility and recognition as being an integral part of the research process and that a support structure but also cultural change is needed for this - also within the academic system; and finally that the notion of 'impact' is important to be reflected on because impact does not always mean to reach 500 people but can also mean to make an actual difference at a smaller level. As these very general discussions have already taken place in the German focus groups as well, they are not presented in more detail here, but some key quotes of participants are included in the Appendix (Appendix 3).

Generally, participants urged to broaden the understanding of the term 'communication' and to get away from the very traditional top-down model the current recommendations suggest. The German debate in this regard is already advanced but participants also underlined that there is still a long way to go. Particularly when it comes to communicating 'tricky topics' that are relevant to citizens' daily life and therefore more polarised than others, training and resources are missing.

Participants were really not convinced of any of the recommendations in this dimension, therefore the ranking is even less significant here than for other dimensions.

- 1) ~~Insofar as the battle for scientific information is being waged at both global and local levels,~~ act at both levels, combining comprehensive participation with mass dissemination.

The wording of this recommendation was very confusing for participants:

"My problem is still not resolved. I didn't understand this card at all. [...] "The battle for scientific information" - Who is battling for what? Scientists for knowledge? The public for crumbs of information? Who exactly is battling for what here? I didn't get it."
(Plenary Phase 1)

Beyond this first part of the recommendation, participants perceived the second part as a platitude:

"It seemed to us like a self-evident requirement to communicate both globally and locally, that comprehensive participation and widespread dissemination are both goals that somehow coexist." (Group 2, Group session 1)

This was therefore understood as an evident basis for communication, however formulated in a way that invoked incomprehension among participants.

- 2) **Use institutional communicators to make citizens aware of research in the early stages**

This recommendation sparked an intense debate about the role of institutional communicators among participants. First of all, they wondered who these 'institutional communicators' actually were or how this target group was defined. Many university and foundation communicators were in the room discussing this. Secondly, they emphasised that there is already lots of communication about research projects, also in their early stages. They wondered whether it was not more crucial to improve the communication of the process of research rather than just announcing projects and their results. At the same time, and very fundamentally, they asked who institutional communicators are actually supposed to reach with their communication. Citizens at least are only very rarely reached by institutional communication efforts.

Participants made two main observations about the current state of institutional communication in Germany and discussed how this could be improved. First of all, they noted that there is actually much early communication about research projects. This communication however rather takes the form of 'publicity' and PR selling new projects as 'saving the world'. What is lacking is increased communication about conflicting topics. A suggestion made in this regard was to think communication broader here as well: early communication about research projects does not necessarily need to take place in form of traditional science communication. Transparency is important, meaning that all citizens must be able to access information, if they like to, and be able to inform themselves about how public money is spent. One suggestion to realise this was to create an online portal with relevant information. The online portals that already exist are perceived as helpful for the science communication community including practitioners,

but participants were also convinced that they have not much added value for citizens:

"But I would always ask: how do people access them? We now have extensive databases, project databases, science communication projects, etc. I think these are good and right, and helpful and instructive, especially for those involved in science communication. But how do the target audiences get there?" (Group 2, Group session 2)

"For whom is it created? It's not for the public, because they don't visit such sites and read through these things. One must always keep in mind why we are doing this in the first place. What is the purpose of these databases and collections we have now?" (Group 2, Group session 2)

Some participants however added that it might already have a positive psychological effect for citizens to know that they could access such information if they wanted to. Others pointed to the amount of resources needed to create such databases and whether these are well invested. In any case, participants underlined that institutions must be very clear for themselves about what their objective is with such databases or transparency registers:

"It must be clear to those who set it up what their goal is. That is always very important. We put in a lot of effort, thinking everything is information for the public. But that's not how it works. Institutions must be aware of why they are doing these things. Why are these databases created, or why write PR statements? This is important." (Group 2, Group session 2)

One participant pointed out that from her point of view a crucial problem in the current institutional communication landscape towards citizens is the ubiquitous impact assumption. First of all, there is the assumption that good information will directly lead to increased trust.

"Well, I think one problem with this, when [...] we look at [...] it, is that there are always certain assumptions about impact involved. However, the assumption that there is a connection between good information and trust - to be honest, I find that to be a very bold thesis." (Group 2, Group session 2)

Secondly, there is the assumption that all citizens are actually interested in science and scientific topics. According to participants, this cannot be true as nobody is interested in everything. And it is totally legitimate if some people are just not interested in science.

"The second point is that interest is always assumed. I would also say, of course, not all citizens, whatever that means, are interested in all topics. Therefore, such a task cannot be meaningfully filled. However, establishing and providing a transparency register can still be a useful measure. But we must then consider: for whom is it good? In which cases do we expect positive effects on trust?" (Group 2, Group session 2)

Once again, it is important that institutions and communicators of all kinds are clear and reflected about their objectives when engaging in science

communication (and the same applies to social integration). Informing the public, or rather *publics*, does not always need to be the objective, sometimes it might be something else – as fostering a debate within the academic community or else – and this is as legitimate. But one needs to be clear about it.

The second observation participants made is that for some topics, abundant information and communication already exists. Ever more communicative measures, new websites etc. might actually even have a detrimental effect on public trust in science. Participants therefore underlined that the actual aim to pursue might not always be *more* communication, but *better* communication and streamlining rather than fragmentation.

Participants also mentioned that in Germany, there are already “Guidelines for Good Science Communication” (to be found here: https://www.bundesverband-hochschulkommunikation.de/fileadmin/user_upload/service/Leitlinien_zur_guten_Wissenschafts-PR.pdf) which one can build on.

3) ~~Avoid assuming a “crisis of trust”, it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided~~

Participants did not agree at all with this recommendation. First of all, several participants actually argued that there currently is a crisis of public trust in science – a perception that contradicts the results of the focus groups and expert interviews in Germany. But no matter whether participants had the impression of an overall or only a partial crisis of trust in science, they all perceived it to be dangerous to dismiss such a crisis from the start. It seems that the recommendation aims to tell people what they are allowed to say.

“I think it’s even dangerous to dismiss this now. We should rather analyse where it comes from and what can be done about it.” (Group 2, Group session 1)

“The difficulty with this wording seems to us to lie in the fact that it calls for avoiding a particular worldview, regardless of whether it might actually occur at some point. Even if there were no crisis of trust at present, we would always hold the notion that it either cannot or should not exist.” (Group 2, Group session 1)

In this regard, participants also insisted that the ‘science communication bubble’ should self-reflect on themselves reinforcing the discourse about a crisis of trust by saying ‘science communication can solve the crisis, just give us the money’. This argument is in line with a broader discussion currently taking place in Germany regarding the relationship between science communication and democracy and the role science communication can actually play in this context.

As an alternative suggestion, participants came up with the idea of a regular trust monitoring in the public, for example in form of a survey. Rather than just stating that there is no crisis of trust, they insisted that it would be important to actually be informed about what the public thinks. It was proposed that funding organisations should provide the resources for regular trust monitoring. However, it was also emphasised that a significant step must be taken before such a tool could even be developed. This would entail

conducting in-depth research regarding existing tools for trust monitoring and the kind of new measures that would need to be developed. Further, once in place, it would be crucial to communicate the results of the monitoring within institutions accompanied by clear instructions of what to react in response to these results. The practical implications of the monitoring's results would need to be very clear.

3.5 Other themes

Lacking key words and themes

There were several key words and themes participants identified as missing in the current recommendations. Most of them are themes that are already known from the focus groups and the POIESIS expert interviews. For reasons of scope, these are not presented in detail here but exemplified by a few quotes from the participants.

Open Science

The first theme that was missing in the current recommendations according to participants was the one of Open Science. Both smaller groups thought this to be part of the respective other groups' recommendations - an indication that Open Science is an overarching theme, that cannot easily be broken down in one single dimension but needs to be regarded from a comprehensive perspective. Participants did not advocate for ever more open science, as this can also lead to a lack of quality control for scientific information, but for a responsible handling of this important measure to make science more accessible.

Access & Transparency

In relation to that, participants underlined that the entire topic of access, accessibility and also transparency were missing in the recommendations.

Comprehensibility

While the recommendations call for 'more communication' and participants added that more transparency is needed, they also underlined another important point:

"May I add one more point? Maybe I'm just not seeing it. The word 'comprehensibility.' On one side, we have Open Science and transparency. But for most people, that's not helpful at all, because as soon as we create transparency - which is essential for us - it becomes completely incomprehensible to them. The entire scientific system has become so incredibly complex. The evaluation criteria, the methods - they've all become so immensely complicated. It's really a difficult challenge to make it understandable again. To create a basic level of comprehensibility in simple language." (Plenary Phase 1)

Orientation towards the Common Good

"Yes, you would like to know what is missing. For me, an important concept was already missing in your overall project presentation right at the beginning. I don't know if it comes up somewhere in the depths of your argument, but when you talk about integrity on one side and social integration on the other, I think you need some sort of guiding concept to normatively structure it. And for me, in open, free, democratic societies, that concept can only be the common good. And somehow—perhaps it's not so surprising coming from a foundation

representative—but somehow, there needs to be a normative guiding concept for all of this, and this should be the orientation towards the Common Good. Not that anyone would necessarily know exactly what is meant by it. It's something that is also discursively difficult to pin down. That has its own challenges. But I can't think of anything better." (Group 1 - Group session 1)

Scientific policy advice // Relation of science and politics

As in the expert interviews, the relation of science and politics was perceived to be crucial for public trust in science by the participants.

"And that's another question I ask myself in general: When you talk about this context and the conditions under which mistrust arises, when does it arise? That's usually the case - what I'm saying here is more anecdotal than evidence-based - but it happens when issues become publicly relevant, so to speak. That means somehow touching people's everyday lives. And that's where science somehow comes into focus, because it can supposedly exert influence or has a significance for political decisions, hearings, etc. And I generally miss this question a bit in the recommendations. Formulated in a positive way: Why is it absolutely crucial and necessary for science to provide political advice or participate in things like expert committees? After all, we want decisions to be as evidence-based as possible, and so on. But on the other hand, I believe this isn't properly unpacked. It isn't properly understood or communicated, but instead it's often framed as, 'Oh, they're essentially bought by politics,' as if in that moment they lose their independence. And I think that's a key issue that doesn't really come up but is something I always think, okay, maybe this is already part of the problem: In what roles do researchers supposedly appear, or in what roles are they perceived?" (Group 2, Group session 2)

Identifying experts

A last crucial theme for the participants - that also already came up in the focus groups and expert interviews - was the question of how to identify actual scientific experts. This question was perceived to be important as much for science communicators and other practitioners as for the public.

"A question that is so central to trust is, in general: How can we even identify experts anymore? Who are experts in the age of fake news, disinformation, and what I'll briefly call the AI epidemic? And I mean, AI has its positives; there are many benefits, but there's also video manipulation, image manipulation, text manipulation, and even expert manipulation. This is, so to speak, an issue that will affect all of us in the future. And this isn't really represented here yet in the sense that we also need to ask: Who bears the responsibility, including in science communication, to designate experts or make them visible as experts to society - or not? Or to draw boundaries around so-called experts, which is becoming increasingly difficult. This question of truth - what is actually fact-based, evidence-based?" (Group 2, Group session 2)

"Yes, I do think that this will definitely intensify, especially due to AI. And I think [...] it might also be a bit of a meta-discussion, but it's a discussion that I believe we need to have. And for me, it's really the question of experts and who we trust. And at the moment, as you said, it's the institutions - so often, trust in institutions is still present, or not, depending on how they perform in times of

crisis. But we really need to ask ourselves: Who do we still believe? [...] Who is considered an expert in our society when it comes to scientific issues?" (Group 2, Group session 2)

Process of formulating final recommendations

Directly related to the general critique participants formulated in regard to the current recommendations (see beginning of chapter 3), participants also reflected on the process of formulating final recommendations for the POIESIS project. The preceding analysis made it very clear that participants urged not to keep recommendations the way they currently are.

Participants underlined that the recommendations should be short and precise, that they need to be addressed to specific stakeholders and that one will need to pay careful attention to the precise translation of the recommendations as well. It will be crucial to define the actual objective of the recommendation – directly increasing trust in science among the public or improving working conditions for researchers within institutions – and to shape them accordingly. Participants also underlined that there needs to be a reflection about how to consider cultural differences as well as varying institutional but also political systems in the recommendations. And finally, a debate is needed on whether a European standard or a standardisation more generally of things would actually be necessary and desirable – this also is related to cross-country differences.

Participants insisted repeatedly that the recommendations will only have an impact when stakeholders will feel directly addressed and responsible for implementing them.

"To whom are these recommendations addressed? For instance, if I look at this point, "encouraging scientific institutions to engage," I think we would all agree with it. The question is, who does the encouraging? Perhaps it could be more precise, formulated like, "funders should request scientific institutions to do more as part of the...," etc. To make it clearer and more binding whom the recommendation addresses. Otherwise, it's just a nice statement on paper." (Plenary Phase 1)

"For all recommendations, one really needs to think about who exactly my target audiences are, for whom I communicate a specific topic that relates to their environment, their reality. What are the right channels, the means, and resources I have at my disposal?" (Group 2, Group session 1)

"I don't think it has any punch that way, to put it bluntly, because I believe it only gets truly uncomfortable and simultaneously real when you link responsibilities and resources. Otherwise, it remains so vague that no one feels personally addressed." (Plenary Phase 1)

"If you genuinely want a serious recommendation for action – this is exactly the question, how serious is this whole thing supposed to be in the long run? If you want to stay flowery, that's fine. But if you truly want to achieve something, then it's about breaking down the common denominator to the level of individual countries. Because, naturally, the recommendations for action will differ, and we

certainly have different needs compared to other countries. And that's precisely the clash we're facing right now." (Plenary Phase 1)

"So, perhaps one could formulate the topics and the points that are deemed important and worth highlighting in a uniform way for everyone. But then say, 'Okay, based on that, these are the conclusions we draw for our specific country or context.' That way, you could create a basic document at a very high level, which could then be further broken down by country or stakeholder level." (Plenary Phase 1)

4. Conclusion

Altogether, and without aiming to repeat the arguments detailed before, the German roundtable event has brought to light all the difficulties a European research project faces when developing recommendations – be it for institutions or other actors within the academic system. The international recommendations that were discussed during the afternoon – which were formulated based on the comparison of the 22 national focus groups – were not at all perceived to be meaningful and realisable in the German institutional context. Participants made it very clear that if aiming for recommendations with impact, a totally different approach to developing these recommendations will be needed. They advocated for the identification of general principles to be pursued at the European level and on this basis, more concrete recommendations for specific national contexts and stakeholders.

From a more analytical perspective, particularly in the fields of social integration and science communication, similar discussions as in the focus groups took place during the roundtable. Even further, and partly due to the very traditional understanding of science communication conveyed by the recommendations, discussions emerged that the German 'science communication bubble' has already overcome a few years ago. For future research projects, it might be more beneficial to have a heterogeneous roundtable event with broad discussions about norms, principles and basic recommendations as a first step, and then, as a second step, homogenous focus groups with experts from the respective fields to discuss how to concretise and implement these basic recommendations in the national context. As far as the German case concerns, this would have appeared to be a more fruitful approach than the way it has been done here.

What all experts agreed on, and what has already been the main result of the German focus groups, is that in order for institutions to remain 'anchors of trust', comprehensive reforms are needed. These are not limited to individual dimensions such as 'integrity' or 'integration' but rather need to address the entire way the system of science works.

Appendix

Appendix 1: Coding Scheme for the Analysis of the German Roundtable

German	English
Generelle Kritik	General Critique
Beteiligung	Integration
<ul style="list-style-type: none"> ● 1.Integration_Ist-Zustand ● 2.Integration_Soll-Zustand ● 3.Integration_Handlungsansätze ● 4.Integration_Kritik ● 5.Integration_Ranking ● 6.Integration_Zitate 	<ul style="list-style-type: none"> ● 1.Integration_Status Quo ● 2.Integration_Desired Outcome ● 3.Integration_Strategic Approaches ● 4.Integration_Critique ● 5.Integration_Ranking ● 6.Integration_Quotes
Integrität	Integrity
<ul style="list-style-type: none"> ● 1.Integrität_Ist-Zustand ● 2.Integrität_Soll-Zustand ● 3.Integrität_Handlungsansätze ● 4.Integrität_Kritik ● 5.Integrität_Ranking ● 6.Integrität_Zitate 	<ul style="list-style-type: none"> ● 1.Integrity_Status Quo ● 2.Integrity_Desired Outcome ● 3.Integrity_Strategic Approaches ● 4.Integrity_Critique ● 5.Integrity_Ranking ● 6.Integrity_Quotes
Organisation	Organisation
<ul style="list-style-type: none"> ● 1.Organisation_Ist-Zustand ● 2.Organisation_Soll-Zustand ● 3.Organisation_Handlungsansätze ● 4.Organisation_Kritik ● 5.Organisation_Ranking ● 6.Organisation_Zitate 	<ul style="list-style-type: none"> ● 1.Organisation_Status Quo ● 2.Organisation_Desired Outcome ● 3.Organisation_Strategic Approaches ● 4.Organisation_Critique ● 5.Organisation_Ranking ● 6.Organisation_Quotes
Wissenschaftskommunikation	Science communication
<ul style="list-style-type: none"> ● 1.WissKomm_Ist-Zustand ● 2.WissKomm_Soll-Zustand ● 3.WissKomm_Handlungsansätze ● 4.WissKomm_Kritik ● 5.WissKomm_Ranking ● 6.WissKomm_Zitate 	<ul style="list-style-type: none"> ● 1.SciComm_Status Quo ● 2.SciComm_Desired Outcome ● 3.SciComm_Strategic Approaches ● 4.SciComm_Critique ● 5.SciComm_Ranking ● 6.SciComm_Quotes
Anderes	Other themes
<ul style="list-style-type: none"> ● Anderes ● Anderes_Zitate ● Gesamtprozess ● Gesamtprozess_Zitate 	<ul style="list-style-type: none"> ● Other themes ● Others_quotes ● Overall process ● Overall process_quotes

- Group session 2



Appendix 3: Selected quotes on science communication

"I think we're seeing in many areas that what we are currently experiencing as a backlash is due to people being tired of constantly hearing about the importance of things without being able to seeing it directly." (Plenary Phase 2)

"Not all science is meant for publication. Science is published in public journals, which are accessible. These are then conveyed to the public by science journalists. Scientists don't sit in their rooms hoarding data in a desk drawer. Science is shared in journals and at conferences where stakeholders are present. It's not that scientists don't want to communicate. The question is, how much do they engage with the public and laypeople? That's the issue. Structurally, for most scientists working on third-party funded projects, science communication is an additional task they cannot afford in terms of time or resources." (Plenary Phase 2)

"I believe it's about every citizen having the right to know about and be informed about projects being researched. This means that even if someone doesn't want media coverage or press about themselves, they must still do it. If they say, "I don't want to appear in public for any reason; I can't even speak clearly in front of a microphone," that's understandable. There are always other ways. Different formats can be developed, whether through social media or other means. One doesn't always have to be in front and speak into a microphone." (Plenary Phase 2)

"Competence-building also comes with potentially stricter selection criteria. It raises the question: should everyone engage in science

communication, or should it be about supporting a quality-assured science communication?" (Plenary Phase 2)

"But I notice in the projects we oversee at the Communication Lab that the smaller they are, the more they engage with their target audience, their language, channels, and topics, the more successful they are. I think that should also be conveyed, even in the recommendations." (Group 2, Group session 1)

"The point of competence centres is that they shouldn't just offer support once the application is submitted but ideally beforehand. In these competence centres, for example, in an ideal world, there would be communicators who provide quality-assured and tailored advice before the application phase. They could say, "This is your project. What fits it best? Something informative, participatory, dialogical?" This way, we can cover the full range. I think it always has to be about appropriateness and audience-oriented alignment, and there needs to be consultation beforehand, not just when the funding is already in place. I often see cases where something is included that initially seems minor and feasible with the available resources, but there's no feedback loop about what is sensible and feasible and what best practices can be adapted for the project. So, consultation must happen beforehand, not just after the money is secured." (Plenary Phase 2)

"That it's not just about the professional exchange in the traditional sense, but that the communication aspects are also considered and presented. In this way, a cultural shift could be brought about. For example, that leaders could also implement a kind of reporting on these communication aspects of the projects, not just on the technical aspects. So, perhaps, a change could be initiated this way." (Plenary Phase 2)

Appendix 4: Summary of German focus group results provided to the participants of the German Roundtable



poiesis
TRUST IN SCIENCE

National Report: Deliberative roundtable - *Greece*

**Project title: Probing the impact of integrity and
integration on societal trust in science**

Project acronym: POIESIS

Authors: Leonidas Ananiadis, Panagiotis Kavouras

Grant Agreement no.: 101057253

Lead partner for this deliverable: *Centre national de la recherche
scientifique (CNRS)*



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1 Introduction

1.1 Set up of the deliberative roundtable

The Greek Deliberative Roundtable took place online via Zoom on November 7th, 2024. The local POIESIS Team chose to conduct it online as the more feasible strategy to ensure the greatest possible participation as well as the best possible representation of each stakeholder group. After contacting all three country co-investigators it proved that all interested parties had busy schedules, and it would be especially challenging, if not impossible, to find a common time to arrange an onsite event.

A total number of 10 participants (5 in each breakout room) were present at the event, including one of the POIESIS Focus Groups Co-Investigators (Dr. Manolis Patiniotis). The local expert had also participated in the plenary and the group discussions. Eight of them had participated in previous POIESIS engagement events, being either experts from the Focus Groups or institutional mediators from the POIESIS Expert Interviews. Participant 5 and Participant 10 (local expert) were involved in POIESIS for the first time and were recruited by the NTUA teams' local network.

Panagiotis Kavouras (NTUA-POIESIS WP4 Leader) facilitated the Roundtable due to his expertise and his previous experience on similar activities, serving also as a moderator on Group 1 (Research Integrity). The moderator of Group 2 (Science Communication) was POIESIS co-Investigator Dr. Manolis Patiniotis. Leonidas Ananiadis (NTUA-POIESIS WP4 Member) served as co-facilitator of the Roundtable and co-moderator on Group 2.

The choice of the thematics that were discussed during the Group sessions (Research Integrity, Science Communication) was made both by prioritizing their significance in terms of the POIESIS main objectives and Methodology, and by taking into account the participants' research interests and fields of expertise.

The event lasted a total of 3 hours and 10 minutes, a little longer than planned. There was no need for organising a preparatory meeting prior to or after the event nor dealing with any practical issues, since the materials provided by POIESIS WP3 along with a short guide (featuring also the agenda of the event), which was produced by the local team based on the aforementioned documents, proved to be more than adequate.

1.2 Participants in the deliberative roundtable

Deliberative roundtable

Participant Id.	Gender	Career stage (early, mid, senior)	Position	Institution
Participant 1	M	Senior	Responsible for Communication	Democritos Research Center
Participant 2	M	Senior	Professor	NKUA
Participant 3	M	Senior	Professor/Archimandrite	NKUA/Church of Greece
Participant 4	M	Senior	Association President	Medical Law and Bioethics Association
Participant 5	F	Senior	Lecturer/Head of private housing prevention and legal consultant (France)	University in France
Manolis Patiniotis	M	Senior	Professor	NKUA
Participant 7	M	Senior	Professor	NKUA
Participant 8	M	Senior	Science Communicator (novel technologies)	Research Performing Organisation (publicly funded)
Participant 9	M	Senior	Librarian	NTUA
Participant 10/local expert	F	Mid	Creative Science Communicator	University in South Wales (UK)

2 Sequential description of the deliberative roundtable

2.1. Phase 1 Introduction

The introduction of the Greek deliberative roundtable was made by Panagiotis Kavouras (NTUA-POIESIS WP4 Leader) and focused on the POIESIS objectives and Methodology, presenting also some of the projects' early results that have been produced so far. He also provided a brief overview of the Deliberative Roundtable, its aims and the schedule of the event.

2.2. Phase 2 Group sessions (4–5 max per group) – 4 groups max.

2.2.1 Group 1 – Research Integrity

The discussion was focused on the cultivation of a good, healthy, research culture in the institutions, which will be fostered by the implementation of continuous professional training programmes. Participants were concerned about how feasible homogenisation across different countries or different types of research institutions is. There also was a great deal of concern about how effectively a university could handle cases of research misconduct.

Results of the ranking exercise are:

- 1) Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution
- 2) Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries
- 3) Ensure a culture of transparency regarding the institutional handling of misconduct

2.2.2 Group 2 – Science Communication

The discussion was focused on the action of both individuals and institutions involved in science communication, with participants showing a clear interest in the "openness" of research, and on societal integration of science, stating that the strategy for enhancing trust in science through communication activities should be based on such practices.

Results of the ranking exercise are:

- 1) Use institutional communicators to make citizens aware of research in the early stages,
- 2) Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination,
- 3) Avoid assuming a "crisis of trust", it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided

2.3. Phase 3 Collective review of outputs from session 1

The discussion was focused on the role of research Institutions in promoting an open and interactive research culture and an effective way of communication science, with participants showing a clear interest in the interaction between research and administrative staff (e.g. administrators) within Universities, in the dialectic discourse between different faculties of science, and also to the improvement of science communication via educative programs, both internally (within institutions and the academia) and externally (reaching out to the general public). Many of the participants used examples of how research institutions in Western Europe handle those matters.

2.4. Phase 4 Group sessions (4–5 max per group) – 4 groups max.

The discussion on both groups was focused on the external pressures of different sorts that Institutions face, with participants showing a clear interest in the “ranking competition” and the criteria for the evaluation process, as well as the impact that all those have in research.

2.4.1 Group 1

The discussion was focused on the incentives given to universities to rank themselves in terms of their prestige, with participants expressing the importance of combining quantitative and qualitative criteria in this matter, especially when researchers and Institutions that cure different scientific faculties are being evaluated. The discussion was also particularly focused on funding, the pressures created by the need for a researcher and a research institution to demonstrate that it can attract funding from all sorts of Research Funding Organizations (RFOs). Cases of conflicts of interest were also widely mentioned. Participants stated that by focusing on methodology scientists can protect their work from this kind of interference from external factors.

2.4.2 Group 2

The discussion was focused on the protection of research integrity and of researchers themselves from external pressures such as the evaluation criteria, the “publish or perish” culture, the strict timelines of research programmes etc., which could undermine the quality of research. Participants agreed that a reformation of the evaluation criteria and a redefinition of the term “high standards” is needed. They advocated for a transformation of the academic and research culture via the collective development of an internal research agenda for each institution, so that researchers will not depend on the free market of projects and try to attract funding. Most of the participants commented that the last question of the

session predetermined that the evaluation criteria should remain unchanged (based on quantitative terms), not giving therefore much room for reflection on this matter.

2.5. Phase 5 Expert talk

The local expert characterized the event as a very useful and productive experience. She chose to focus on the openness of research and institutions. She argued that there's a need to reshape the internal institutional processes, so that they will better correspond to modern needs and to what should be done differently, so that there are no unreasonable pressures on the academic staff. She also stressed the importance of each institution to become a group moving towards the same goals.

Regarding the importance of the introduction of qualitative criteria at the evaluation process, she focused on the origin of the practice of prioritizing quantity over quality, stating that it probably comes from more "hard science" faculties, which evaluate qualitative data more because of their nature, and that Humanities researchers can help greatly in this reshaping of the evaluation system.

3 Building trust in science: priorities and institutional engagement

3.1 Institutional engagement with research integrity

Participants identified several factors of pressure to the Institutions and their respected staff that may undermine the quality and integrity of research. Those included pressure for funding and publications, as well as the one that comes from the compliance with the timeline of various research programs. The social pressure that may arise from urgent societal issues was also mentioned as a factor, with the COVID-19 vaccines research being brought into the conversation.

The hunting for publications ("publish or perish" culture was repeatedly mentioned) and funding which is fueled by the need of Institutions to reach higher rankings may lead not only to the direct undermining of the quality and integrity of research that is being produced, but also to the underestimation of the teaching work of the academic personnel, the production of obsolete knowledge irrelevant with the social needs and ultimately to the underestimation of their basic social responsibilities:

"...because I think there is this inherent contradiction; that the image and prestige of a university depends on quantitative indicators that are in free market terms. But on the other hand, the statutory obligation that an institution like a university has, has nothing to do with them. It has to do with the cultivation... it has to do with the production of knowledge, it has to do with completely different things, which to a large extent at least cannot be quantified. So apples and oranges. The image of the University in relation to its actual, let's say, real role in society".

Participant 8

Conflicts of interest that may derive from some of the aforementioned factors (e.g. pressure from funding) were also identified as one of the major factors damaging the integrity of research. The environment that is being created by all those factors leads to tolerance of such practices, in some cases.

The modernization and the stricter application of the Code of Conduct -which should be accompanied by training and information for researchers in relation to it- was proposed as a necessary step and as a solid base for further actions, along with courses of Research Methodology in each postgraduate program in each discipline and university. The introduction of high standards on the methodology of the produced research is also essential. Participants stressed that while there were some positive steps towards this direction in Greece over the last few years, more actions should be taken.

The education of researchers on matters of research integrity should focus on the social mission and contribution of science, on the cultivation of trust in the research process and what it can offer, even to researchers themselves, and on the demonstration of the negative social effects of "manipulated" research and bad research practices in general. Some of them though questioned the effectiveness of such measures while the general context remains as nefarious as described above.

The treatment of "offenders" was an issue that has also been discussed quite extensively. Most of the participants advocated for a more discrete, internal approach of such situations, focusing on precautionary measures, with the exception of some extreme cases, in order not only to avoid "witch hunting", but mainly to protect trust in science as the public might make generalizations:

"...perhaps these situations need some attention to how they are diffused and perceived by others and confuse, create, inspire or generate, and false rumors take on other dimensions to the issue. Anyway, I think some... a context would be useful in some of these cases, at least those that are obvious and known".

Participant 5

Metrics relating to each institution's efforts to ensure integrity and correspondingly requiring institutions with multiple problem cases to implement strategies to reduce them were also proposed.

3.2 Institutional engagement with the organization of science

Openness and interdisciplinarity were identified as the major priorities for Institutions to pursue, at the Greek Deliberative Roundtable. The former was also perceived in the field of Communication of Science and will be analyzed on this aspect more extensively on Chapter 3.4. As far as the organization of science is concerned, it was related with open access, where there is still a lot of work to be done:

"Openness of publications, the implementation of Open Science and Open Access. Not to have research results over a subscription wall. But even the institutions themselves often put up their own walls. Walls not visible or visible. They are closed to society. Or society does not recognize that they are open..."

Participant 9

It also has to do with the openness "within the walls" of Institutions, among researchers of different faculties, academics, and administrators, as a way for the Institutions to know their functions, their field and their mission and to ensure their unity towards common goals. The lack of communication between those channels was identified as a major issue in most of the Greek Institutions:

"...and even within the institutions themselves there is no communication, there are no communication channels; we very often have better communication with colleagues or employees in institutions abroad than in our own institutions".

Participant 9

Interdisciplinarity of course goes beyond these walls and is also perceived about dialogue between the sciences at domestic and international level, recognizing at the same time the specificities of each discipline in the conduct of research, in order to realize recommendations such as those that were proposed at this Roundtable:

"I just want to add in the meantime that because we are also people from the quantitative sciences, technological sciences, and humanities, I think that this channel of communication between us should be more... discussion, more understanding, a

sense that what we do is not self-evident for the other sciences. I think it helps. At least here at [the name of the Institution that he works at] we have felt that. And now channels of communication are opening up and more institutional and systematic with people in the Humanities. Because surely the construction of research integrity must also come from such a discussion".

Participant 1

Issues that were described at the previous Chapter (3.1) such as conflicts of interest, external and internal pressures could be faced with a number of measures (some mentioned the external evaluators who ensure there are no conflicts of interest or the legal agreements that are signed between RFOs and Institutions as good examples), but the most crucial factor according to most of them is the prioritization of qualitative criteria over quantitative ones, or at least a more balanced approach in the evaluation process (the evaluation of research and how this is linked to ranking with funding was characterized by a participant as a very "closed" process). The collective shaping of objectives and standards of the institutions as a matter of the people who work and study there was also particularly highlighted, especially among participants of Group 2:

"...here it's actually not so much a question of training. It is more of a framework of co-construction about what the expectations of the institutions are. That is, here it is not simply a matter of the institution having certain expectations and having to transfer them somewhere. It's that the institution has people working there from senior professors to junior PhD candidates, where all of them have to somehow have a framework through which whatever strategies the University pursues on research will be shaped and jointly say that we agree to go there, whatever that means".

Participant 8

Regarding pressure for compliance on timelines of research projects, some participants proposed the right of Ethics Committees to impose a delay in research if something is not being conducted in accordance with "good" research practices, due to aforementioned pressures.

3.3 Institutional engagement with social integration

Science integration was the least "popular" of the four thematics. As stressed before, participants described openness mostly in relation to the organization (Chapter 3.2) and the communication (Chapter 3.4) of science. However, some examples were mentioned in

Group 2 concerning “Researchers’ Night” events and the proposal for the establishment of dedicated teams in the institutions for the organization of such events and their effective promotion. The need for an open dialogue with wider parts of society on the objectives of scientific research was also mentioned, even with followers of pseudo-scientific theories.

Participant 10 (local expert) had also proposed the creation of platforms outside the traditional institutional space, which will function as communication channels for the cultivation of trust in science through its communication and for the organization of citizen science events, with themes that will directly concern the local community:

“...just small science centers, which will be... they will be set up in such a way that they can be citizen-friendly and do activities that are of direct interest to the local community. Each time within which researchers could work with people specifically for communication and translate and create exhibits and actions. I think that's a good start. Definitely yes.”

Participant 10

3.4 Institutional engagement with science communication

Many participants argued that the effectiveness of Science Communication depends first and foremost on the repulsion of fake news and pseudoscientific theories. This can be achieved in a number of actions including:

- a) the display of the research process and its methodology,
- b) reforms at all educational stages, as what people learn at a young age plays an important role in shaping their beliefs,
- c) the use of sciences such as History and Philosophy,
Participant 8 referred to a study that has shown that students taking History and Philosophy courses are much less prone to any pseudo-scientific views and have more confidence in science,
- d) the study of the strategy and language of fake news.
Exploitation of the latter for science communication. It seems to be exceptionally effective, while the language that we use for science communication needs to be popularized on most of the cases.

Openness and transparency in communicating science seem to be rated highly among participants. Scientists and Institutions should not be afraid to demonstrate the uncertainties and the difficulties of the research process to the public. On the contrary, this should help them understand it more deeply and learn that there are no undeniable truths in science, nor pure objective science. Transparency and dialogue with society on the difficulties of scientific research are as essential as ever:

"...like a house of glass, to see our concerns and how we think and not to let those concerns slip away and be demonized".

Participant 7

3.5 Other themes

There were no other significant themes that emerged in this roundtable.

Conclusion

The openness of Institutions, in terms of transparency, interdisciplinarity, science communication, and internal communication as a means to enhance Trust in Science was one of the main themes that emerged from the Greek Roundtable. The fact that citizen science actions and Science Integration in general was less discussed could be explained by the relative scarcity of such initiatives in the Greek context.

Another theme that was extensively discussed was the introduction of Research Methodology courses to strengthen the effort to reduce cases of breeches of Research Integrity. The prioritization of qualitative over quantitative data, when it comes to the evaluation for Institutions and researchers, was a key theme as well, as a means for researchers and Institutions to be relieved to some extent by external pressures that may undermine the quality and integrity of research. The former (Research Methodology in education) is more of a national issue and most of the participants described it as such, while the latter (the prevalence of quantitative criteria) is relevant across different countries.

Conflicts of interest were also identified as a structural issue, and while there was some positive progress in the efforts to restrain such incidents, there was also some skepticism expressed by a good number of participants, about the ability of research institutions to address in their entirety issues linked to the wider national or international social setting.

The participants of the Greek Deliberative Roundtable are quite influential people both within their Institutions and in their field, but their capability in addressing wider social issues that affect some of the matters that were discussed, should be perceived with the same skepticism that they themselves expressed. However, they can contribute and influence, to a certain extent, issues related with the function of their Institutions both internally and externally, as described before, especially when it comes to international guidelines that have not yet been effectively adopted and integrated in Greece.



poiesis
TRUST IN SCIENCE

National Report: Deliberative roundtable - *Portugal*

**Project title: Probing the impact of integrity and
integration on societal trust in science**

Project acronym: POIESIS

Grant Agreement no.: 101057253

Lead partner for this deliverable: *Centre national de la recherche
scientifique (CNRS)*

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1 Introduction

This report describes the Roundtable study that took place in Portugal as part of the POIESIS project. This introduction section provides a summary of the methodology, detailing the event's setup and the participants involved.

1.1 Set up of the deliberative roundtable

The deliberative roundtable took place on Thursday, November 14, 2024, from 14:00 to 17:00, at Iscte - Instituto Universitário de Lisboa. Fourteen participants attended the roundtable, with ten joining in person and four participating online via Zoom.

All participants were previously involved in earlier focus groups or interview studies of the project –some as participants, others as co-investigators in the focus group, and some as interviewees. This prior engagement meant that they were already familiar with the POIESIS project and showed significant interest in it, making participant identification and recruitment relatively straightforward.

Initially, we sent invitation emails to 20 potential participants, of whom 17 accepted. However, two cancelled a day before the event due to family commitments, leaving 15 confirmed attendees. On the day of the event, one online participant was unable to join due to technical issues, resulting in a total of 14 participants.

The project team held several meetings to prepare for the event, discussing and refining the recommendations listed in the guidelines. A PowerPoint presentation was created to show the recommendations to participants during the roundtable and spur the discussion.

The deliberative roundtable was **moderated** by the project leader of the Portuguese team, Marta Entradas, and supported by the Portuguese team (two postdoctoral researchers and a PhD student). The participant information sheet and event agenda were shared via email with participants beforehand and provided on-site during the event. Informed consent was also obtained from participants at the start of the roundtable. No additional gifts were offered.

Upon arrival, participants received a sticker to write their names, which played an important role in encouraging familiarity among participants who were previously unacquainted.

The agenda of the roundtable was the following:

14:00 - Reception and presentation of the POIESIS project

14:15 - First part of the discussion: Scientific integrity and the Organization of science

15:15 - Coffee break

15:30 - Second part of the discussion: Social integration and Science communication

16:30 - Wrap-up and closing

1.2 Participants in the deliberative roundtable

Table 1 presents the profile description of the 14 participants who attended the deliberative roundtable. Participants 1 to 10 were in the room, and the remaining were online.

Table 1. Deliberative roundtable: Description of participants

Participant Id.	Gender	Career stage	Position	Institution
01	Female	Senior	Coordinator Citizen Science Project	RPO
02	Female	Senior	Researcher	RPO
03	Female	Mid	Research Manager	RPO
04	Female	Senior	Head Communications, Events & Outreach	RPO
05	Female	Junior	Co-founder and co-director	Non-profit initiative for science democratization
06	Male	Mid	Communication office	RPO
07	Female	Junior	Scientific illustrator and designer	Freelancer
08	Female	Mid	Marketing and Community Outreach Officer	Research infrastructure
09	Female	Senior	Project Manager	European Project
10	Female	Mid	Research Support Officer	RPO
11	Female	Mid	Science Communicator	RPO
12	Female	Senior	Science Communicator	RPO

13	Female	Junior	Communications Trainee	European Laboratory
14	Female	Senior	Consultant in communication	Freelancer

Note. RPO - Research performance organisation

2 Sequential description of the deliberative roundtable

In this section, we provide a brief description of the deliberative roundtable. This section describes the main topics discussed, including participants' diverse perspectives and common concerns. We also address the depth and quality of exchanges, the effectiveness of moderation, and the level of engagement and interaction among participants for achieving the objectives of the event.

2.1. Introduction

The event began with a brief presentation of the POIESIS project and the roundtable, including its objectives and agenda, by team coordinator Marta Entradas. After the project team introduced themselves, participants were invited to do the same.

The moderator outlined the structure of the discussion, starting with the presentation of a set of recommendations, followed by an open group discussion. Due to time constraints, participants were encouraged to add new ideas to the discussion during their interventions.

2.2. Group discussion

Overall, the group engaged in meaningful dialogue and constructive exchanges. In the first part of the discussion, participants focused on how criteria for researchers' performance evaluation and institutional funding can impact the commitment to research integrity. A recurring concern was the challenge for institutions to promote ethical standards embedded in openness and transparency within a competitive research environment.

In the second part of the discussion, participants emphasized the importance of science communication as a responsibility of both institutions and scientists. They agreed that the societal impact of

science depends on effective communication, which should be valued by research performance organizations and funding agencies.

The discussion reflected a wide range of perspectives, highlighting the different institutional priorities. While all participants recognized the importance of fostering a culture of research integrity, it was possible to note from participants' comments that not all institutions were at the same stage of implementing such initiatives, suggesting a heterogeneous national landscape. Social integration emerged as a shared priority among the represented institutions, with a focus on promoting public participation in science and communicating effectively with diverse audiences—a concern echoed at the national level.

The exchanges were characterized by thoughtful comments, with participants sharing personal experiences from their institutional contexts and critically examining systemic barriers to implementing recommendations. Several solutions were proposed, demonstrating a high level of engagement with the topics.

The group dynamic was inclusive and collaborative, marked by constructive debates and active listening, with most exchanges reflecting an honest effort to build on each other's ideas and identify shared solutions.

The moderator effectively guided the discussion, ensuring that all participants had an opportunity to contribute and that interventions aligned with the event's goals. Time management was key for smooth transitions between topics, and moments of disagreement were handled constructively.

The discussion was highly productive, generating actionable ideas to promote scientific integrity and enhance public engagement in science in scientific and academic institutions. Participants emphasized the need to transition from theory to practice and highlighted the value of events like this - where they, as a community, are involved in the discussions - in driving significant action.

3 Building trust in science: priorities and institutional engagement

This chapter is structured based on the four categories of recommendations identified in the previous task of Work Package 3: research integrity, organization of science, social integration (here discussed as public engagement), and science communication.

3.1 Institutional engagement with research integrity

Participants were presented with three main recommendations, adapted from document D.3.3 - Guidelines for running the deliberative roundtables as follows:

- Implement clear guidelines and codes of conduct and promote standards of integrity in the institutions;
- Continuous, career-long training and education programmes for students, researchers, but also other professionals working in the institution;
- Ensure a culture of transparency regarding the institutional handling of misconduct.

The participants began by sharing examples from their institutions attempting to show ways of implementing these recommendations. It is important to note that the institutions of the participants in this roundtable are at **different stages of thinking about ethics and integrity in research** and, therefore, the practices they have adopted so far or plan to adopt reflect these differences.

During the discussion, participants primarily focused on the **"who" of scientific integrity** in their institutions, identifying the people or groups responsible for promoting research integrity, and the **"how"**, referring to initiatives such as codes of conduct and open science policies. They also highlighted some of the challenges encountered in this area and the resources needed to address them.

"We can have the best codes of conduct, perfect, if we don't provide working and living conditions for our researchers, will they work?" (P14)

Research integrity: Who?

Regarding the individuals responsible for overseeing scientific integrity in institutions, participants shared different approaches.

One participant shared that in her institution, an **ombudsperson for scientific integrity** had recently been appointed to assist researchers in addressing specific challenges related to integrity in their work. This is a person who is external to the institution and provides advice and guidelines on research conduct (mainly from a legal perspective) The 'job' of this individual (trained in law), was described as meetings with researchers - either individually or in groups - to address questions on research conduct mainly concerning publication issues and provide clarification. Since the institution's code of conduct has been in place for only a short time, the ombudsperson's primary role has been to explain these guidelines and address issues related to co-authorship of publications. Two other participants referred also to their institutions as having an ombudsperson for scientific integrity, with similar responsibilities. This topic will be further discussed in the next sections.

"She [the ombudsperson] has met with all the organised groups, say, the doctoral students' committee, the postdocs' committee, the administrative staff, the scientific platforms, to basically open up the channel for conversation. (...) and then she has this community service on Wednesdays. (...) People come with questions, they come with doubts, they come with questions and there's a lot that's done by email (...). It has been used a lot. (...) There are questions about interactions with superiors, sometimes questions about authorship of publications, (...) when the code of conduct was shared there were people who had doubts about the code of conduct." (P04)

Participants from other institutions mentioned that these responsibilities are handled by groups or committees. For instance, one participant mentioned that her institution had initially one **ethics committee** serving all researchers. However, it now has a dedicated committee for each school, tailored to meet the distinct needs of researchers working with human subjects.

"Ethics committees have also been set up for each of the schools, only one research unit has its own ethics committee, and basically all research projects involving participants are eligible to submit their projects and their practices for ethical approval. For example, the informed consents, all these documents, the interview scripts, all these documents can be submitted for ethical approval to each of these committees which is then managed by the ethics council, which is above." (P10)

Research integrity: How?

Codes of conduct and guidelines

Codes of conduct were identified as the main initiative that most of the institutions of the participants have in place. Despite their recognised importance, there were two considerations from the participants' perspective that should be carefully discussed internally. The first relates to the **language of these codes**, the language of science vs. the language of law. One of the participants gave the example of the principle of the replicability of science, which, under the law, can be understood as a violation of copyright as "scientific integrity standards are different from legal standards" (P05). The second relates to the **need to frequently review codes of conduct**, to adapt the document (and the language) to the context, especially considering the growing list of questionable practices and the evolving definition of 'good science' and good practices in scientific institutions (e.g., promotion of mental health).

"The language that the lawyer used and that the scientific community was using wasn't always the same and sometimes there were even curious things. For example, she came to talk to us about the issue of replicating data, and for her, it was a problem: 'But replicating is stealing, they're doing again what you've already done'. I had to explain to her that replicability was inherent to the scientific process, wasn't it?" (P04)

"At my institution, the code of conduct is reviewed regularly, I don't know exactly how often, but maybe every five years." (P12)

In institutions that these codes do not seem to exist as a formal document produced by the institution, staff have created them from existing models. One participant mentioned that her research centre does not have a code of conduct, but the centre has been investigating several resources in open science and open access, and they created a handbook for open science. The purpose of this handbook was to provide researchers and collaborators at the centre "with a clear and comprehensive guide to implementing Open Science practices" (P02).

Open access policies, based on openness, transparency, and collaboration, together with FAIR principles - Findability, Accessibility, Interoperability, and Reusability - were also considered key by participants to ensure good research conduct. Participants agreed that open access is fundamental to ensure the quality and rigour of science, but not all mentioned specific initiatives for this purpose.

"[Open science is also] the openness of the scientific information that we use and produce in institutional terms. In this sense, scientific information is not only what is produced, what scientists produce, but the metadata, everything around it, information on the impact of use,

information that is used to create codes of conduct, information that is used to evaluate researchers, so the openness of information, at an institutional level, also contributes to integrity.” (P08)

“We have been developing initiatives to align with the components of open science and, in this sense, with the essential characteristics of open science, which are access, transparency and reproducibility of research results, which are basically characteristics that help maintain scientific integrity and the quality of research. (...) the advantages of open science are not only for researchers (...) and of course, then we have the advantages at the level of society, in which we have also been developing this work, basically promoting the involvement of society and scientific literacy, to help the collective benefit, equity, diversity, inclusion.” (P10)

Training in research conduct

One institution created guidelines for sharing research data and protecting personal data: *“In 2023, the policy for managing and sharing research data was approved in our institution” (P10)*. Two other participants pointed out that to open up scientific information as a rule, in a truly open science context, **researchers need to be given continuous training**. One participant emphasised that there are many resources available at the European level and that training can be based on them.

“Training is very important because open science can’t suffer from these fears [of plagiarism], and in science there are also a lot of these fears about papers and so on. But when you’re talking about non-profit organisations you can still sometimes be an even less protected institution than when you’re talking about your institutions. And so it’s very important not to jeopardise open science by these fears that sometimes have to do with other institutions not following standards of integrity, isn’t it? But I think that’s very important in terms of training as well.” (P05)

Finally, only one participant mentioned that the research centre organised a training session on scientific integrity, but the attendance of researchers was low.

“We gave training to all the researchers on data management in particular, and it also had to do with the issue of data management and open science (...), we made a point of going in person to all the units and even so we had very little participation, much less than we would have expected. We tried, before the training, to explain very well to all the

researchers what the importance was, why it was important, and even so we had very little participation. In some areas, we have some difficulty, especially those related to integrity. Researchers aren't prioritising these topics at all, which is a shame." (P11)

Challenges

Who should have this role?

Participants identified two main challenges to implementing their integrity-related initiatives. One was the **difficulty of effectively communicating internally about available resources**, such as the role of the ombudsperson.

"I'm a little afraid that people either still don't understand the role of the ombudsperson or many people still don't know that it exists, which is clearly a problem of internal communication." (P11)

"This part of the communication that takes place, of the ombudsperson herself going to people and demystifying the issues, is very important for them to use the service more." (P04)

The second, which represented a significant part of the discussion, was identifying the **appropriate actors responsible for these initiatives**, such as the ombudsperson, the research integrity officer, or members of the ethics committee. Participants debated whether these roles should be filled by researchers or other individuals within or outside the institution. This challenge was linked to researchers' resistance or fear of using institutional channels to report misconduct or ethical breaches.

There was no consensus on whether an internal or external actor is preferable. Some participants argued that **external actors** bring an impartial perspective, ensuring confidentiality and compliance, and suggested they could function as a monitoring committee. This was deemed particularly important in contexts of functional or scientific dependence. Two participants gave the example of the supervisor-doctoral student relationship and another of the project coordinator-research assistant relationship.

"During my doctorate, I also had a monitoring committee, but this monitoring committee was made up of researchers from the institute itself, opening up questions and exposing problems that may arise during the doctorate, and so the constitution of the monitoring committee also has to be (...) people who are totally disassociated from the institute or who have no

connection with the group leaders and the researcher in particular.” (P13)

“PhD students came to us [the student committee] to complain about mental health issues or issues with supervisors, and they’re afraid because they think the ombudsperson is also going to talk to the supervisors. This monitoring committee are each other’s colleagues, many aren’t really there to defend the students, so it’s more the fear of retaliation, and of not knowing the channel well.” (P05)

“in a more general way, I’m more comfortable with the idea of a person outside the institution, because in my experience (...) there’s a lot of writing, there’s a lot of codes, there’s a good initiative in this sense, we had the possibility of having coaches, psychologists, a lot of support, which is very positive, but (...) then I asked to speak to someone [about my exit] and it was the person of human resources department who worked directly with the directors and with whom I didn’t feel comfortable and I asked him but it couldn’t be with someone else there was no one else available.” (P01)

Others emphasized the advantages of **internal actors**, citing their deep understanding of the institution’s culture and people, which positions them as role models for scientific integrity. Two participants noted that an ombudsperson must possess key personal qualities to gain the institution’s trust and be viewed positively by consensus.

“In my institution, [the ombudsperson] is always an insider, usually someone who has several years of experience at the centre and who is some way close to retirement. So, people who have already been through various areas. (...) So, they were people who knew the institution very well, who had worked in various departments and who were not only older in terms of chronological age, but also experience of the institution. (...) I would say that the ombudsperson should be someone from the inside who knows the culture of the institution and who knows a lot of people, who knows the people and who can always establish a relationship, with confidentiality that is always the first point.” (P12)

“Our ombudsperson wasn’t selected because he was a great researcher, although I think he is, but it wasn’t because of that, it was because of other personal and relational characteristics and because he’s a person who is easy to talk to and is a consensual person. He was pre-nominated by the management for his characteristics in dealing with and talking to people, but he was then confirmed, or accepted, by the scientific committee of the entire centre, so all the researchers at the centre were able to express their opinions

on whether or not they thought that person could be a good ombuds". (P11)

A commitment by institutions and the scientific community

The framing of initiatives related to scientific integrity at an **institutional policy level** was seen as essential by the participants, following a top-down approach, particularly if these policies are based on European-level projects, infrastructures, alliances or awards such as CoARA (Coalition for Advancing Research Assessment), the HR Excellence in Research award and OPERAS (open scholarly communication in the social sciences and humanities). In the participants' opinion, institutional formalization encourages researchers to follow ethical principles in science.

"For us, [open] access cannot be the only condition for the quality of research, and we are also concerned about and believe that the reform of evaluating research must be rethought and in this sense, we have also taken part in some of the national and international initiatives, namely the COARA." (P10)

Also, integrity-related initiatives are easy to implement if the research centres are part of universities. In the case of other research centres, two participants mentioned that the tendency is to follow the rules of other centres or schools of the same institution, drawing inspiration from their codes of conduct.

"There's a lot of this kind of management that is the responsibility of the faculty and is then passed on to the research centres (...). And so, I think that the centres that are part of the faculty must all be more or less "in the same boat" when it comes to informal codes of conduct and even the total absence of these themes. Sometimes we follow the guidelines of the University of Lisbon itself when there's no adaptation at school." (P06)

"In our institution, we have the same situation: we are also assigned to 'parent organisations'. We have eight parent organisations, so we have eight codes of conduct, so basically, we're quite protected. Sometimes it's even difficult to manage them all, but each researcher has usually adopted the code of conduct of their parent organisation." (P11)

Furthermore, some participants also mentioned the importance of **bottom-up approaches** for developing these initiatives such as the creation of working groups or task forces, made by people interested in the topic of integrity. In the case of some institutions, these groups developed the first version of the code of conduct, and in

others, these groups constitute the ethics committees at the level of the institution's faculties, schools or research units/centres.

"The code of conduct was initially created by an internal committee of people who cared about the issues, i.e., it was bottom-up." (P04)

Thus, the **institutional commitment** to scientific integrity together with the **collaboration of the scientific community** are seen as key to support the development and implementation of initiatives related to ethics and integrity in science.

3.2 Institutional engagement with the organization of science

Regarding the organisation of science, participants were presented with four main recommendations, adapted from document D.3.3 - Guidelines for running the deliberative roundtables as follows:

- Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management;
- In-depth revision of the performance evaluation system: Towards more qualitative measures;
- Guarantee the independence of science and develop a public conversation about the private funding of universities and research organisations;
- Protect scientists from external pressures (e.g., funders, governments, public opinion) while maintaining high standards.

The first and most important topic discussed was the criticism of the publications model based on quantitative metrics (i.e., "**publish or perish**"), followed by some suggestions to move further in the reform of scientific evaluation. The second topic concerns the **independence of science**, reflected in the last two recommendations on the list. Although discussed by only a few participants, it remains an important aspect of their vision for the quality of science produced in their institutions and its impact on society.

"We should talk more about the pressure to publish, and the dependence on funds or on, or the dependence on private companies, to be able to research or to be able to publish, because that leads to poor quality research, doesn't it? Or making things up or plagiarising, this pressure of "I have to publish, I have to publish", I think it's important." (P07)

Publish or perish: Fate or faith?

The concern about the **excessive valorisation of publishing scientific articles** over other scientific outputs was a common theme in all participants' discourse. They noted that this emphasis is ingrained in the mindset of researchers, institutions in general, and the main science and technology funding agency in Portugal, the FCT (Portuguese Foundation for Science and Technology) and that this pressure might lead to questionable practices. Participants highlighted a **paradox**: while **researchers are highly concerned** about and **critical of metrics**, they often find it difficult to escape this mindset, instead **orienting their activities toward achieving publications**, which remain the dominant model.

"It's a pressure that sometimes leads to practices with less integrity, and it's not even that people are totally malicious, sometimes they just have a way of surviving and it's complex, but then at the same time (...) the scientists themselves want other forms of evaluation and not just look at the question of publications, but at the same time, they still only think about the quantity of publications." (P02)

It is also visible in participants' voices, that the focus on publications interferes with other activities of the researchers, less valued by the institutions such as public communication and outreach. A participant shared that, in his recent experience, 4 out of 15 researchers in his institution were advised to **reduce their science communication activities** after being evaluated by a panel. Based on the internal regulation of the university, the panel believed these activities were jeopardizing their potential for publication.

"In fifteen, I had four [researchers] who were recommended to cease science communication activities. For example, because they thought it was jeopardising the number of articles they had to write to have something useful, right? A fruitful path. And one of them lost her contract because of this. Because she was only dedicated to science communication, to producing teaching resources, board games, for example, in this case, linked to her research area, and her contract wasn't renewed." (P06)

This tension might be particularly incident in certain groups such as **doctoral students**, that have to prove their value through quantitative metrics, neglecting other outputs and experiences that are important in developing research and communication skills.

"PhD students are also assessed on the number of papers. And in fact, at my institution, we have to write the thesis as papers. (...) And we are only admitted to the doctoral public defence if we have published papers. (...) Then, as well as submitting our doctoral thesis, we also submit our CV, which could almost be seen as a positive point because we are being assessed not only for our doctoral thesis, which includes

scientific results but also for our CV, which can include other types of activities. (...) However, this curriculum is never referenced throughout the defence.” (P13)

The difficulty in overcoming the emphasis on metrics stems in part from the structure of the **national science and technology system** itself, which encourages it by following international guides. Participants cited the 2024 national evaluation process of Research and Development units funded by the FCT as an example, and the focus on the quantitative assessment of the performance of the research units.

“We know that FCT gives those guidelines to be more qualitative, right? In how we present the results and not so much in quantitative indicators, but I was also involved in the FCT evaluation process, the indications we had later when we were preparing visit “don't forget to name the percentage of articles in Nature, articles in Science”, that is, the same people who know that the FCT gives those indications, know that they will also be evaluated quantitatively.” (P04)

Revising the performance evaluation system

Following this, a great part of the discussion focused on ideas to revise the performance evaluation system. From the participants' discourse, it was possible to understand that some institutions are already trying to contribute to reducing the pressure of publications with concrete measures, but that these changes take time. In the voice of one participant: *“Suddenly changing is difficult”* and *“It's difficult to open an application and go from three thousand to one hundred without using quantitative indicators”* (P10).

A participant involved in several European projects for research excellence mentioned CoARA and other initiatives that generate some general recommendations. These include valuing the **diversity of scientific outputs** (e.g., educational books), the quality of mentoring and **supervision** activities, **multilingualism** (outputs in languages other than English), and reducing the weight of the quantitative indicators to add **qualitative elements**. These proposals, however, are only European recommendations and their implementation is the responsibility of the institutions.

“I want to bring you what has been done at the European level because I'm involved in two projects that are heavily involved in the reform of scientific evaluation. Firstly, what the projects have done, in which the European Union has invested a lot of money in these projects, and it also has to do with CoARA, it has to do with other initiatives, they go through some more general principles and some more general

recommendations, which it is then up to the institutions to absorb and create their evaluation systems that take these recommendations into account.” (P08)

Recognising that this process of reforming evaluation “*is extremely difficult*” (P08), **pilot projects** have been set up that offer tools and guidelines for evaluating individual researchers and for different thematic areas. At the same time, the involvement of the academic community in the discussion on the quality of research is key for a systematic change in scientific evaluation. Based on her experience in these European projects, the participant highlights:

“I would like to suggest here that community involvement is key. Whatever work is done in an institution to reform scientific evaluation, it has to bring the community into this project. We’ve held several consultation workshops, we’ve brought in researchers who have given us a series of problems they are experiencing and how they would like to see the reform, and we’ve been processing this information for months. So, it’s about bringing in the community so that this reform can be done with them. I think it’s essential that this organisation of science is not just top-down.” (P08)

One participant mentioned that her institution is discussing measures requiring researchers to **describe** the publications with the greatest **societal and economic impact**, noting that the impact factor of scientific journals has become less significant. Another measure involves identifying **predatory journals and discouraging researchers** from publishing in them, despite acknowledging the challenges in accurately identifying such journals. However, she recognizes that Research and Development awards in the institution are still solely based on publications.

“We have several examples on the table, such as asking for the three publications with the greatest impact that the researcher can identify and describe the impact they have had on society, economy. (...) There are various types of impact that are necessary and to have evidence and try to measure these different types of impact. (...) At the central level, what was defined was to identify, this may be a bit controversial, potential predatory journals, and not to count the articles that were published in those journals.” (P10)

Finally, participants highlighted the importance of **understanding** in detail **the weight of each evaluation component** used by the FCT’s panels that evaluate research projects, units and scientists’ curricula, emphasising the need for greater transparency in the calculation methods, particularly regarding scientific communication activities. One participant suggested that **additional evaluation components that consider scientists’ public communication**, such as

non-formal education and communication activities, should also be considered as evaluation criteria.

"I have the feeling that it's not very clear, it's not very well defined, the weight of each thing and maybe it would be better to assume, to say "Look, fifty per cent will be the publications, but the other fifty per cent we will take into account ABCD that is, communication or other things. (...) We already have countries, I know that in the Netherlands and Spain, there are already evaluation situations with equations that have very well-defined portions for what communication is, what outreach is, etc." (P04)

The independence and autonomy of science

The final point discussed in the context of the organisation of science was the **independence and autonomy of science and the role of institutions in safeguarding it**. This topic was addressed by a few participants whose institutions frequently encounter such issues when receiving private funding, particularly in the environmental sciences.

"The subjection of researchers and research projects to private funding that is very close to greenwashing, when it's not blatant, is very attractive, it really is. Because there's a brutal bottleneck, researchers sometimes want to do research in an area and simply can't, they bang their heads three or four times in a row and can't get funding for it. And suddenly they have someone saying, 'I'll give you the conditions, you do this, but this is fine, OK?' It's very complicated, it's really complicated. And in terms of the environment, there's a huge increase in oil companies." (P06)

The **policies of research institutions** and the availability of **legal support** play a crucial role in creating the conditions for both scientific activities and the company's requests, thereby protecting researchers. This requires that responsibilities and goals be negotiated, clearly defined between the parties, and formalised in a collaboration protocol.

"We are very concerned about this, and I think this has also been discussed, the issue of transparency is very important, in other words, there is a negotiation phase that has to be very clear and very assertive on both sides, both parties have to say exactly what they are going for, what they want and what they are willing to do." (P11)

Despite the growing discussion about the reform of scientific evaluation in various institutions and at the national level, participants acknowledged that there is still a **long journey ahead**

and that **changes** in practices will not happen overnight. Researchers' **mindsets** will also need to adapt to these changes, contributing to a more consolidated and systemic transformation.

3.3 Institutional engagement with social integration

As before, the participants were presented with four recommendations adapted from the document adapted from document D.3.3 - Guidelines for running the deliberative roundtables as follows:

- Provide scientists with the knowledge and resources they need to engage in a sustainable and meaningful process of social integration;
- Promote collaborative spaces and buildings: buildings should be designed and built to favour openness;
- Develop and consider new ways of consulting citizens at the local and regional levels. For example, by holding citizens' assemblies or other specific groups;
- Develop critical thinking among the public on science issues.

The discussion began with some criticism of the wording of the recommendations, which some participants found "repetitive" and "difficult to put into practice" (P12), and "vague", requiring further clarification about "who is the audience? Children, adults, patients?" (P07). These comments may also mirror greater reflection and maturity on the part of the institutions and participants themselves regarding public involvement in science.

After this initial sharing, the participants presented the initiatives their institutions are currently implementing, as well as those they plan to implement in the near future. In this context, the national panorama—represented here by the voices of these 14 participants—appears quite positive. Exploring **new ways to integrate the public into science and the role of institutions in it**, such as through purpose-built spaces, preparing and **encouraging researchers for this involvement**, and **strengthening the relationships with journalists, municipalities and communities**, emerged as the participants' main concerns.

New ways of social integration – more active publics

Some of the participants' institutions lead social integration projects, particularly in the field of citizen science, involving the active participation of citizens and following the ten principles of the European Citizen Science Association (ECSA). These initiatives

go beyond the traditional focus on “getting citizens to learn” (P01) and aim to “go beyond science communication” (P14). The idea of **overcoming public passivity** in these initiatives was a recurring theme in the speeches of several participants. In this context, they emphasised the need for new forms of social integration that engage the public throughout the process—from the initial identification of a problem to the final dissemination of the results.

“The involvement of civil society in science, which I think is extremely interesting, and the responsibility of citizens when they really get involved in projects is incredible in terms of proximity to researchers and research centres.” (P01)

“I think it should be more widely implemented in Portugal, working like a science shop. In practice, what we want is to be very close to the community and we want the community to come to us with their challenges, the problems that they would like to see solved or ideas that they have for innovation or whatever, and work with us from the start. So, they bring us the idea, work with us on the process and then eventually help us to publicise it either because it’s something that they need, it can be a company or it can be anyone else, it doesn’t have to be a company, it can be anyone who walks in. I think this works very well on the issue of proximity and public involvement and I think there should be more examples in Portugal.” (P11)

One participant highlighted the importance of including the public in discussions about **research funding**, as this can foster greater interest and involvement in the activities themselves. Drawing from her experience:

“What I felt was that people, benefactors and sponsors had to, because they were funding science, have a connection and involvement with research and the research process and want to know more about it. So, I think that involving civil society in science funding is also a way of bringing society closer to research.” (P01)

In this context, the participant shared that their institution is planning an initiative for the coming year involving **participatory budgeting**. Citizens will propose various ideas for citizen science projects, and the public will vote to select one, which will then be funded through the municipal budget.

These new forms of consultation with citizens require a great proximity to the community, and spaces designed to this end. Several participants mentioned the importance of having **buildings** that promote the close coexistence between researchers and society.

"Open buildings to create more intersection and coexistence between research and the general public is very, very interesting and therefore a novelty here." (P12)

Furthermore, two participants emphasized that these buildings should be designed to foster **interaction among researchers**. Such collaborative and multidisciplinary environments can promote greater openness to non-academic audiences.

"I realise that the issue of spaces is very much geared towards opening up to the public. I'd just like to point out that this is very important for internal involvement itself, in other words, the way spaces are created already determines internal communication, and the relationship between people, and if these aren't good, it won't work outside either. And so, I think it's something from the point of view of architecture and thinking about spaces, which is really very important even for the phase before involving the public." (P04)

"This space was precisely designed to increase and promote collaboration, multidisciplinary." (P10)

Opening the doors of institutions to the public and explaining what scientists do, the so-called 'open days', were another example of public involvement.

"Unfortunately, there are still very few institutions that open their doors to the general public and have open days (...) the universities themselves open their laboratories, explain a little (...). How many people enter a university each year? Yeah, so it would be important to promote this opening of doors." (P09)

The role of institutions in facilitating researchers' work in social integration

The participants recognised the important role of researchers in social integration initiatives, noting that they serve as a **bridge between scientific institutions and society**, and therefore institutions should have an important role in supporting their public communication initiatives. However, they acknowledged that researchers are sometimes **reluctant** to engage in such activities, not considering them a priority. To address this, they proposed two solutions to be implemented by scientific institutions: providing **training** for researchers and **demonstrating the benefits of social integration** for their projects and **careers**.

"Often, what researchers say is that they have too many tasks to prioritise and then there's no time left, but it's also

because they don't see the advantages. I was reading a document from the UK Research Council this week and it's called 'What's in it for me' and it's all about the advantages, with cases of scientists saying, "I got involved with the public, these were the advantages in my career". And that's very funny because sometimes they're not obvious to researchers and there are lots of advantages and even advantages that they try to have in terms of getting more funding and everything else. I think that this pedagogy is also necessary." (P02)

Training is seen as essential by the participants, as not all researchers are prepared for public engagement. As one participant put it, *"We can't have scientists who are experts in everything"* (P07). Training can be based, for example, on the principles of citizen science but should also focus on how to engage different audiences and address the communication of the uncertainty inherent in the scientific process. For instance, scientists should be equipped to answer simple questions in a clear and direct way, ultimately enhancing the public's critical thinking skills.

"The issue of training researchers themselves in citizen science. They once again realise the difference between science communication and citizen science, which is the advantage it can also have for them and for research projects, isn't it? Here we're seeing citizens not only learning, knowing more about science, becoming more interested in science, but also helping the research projects themselves, which I think is a very interesting way of involving the public." (P01)

"You have to help the people who communicate science to know how to communicate uncertainty. In my field, this is very complicated because often, in the field of archaeology, people ask us, the simplest question, "What was it like in prehistoric times?" And often the researchers get caught up in it, 'the data doesn't allow it because of this and that', and it's a big mess and the person just wants to have an idea for their imagination, don't they?" (P02)

At the same time, the benefits of public involvement in science should be made clear to researchers. This ties back to the initial idea that the public cannot remain passive but should actively participate throughout the research process, for example, by contributing to the generation of new research questions. Furthermore, as identified before, researchers' careers can benefit from this integration in the long term, especially in attracting funding from specific programmes.

"We also want them [the public] to come to us with their questions. What do they see in their day-to-day lives that isn't being absorbed by research?" (P11)

Strengthening relations with journalists

The final recommendation presented to the participants emphasized the need to promote **critical thinking in the public**, which was regarded as a key responsibility of scientific institutions, researchers, and science journalists. Several participants emphasised that the public should be made aware of the **scientific process**—what it entails, the central **role of uncertainty**, and the importance of viewing this uncertainty in a positive light rather than negatively. As mentioned above, researchers should also learn to communicate this uncertainty.

"In this story of critical thinking, it's also the importance of literacy concerning the scientific process itself, in other words, for the public to realise that restlessness is part of the process and that this is not a problem but a solution. In other words, people can increasingly understand what the scientific process is like, not just access to the results above all, but to the process, and how uncertainty is a key factor in all of this." (P08)

In this context, participants mentioned that **science journalists** play a very important role in this relationship between scientific institutions and society and that such relationships should be worked on and explored for better communication from institutions to the media and public sphere. This idea was corroborated by other participants through non-verbal communication. Ultimately, science journalists, in her opinion, can contribute to **scientific literacy**, despite the decreasing number of science journalists and the shrinking space for science in the media nowadays. A participant gave an example of how these relationships can be strengthened by mentioning an international project (with Portuguese institutions also involved), where scientific **institutions** are bringing journalists closer to science by hosting them in the institutions aiming to increase their interest in and understanding of ongoing research. In her words:

"There's a very big project going on at the moment that takes journalists inside the institutions, and that's also important, so we have more and more journalists who know more and more about science so that they can then publish about it in the various media, and that helps to raise the critical spirit." (P09)

Strengthening relations with municipalities and communities

One aspect that facilitates these initiatives is the **support provided by municipalities**, as illustrated by the *Oeiras Experimenta* (Oeiras Experiments) project mentioned by Participant 1.

"I'll give you the case of the municipality of Oeiras, which itself is funding the citizen science project, which in itself is the involvement of civil society in science, which I find extremely interesting. (...) We have a plot of land there in the municipality where we have three groups that are trialling crops in the context of climate change and we've had incredible receptivity from the people who go there regularly, and some of them are now already taking part in our group meetings at the Research Institute itself. (...) In terms of citizens' assemblies, we organised a citizens' assembly in the municipality of Oeiras which was extremely successful."
(P1)

Additionally, the **compulsory nature of public integration** in certain projects was seen as an added value for strengthening the **relationships with local communities**. One participant highlighted that in LIFE programmes, the involvement of the target audience—such as farmers and hunters—is mandatory. These communities can both contribute and benefit from their participation in scientific projects.

"There are various funding models that require public involvement, the European Commission's LIFE programmes, which have a research part and a conservation part, require public involvement. I've already taken part in five LIFE programmes, all of which have had some farmers working with me, I have hunters working with me, they go into the field with me, see what I'm doing, they go and do it too, they bring their families along to take part in the activities." (P06)

While this obligation is considered an important step toward social integration, there is **limited evaluation of the impact of these public involvement activities**. According to this participant, engaging social science researchers to develop pilot projects for evaluating these activities would be a valuable step forward.

"The activity is over, but what did the person take away? What did they learn? What message did they get, if anything? And this part of the evaluation and the other initial part, which is the pilot, also seem like something exotic that never happens (...). The pilot of the messages, the public tests (...) what behaviour the person has adopted, for example, there are many things in the social sciences that could be perfectly combined with this type of activity." (P06)

Barriers to social integration

Some participants identified limitations to public involvement in science, including the **precariousness of researchers' contracts**,

which hinder the establishment of long-term relationships with communities and, consequently, affect **the sustainability of projects and initiatives**. The **lack of funding for outreach** activities was also highlighted as a significant challenge. To address this, some participants suggested the creation of permanent grants for outreach activities, similar to those available for attending conferences that serve as a means of disseminating research among peers.

"What is the difficulty here and what am I feeling now? This was created as an idea of mine within a project, I have a precarious contract, which means I don't know how it's going to turn out in the near future. I don't know if I'll have the team to bring this idea to life, so the question of precariousness is very much related to the future sustainability of these ideas." (P11)

Although many scientific institutions are already making significant efforts to involve the public in science, researchers often remain resistant to these activities. This highlights the need for greater investment in raising awareness about the benefits of this involvement and providing appropriate training. Additionally, much work remains in diversifying methods of public consultation and fostering critical thinking among the public, ultimately enhancing public understanding of the scientific process.

3.4 Institutional engagement with science communication

Drawing from document D.3.3 - Guidelines for Running the Deliberative Roundtables - participants were presented with three recommendations, with slight modifications to their wording:

- Considering the enormous amount of scientific information available (and disinformation), ensure greater coordination between institutions and media/dissemination channels.
- Target institutional communicators to raise public awareness of research in its early stages.
- Target institutional communicators to sensitise scientists to public communication.

In this part of the discussion, participants' contributions were shorter and more focused, as several topics had already been addressed, and they aimed to avoid redundancy. The primary concern raised regarding the role of institutions in implementing such recommendations was the **need to equip researchers with the skills to communicate science effectively** through various channels (e.g., social media) and formats (e.g., audiovisual media) as well as to engage with the media. Additionally, participants reiterated the **lack**

of funding for science communication activities as a significant obstacle to achieving their goals, both at the national level, from research funding agencies, and at the institutional level. Nonetheless, some institutions are beginning to offer grants specifically for communicating and publicising research.

"What is also important about these mini-grants for outreach? The promoter has to be young. Why is that? Because we want young researchers to gain experience in project management as well. So, the team can have seniors, but the promoter has to be young, up to five or six years out from a PhD." (P11)

Training researchers to communicate science

The participants argued that the primary focus of institutions should be on **preparing scientists to communicate their research** effectively, as this would help bridge the gap between science and society and build public's trust in science. This training should initially emphasise content—what should be conveyed and how to convey it – and the simplification of language.

"Scientists at the moment, I think, don't have any kind of training in science communication included in their training, and obviously the communication that takes place between peers has to be adapted a little to the communication that takes place in the media and on social media. (...) If we're communicating to a different type of audience, there has to be this explanation afterwards [the jargon] so that we can get closer [to the public]." (P13)

"Language is a primordial condition, without which we can't build bridges, establish trust, confidence with our audience, with whom we want to communicate science effectively." (P14)

Several participants argued that **simplifying language** does not necessarily mean avoiding scientific jargon, as such terminology is essential for accurately conveying the message and can contribute to the public's **scientific literacy**. Instead, the priority should be for scientists to learn how to structure their text based on the objectives of communication, ensuring it is concise and coherent.

"It's very hard for researchers to summarise their work, and after so many years researching the subject and so much effort, so much blood, it's hard to leave things out or try to summarise, but here it's not about simplifying science to make it accessible to the public, it's about explaining it in a clearer way." (P07)

"One thing I've learnt, I don't know if it's widely agreed, but I don't like 'translating'. I don't think it's a good way to 'approximate'. Because that's where literacy comes in. When you try to bring a subject closer to people in

communication, it's not trying to remove scientific terms. What I learnt from historians was that we could often use scientific terms, bringing the context to it because people realise that there is such a thing as a scientific term, but it's within that context and that's why it's used." (P08)

"Researchers should have access to more training in various areas of science communication because it's not just a question of jargon, it's a question of how to structure text." (P14)

Communicators supporting researchers in institutions

This also requires that institutional communicators **dedicate time and be strategic** in preparing scientists for communication, reviewing and discussing texts, and even exploring alternative formats for disseminating news, such as opinion pieces or **audiovisual** media. According to one participant, the audiovisual format can aid in understanding complex subjects and scientific terminology. In his words:

"As science communicators, we have to be strategic about communication, and this also applies when we work with scientists and want to help and support them in communicating their research. (...) This doesn't mean writing big communication plans or strategies, but it does mean thinking strategically about the end goal you want to guarantee for each moment of communication." (P12)

Concerning **social media**, the preparation of scientists should include topics such as the objectivity of the message and how to deal with the reactions of the public to the message on these platforms.

"There is one thing that I also think is very relevant and that is that we prepare people for social media because social media is very challenging, and it seems that the attention span of human beings is estimated at five seconds and therefore we take much longer to communicate our message. (...) And it's not just the question of how to get your message in a platform that is very immediate, it's also dealing with trolls and bots and all the other things that social networks bring with them." (P02)

At the same time, it is essential to **prepare researchers for media relations**, which may include simulating interviews to help them determine what they can say, identify topics they feel comfortable discussing, and learn how to handle challenging questions. This training can enhance their ability to communicate their message effectively.

"Part of the training also involves a lot of mimicking these media interviews in real-time, preparing the scientist for what they can or should say, what they can't or shouldn't say, what they feel more comfortable exploring during the interview, and what they don't want to be covered and how they should answer questions they don't feel comfortable answering, and this will also make him or her feel more comfortable and more confident during the interview and be able to get their message across more effectively." (P13)

On the other hand, **science journalists should receive training** to deepen their understanding of the scientific process, the work of research centres, and the key topics of their research. However, as seen before, the declining number of science journalists and their limited availability make this effort especially challenging.

"Science journalism in Portugal is also, to a certain extent, in the doldrums. We have fewer and fewer journalists dedicated exclusively to science, which is a shame. (...) They also have very little time." (P11)

One participant highlighted the **FameLab project**, a global science communication competition designed to encourage researchers to step out of their labs and present their research in three minutes. She believes that *"there's no one better than a scientist who's developing a project to say that they love what they do and speak with the greatest love for what they do"* (P09). Competitions like this can be valuable for encouraging scientists to engage in science communication activities and interact with diverse audiences.

"One of the aims of Fame Lab was, and I think still is, to get researchers out of their labs and onto a stage to communicate science. Of course, they have to take a different approach depending on the audience." (P09)

The preparation of scientists to communicate ethically with diverse audiences, using various channels and formats, can help **boost their confidence in their ability to communicate** effectively. In this way, communication by scientists can help bridge the gap between science and society while enhancing the public's **scientific literacy**.

3.5 Priorities

In the final part of the discussion, participants were asked to identify the three most important priorities among the recommendations previously discussed. Most participants agreed that the priority should be to **reflect on the criteria for evaluating researchers' careers**, both during the hiring process and in performance assessments. In particular, participants emphasized that these evaluations should also **value science communication and outreach activities**, with clearly defined criteria and their

respective weighting in the evaluation process. According to the participants, this approach would benefit both institutional policies and national science communication strategies.

To achieve this goal, participants stressed the need to **develop tools for evaluating outreach activities**, such as quantitative indicators or qualitative assessments. The social sciences were identified as particularly valuable in this context, as researchers in these fields could contribute their expertise in evaluating interventions and policies.

Participants also highlighted the importance of **involving scientific communities in any institutional changes**. As previously mentioned by some, a bottom-up approach was deemed essential for fostering community motivation in the design and implementation of new practices.

Finally, reflecting on their participation in this roundtable, participants emphasized the need to **enhance interaction between institutions to facilitate the sharing of experiences**. Such events provide an opportunity to reflect on the initiatives being developed within each institution and to benefit from the experiences of others, whether through their implemented practices or the challenges they have faced or are currently addressing.

Rather than focusing on the recommendations presented during the discussion, the participants prioritised their implementation, and the resources needed to ensure their success. This focus also reflects the diversity of institutions represented in the discussion, encompassing different scientific fields, sizes, legal frameworks, and geographical regions, resulting in **intricate and plural strategies for the promotion of excellence in science**.

3.6 Other themes

All the themes discussed were related to the previous four topics.

Conclusion

The results of this deliberative roundtable reveal some commonalities with the findings from the focus groups (WP3) and individual interviews (WP2). Despite this overlap, it is important to note that certain themes consistently recur in the participants' discussions.

In terms of **scientific integrity**, institutions are at different stages of reflection and implementation of initiatives such as codes of conduct and open-access policies. The responsibility for these initiatives differs across institutions, with some relying on

ombudsmen and others on ethics committees. In the opinion of institutional actors, an institutional commitment to scientific integrity, combined with the collaboration of the scientific community, is essential for developing initiatives tailored to the diverse needs of all stakeholders.

On the topic of the **organisation of science**, the overemphasis on scientific publications compared to other types of scientific outputs emerged as the most debated issue, as something that institutions need to focus on. This overvaluation remains entrenched in the mindsets of research performance organisations, research funding agencies, and researchers themselves. Although some measures are being considered to address this, few have been implemented so far. Regarding the independence of science, participants expressed concerns about ethical and contractual challenges in public-private partnerships, particularly those involving private funding for research.

On the topic of **social integration**, participants highlighted various initiatives already underway at their institutions. However, the lack of funding for outreach activities, along with the limited interest and preparedness of scientists, hinders these efforts. Identifying innovative ways to engage diverse audiences—such as creating physical spaces open for interaction—and fostering the public’s critical thinking and scientific literacy remain priorities for institutions.

Finally, regarding **science communication**, participants focused mainly on the need to equip scientists to communicate with diverse audiences (e.g., the public, journalists) through various channels (e.g., social media) and formats (e.g., opinion articles). This training can contribute to their self-confidence in communicating while fostering stronger connections between science and society.



National Report: Spain - Reflection exercise (T3.3)

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**Project title: Probing the impact of integrity and
integration on societal trust in science**

Project acronym: POIESIS

Grant Agreement no.: 101057253

Lead partner for this deliverable: *Centre national de la recherche
scientifique (CNRS)*

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1 Introduction

This section summarises the preparation of the Spanish workshop for Task 3.3 of POIESIS and briefly recounts the circumstances that led to its eventual cancellation.

1.1 Preparation of the Spain workshop

The Spain workshop for T3.3 was planned for the morning of the 11th of November 2024 in Valencia. The venue for the workshop was *La Casa de la Ciència* in the centre of Valencia. This was the same venue that had successfully hosted the earlier citizen meeting activity (T2.2).

A total of 18 participants and one expert were confirmed, with two further local participants to be added to reach the target of 21 total participants. A considerable effort had been undertaken to include participants from national, regional and local institutional levels.

A number of national institutional actors agreed to participate. These included representatives from the Fundación Española de Ciencia y Tecnología (FECYT), the Oficina Nacional de Asesoramiento Científico (ONAC), the Committee of Bioethics of Spain, and the CSIC Ethics Committee.

Confirmed participants from regional institutions included representatives of ethics bodies, data protection offices and public engagement and communication departments from three of the major hospitals and research centres in Valencia, one research institute, and three public and one private university. A representative of the network of Valencian technological institutes (REDIT) was also confirmed, along with institutional communicators from two research performing organizations (RPOs).

Two of our three Co-investigators who had participated in Task 3.2 were also confirmed participants. One of these Co-investigators, Professor José-Félix Lozano, has experience as an ethics advisor and expert for universities and for the European Research Council, and had agreed to act as our Expert interlocuter.

1.2 Cancellation of the Spain workshop

A catastrophic meteorological event occurred in the Valencian region on the 29th of October. This event, known locally as a *Depresión Aislada en Niveles Altos* (DANA) caused torrential rainfall and extreme flash flooding in the region and parts of the city of Valencia.

Consequences of this ecological catastrophe included significant loss of life, destruction of homes and other property, and high levels of distress among citizens. Universities suspended activity for two weeks as staff and students joined popular efforts to

provide support to affected zones of the city and their inhabitants.

Of direct relevance to the planned workshop, the fast train connection to Madrid was suspended for a minimum of two weeks and hospitals were drawn into a crisis situation. This effectively eliminated one-third of the confirmed participants.

With institutional activities suspended and further red alerts predicted for the following week (eventually occurring on the 13th and 14th of November) the Spanish POIESIS team consulted with institutional contacts and close connections involved in the planning of the workshop.

Following these consultations, and with the situation unfolding under conditions of great uncertainty, the decision was taken on 4th of the November to cancel the Spain workshop for Task 3.3 of POIESIS. This decision was not taken lightly, particularly after the extensive efforts required to organise such an excellent group of institutional participants.

Key to our thinking were concerns that it would not be appropriate under the circumstances to reach out to participants to ask about their personal situation, and whether they would still be available. Personally, the Spanish team were in no doubt as to the right course of action in the circumstance. We are grateful to Tine Ravn from Aarhus University as project coordinator and Michel Dubois from CNRS as lead of Workpackage 3 for their support and understanding with regard to this matter.

Our subsequent email to confirmed participants cancelling the activity was met with only positive responses, thanking us for our appropriate decision and timely communication.

2 Substitute activity

This section describes an activity organised by the Spanish team in order to reflect on the questions of Task 3.3. The outcomes of this activity cannot be considered as equivalent to those that would have emanated from the planned deliberative workshop. However, out of respect for the integrity of the POIESIS empirical approach and particularly the design of the institutional focus groups by our colleagues at CNRS, we considered that we would like to contribute as best we could under the prevailing circumstances.

We are aware that the cancellation of just one of 28 methodologically linked focus groups (Tasks 3.2 and 3.3) does not have any serious impact on the research findings produced in POIESIS. However, we also considered that a reduced empirical exercise may provide some relevant data or information.

2.1 Approach to the reflection activity

The substitute activity was designed in order to allow a direct reflection on the questions and problematics for consideration in the planned T3.3 workshop. The expert interlocuter who had agreed to participate in the cancelled workshop, Professor Félix Lozano, kindly made himself available for this activity despite a very busy personal calendar. The Spanish team are very grateful for his collaboration and support with the substitute activity.

The reflection activity was principally designed to offer an opportunity to discuss and consider the materials prepared for the T3.3 focus groups. The sequence of planned activities was followed in the reflection exercise, with each stage involving the opinions and suggestions of the invited expert, with follow up questions, doubts and discussion involving the POIESIS Spain team. The reflection activity took place on the 20th of November online. The summary results (sections 3 & 4) are based on the direct inputting of text capturing suggestions to a shared table during the reflection exercise, with additional contributions from the notes compiled by the Spain team members. The first draft of the this document was shared with our Co-investigator/Expert interlocuter for comment and amendment.

2.2 Agenda

The Agenda and the preparation steps that were required ahead of the reflection activity are specified in Table 2.1.

Table 2.1 Reflection activity agenda

<p>Participants Professor Félix Lozano, Irene Monsonís-Payá, Richard Woolley</p>
<p>Agenda 09:30 – 10:00 Exercise 1a: Discussion on recommendations.</p> <ul style="list-style-type: none"> • General perception of the recommendations (or priorities) • Is there something missing for each category? • Are there relevant difficulties to implement these recommendations in the Spanish context
<p>10:00 – 10:20 Exercise 1b: Ranking recommendations. We will try to achieve consensus to rank the recommendations within each group first and, if we arrive to a quick consensus for each group, the complete list of recommendations.</p>
<p>10:20 – 11:00 Second exercise. Debate around 5 questions regarding the role of institutions in promoting scientific integrity.</p>
<p>11:00- 11:10 Wrap-up and close</p>
<p>How to prepare for the reflection exercise</p> <ul style="list-style-type: none"> • Read prepared document that includes the description of the two exercises to be done. Included are the general POIESIS recommendations from the focus groups organized in the seven participating countries, organized in four categories. • Prepare notes about your perceptions of the recommendations and try to identify relevant missing recommendations in each area. • Try to rank the recommendations under each category. • Take notes to respond to the five questions of the second exercise. • Additional reading: Spanish National Report of the Focus Groups (T3.2) (page 267 to 293 of the Global Report).

3 Reflection on institutional priorities

The first exercise aimed to address three objectives:

- Reflect on the scope and difficulty of implementing the recommendations in the Spain national context
- Identify potential new recommendations
- Rank the institutional priorities emerging from T3.2

The results of exercise are presented for each of the four institutional priorities addressed: research integrity: organization of science, social integration and science communication. For each topic, the institutional priorities are ranked and complemented with notes. Then, the rationale used to rank the priorities is described.

3.1 Research integrity

This section summarises reflections on institutional priorities related to research integrity.

Table 3.1 Ranking and comments on research integrity priorities

Ranked priorities	Comments
1. Implement clear guidelines, codes of conduct and promote shared research integrity standards across institutions and countries	
2. Continuous, career-long training and education programmes for students, scientists, but also other professionals working in the institution	
3. Ensure a culture of transparency regarding the institutional handling of misconduct	<ul style="list-style-type: none"> - Include a reference to the culture of compliance, not just transparency. - Creating a culture of transparency regarding the processes to tackle potential cases of misconduct can support ethical learning and culture. Explaining institutional experiences and the processes carried out to deal with possible cases of malpractice in the institution may be appropriate content for use in promoting awareness and improving training of

	researchers in ethics and integrity.
--	--------------------------------------

The debate on the ranking of these priorities focused on the criteria to be applied. The table reflects the experts prioritisation of actions that set standards and then steer training toward these standards, over time contributing to an advancement in REI culture. However, training in research ethics and integrity is also considered to be important in absolute terms and should not therefore be limited to those matters which are reflected in prepared guidelines and standards. Rather REI training should also consider those emergent contingencies and situations that may lie beyond the scope of existing standards at any moment in time, encouraging a reflection among scientists about what are acceptable and unacceptable risks and how to reach a perspective on such dilemmas that does not only consider scientific exigencies but incorporates an appreciation of societal expectation.

The importance of communication and training in ethics and integrity lies in the fact that ethical decision-making requires the development of three stages to achieve ethical behavior: conscientiousness and sensibility (capability to identify the ethical dilemma), reflexivity (capability to consider options and identify and justify an ethical decision), and moral action (capability to implement the ethical decision).

Also, promoting a transparent and efficient system of enforcement within organisations/institutions should also be considered an appropriate component of a strategy for fostering a culture of transparency. Transparency when dealing with scientific misconduct, is also important to maintain trust throughout this process.

3.2 Organisation of science

This section summarises reflections on institutional priorities relevant to the organisation of science.

Table 3.2 Ranking and comments on organisation of science priorities

Ranked priorities	Comments
1. Increase administrative support throughout the research process, covering areas such as budget management, external collaboration and relations, and data management	<ul style="list-style-type: none"> - Include also mention of technical and scientific support that allows for the implementing and following up protocols. - Include also new professional roles to support ethical and data management tasks in RPOs.

<p>2. In-depth revision of the performance evaluation system: Towards more qualitative measures</p>	<p>- Improve the career recognition of tasks developed and performed by professionals in Ethics Committees. (Often the time dedicated to these institutional tasks is not appropriately rewarded.)</p>
<p>3. Encourage scientific institutions to address the organizational tensions, conflicting imperatives they contribute to generate</p>	<p>-Reformulate to better reflect the need to harmonise different institutional policies and protocols to prevent and avoid tensions or 'injunctions' among them. Also consider including reference to the context; some tensions are not produced by a single institution but through conflict with policies of another institutions.</p>
<p>4. Protect own members, and particularly scientists, from external attacks</p>	<p>- Prepare and pay special attention to those individuals or groups working in controversial areas, particularly attacks that could have an unfair impact on reputation or might involve personal risk (physical and psychological)</p>
<p>5. Ensure science independence and develop public conversation about the private funding of universities and research organisations</p>	

During the prioritisation exercise, it was noted that the first, second and fourth priorities are at a level that can feasibly be addressed, at least in part, through the development of institutional protocols and policies. On the other hand, the third and fifth priorities are more abstract in nature and require overall shifts in or maintenance of dimensions of institutional culture.

Discussion also reflect on how institutions can maintain scientific independence when they receive private funding. At a minimum, safeguards should be put in place to minimise the risk of conflicts of interest. It was concluded that the development of protocols (e.g., for managing conflicts of interest) is again an appropriate tool for improving researchers' knowledge and preventing inappropriate or unacknowledged conflicts.

3.3 Social integration

This section summarises reflections on institutional priorities related to the integration of citizens and societal actors in science.

Table 3.3 Ranking and comments on social integration priorities

Ranked priorities	Comments
1. Implement the inclusion of scientific knowledge in school curricula – the only moment in life when all societal groups can be reached simultaneously – but also foster life-long learning opportunities in this regard	- Refer not just to scientific knowledge but also scientific culture, including an understanding of the inherent uncertainty of the scientific methods, and the principles of scientific perspectives and attitudes.
2. Provide scientists with the necessary knowledge and resources to engage in a sustainable and meaningful process of social integration	- Include also the term public engagement and reflect on the differences between promoting the social dimension of science and the participation of citizens and social groups in science. - Resources should be provided at also at organisational/ institutional levels.
3. Promote collaborative spaces and buildings: buildings should be designed and built to favour openness	- Include references to immaterial collaborative spaces (activities, programmes) -Include the objective to promote and foment dialogue.
4. Develop and consider new ways of consulting citizens at local and regional level. For example, by holding citizens' assemblies or other specific groups	

The criteria used for the ranking of the priorities presented in the table above is essentially temporal. Priorities were ordered to reflect a logic of building up the capacities and opportunities starting with the awareness and absorptive capacity of citizens as the bedrock of better science-society integration.

The debate on social integration in research focused on the scope of the term and overlaps with other terms such as public engagement. It was considered necessary to reflect on multiple dimensions that are relevant and complementary:

1. Return of the results of science to society.

2. Integrating the social dimension of research within research design processes, for example, the gender content of research.
3. Analysis of whether the research to be developed would benefit from, and has the potential to, incorporate citizens.
4. That citizens and social actors generally are able to follow and understand science in ways relevant to them.

3.4 Science communication

This section summarises reflections on institutional priorities relevant to science communication.

Table 2. Ranking and comments to priorities on science communication

Ranked priorities	Comments
1. Avoid assuming a “crisis of trust”, it is a strong and problematic term: talk of crisis can be self-fulfilling and is best avoided	- The importance of this priority is linked to the risk of the instrumentalization of science.
2. Insofar as the battle for scientific information is being waged at both global and local levels, act at both levels, combining comprehensive participation with mass dissemination	- Include that dissemination should occur through broad diversity of communication channels.
3. Use institutional communicators to make citizens aware of research in the early stages	- Consider the risks associated with this type of communication strategy in the creation of false or unrealistic expectations among the population. An alternative would be to reformulate the priority to focus on communicating the work that different research centres and groups develop (topics, methods, objectives, etc.)

Reflection on the priorities for science communication pointed out the importance of self-assessment or awareness of the level of maturity of the organisation or institution involved. It was strongly suggested that effective science communication strategies were heavily dependent on valuable professional capabilities and understanding, shared and respected protocols, and adequate resource allocations. Whilst such consolidated science communication arrangements are valuable models for emergent organisations or units, or novel topics or contexts, they cannot be simply reproduced or imitated.

The type of research and its topical interests must also always be considered. Social integration is a 'sticky' process that should always consider context on a case-by-case basis even if general principles are in place. Disciplinary differences and epistemic practices thus should be part of assessments about social integration.

The science communication priorities were thus considered in the light of these two dimensions.

4 Reflection on the roles of organisations

The second exercise involved reflection on the roles of organisations and institutions in identifying and resolving conflicts between institutional processes, such as evaluation and recognition, and the values of scientific integrity and ethics. The reflection commenced from the implications of the prescribed quote:

(...) That's the institution's job, to work in all areas of the institution to limit tensions. Whether it's evaluation processes, recognition processes, human resources support for groups... that's the job I've given myself (...) to work with all the departments in the institution to track down all the places where their processes could come into conflict with scientific integrity, ethics and professional conduct. And that's really the job of the institution. So the outside world is what it is, we don't necessarily have any control over it (...) but what we do have control over, and by that I mean our institutions, is to build an environment within the institution that is as favorable as possible, as conducive as possible, and therefore as free from paradoxical injunctions as far as values are concerned. (France, FG2_2)

The discussion was structured around the five questions prepared for the deliberative roundtables. The remainder of this section presents a brief summary of the reflection on each of these questions.

- 1. What are some examples of institutional processes (e.g., evaluation, funding, human resources) that might conflict with scientific integrity, ethics, or professional conduct?**

Without intending to be exhaustive, the following processes were identified as potentially conflicting with scientific, ethical or professional conduct.

- Curricular evaluation policies that count and assign relevant weights to the number of published articles. These policies are often associated with bad practices related to fraudulent authorship.

- Research project evaluation policies with risks related to the lack of impartiality in the evaluation process.
- Funding policies, in which it is necessary to distinguish between public and private funding:
 - In cases of private funding there may be greater pressure for results. This may lead to presenting only those results that favour the interests of the parties directly involved.
 - When the funding is public, these risks are usually reduced, although risks of manipulation for political or partisan reasons should not be discounted.
- Human resources policies, which in the Spain national context are highly bureaucratic and slow moving, may have a negative impact on the allocation of resources, especially in funding for research projects. There also problems associated with hiring staff for projects awarded under of national funding programmes.
- Human resources policies are required that improve the culture of transparency in contracting.

2. The extract suggests that while institutions cannot control external pressures (e.g., from funders, governments, or public opinion), they can shape their internal environment. How can institutions better protect scientists from these external pressures while still maintaining high standards?

The development of clear protocols on conflicts of interest, academic integrity, and open data, among others, are tools that can improve the protection of researchers from external pressures. To achieve this, design and implementation of protocols must be accompanied by a supportive administrative structure and the promotion of awareness and a culture of compliance.

Also discussed was the assumption that external pressures are always negative - sometimes the inverse might be true. For example, requirements or criteria promoted by research funding organisations or other social actors may encourage the institutionalisation of more progressive or developed policies on issues related to research ethics and integrity.

3. What should institutions prioritize when external demands (e.g., competitive grants, rapid publishing) conflict with internal commitments to ethical research practices?

Two actions were favoured in these cases:

- a. Acceptance and prioritization of internal commitments to ethical research practices as an organisational expectation
- b. Report situations of untoward external pressure in order to enhance transparency and shift the burden of pressure from

individuals or groups to institutional structures and processes.

4. What types of mentorship or training programs could institutions provide to help early career scientists navigate the pressures of ethical conduct versus institutional expectations?

Reflection on this question commenced with the initial perspective that the imposition of expectations that are difficult to achieve are understood to encourage fraudulent practices in any environment, not only in science. Thus, institutions need to reflect on the expectations placed on researchers at different stages of their careers and ensure that they are achievable and reasonable.

Secondly, the limited scope of some initiatives implemented in the Spanish context, such as the non-compulsory training of PhD students in aspects related to research integrity and ethics. It was considered that training on these issues for PhD students should be continuous, compulsory, and in formats that ensure learning and the creation of a culture of compliance. In this regard, brief online courses should not be considered sufficient on their own.

In addition, the role of researchers who supervise others in the early stages of their research careers was reflected upon. It was considered that a central role in the creation of a culture of ethics and integrity should directly involve those responsible for the training of future generations of researchers.

One proposal to promote greater awareness, reflexivity and ethical decision-making skills among supervisors of early career researchers would be to organise seminars and workshops on ethics and integrity in research that accompany annual intakes of new doctoral researchers.

Finally, the continued emergence of new professional profiles and institutional structures, such as ethics officers or academic integrity offices, should be advocated as these can provide support to the university community faced with ethical dilemmas or external pressures incompatible with the ethical principles of research.

5. How can institutions measure their success in creating an environment free from paradoxical injunctions? What indicators should be used to track progress in aligning institutional processes with scientific integrity and ethics?

Reflection on possible indicators that could be used in the process of monitoring the progress of policies to improve ethical culture led to the following suggestions:

- Number or percentage of projects submitted for evaluation to the Research Performing Organisation's Ethics Committee.
- Number or percentage of publications in journals that have been approved by the ethics committee and carry an ethics statement.
- Number or percentage of project or unit staff participating in training or awareness-raising activities on research ethics and integrity issues.
- Number of declared conflicts of interest.
- Number of reports of malpractice.

Furthermore, there was further reflection on how short perception surveys on the ethical climate of organisations could be useful tools for research performing organisations to monitor the perception and/or practices of their employees. These surveys should be conducted with respondent anonymity assured. Finally, it was mentioned that the figure of the Ombudsperson within the university community could play a more active role in dealing with malpractice cases.

5 Conclusion

The Spain deliverative focus group on institutional priorities for research ethics and integrity for Task 3.3 of POIESIS, which was planned for 11 November 2024 in Valencia, had to be cancelled due a catastrophic meteorological event that caused severe flash flooding in the region and parts of the city.

In its place, a condensed reflection exercise was organised. This exercise was led by the invited expert interlocuter for the abandoned activity, who was also a Co-investigator in the linked Task 3.2. The activity is not a replacement for the work that would have been done in the originally planned activity. However, the activity did provide the Spanish team an opportunity to engage with and understand the process and some possible outcomes of the wider exercise. It also allowed us to build some new connections with institutions that had agreed to participate.

The results of the reflection exercise are summarised in Section 3 and Section 4 of this document and reflect a close adherence to the approach designed for T3.3. Based on these materials, institutional priorities in four categories have been ranked. Responses have also been provided related to the second activity, the provocation to think about contradictions and tensions in institutional priorities that can adversely affect research ethics and integrity. This exercise has been beneficial to our learning and the connection of



the Spain team to the ongoing work in Workpackage 3. We hope that this short summary contributes somewhat to this ongoing work. We also note that it is a tribute to the overall design of POIESIS and of WP3 that the robustness of their future outcomes and findings will not be adversely affected by the tragic events in Valencia.



poiesis
TRUST IN SCIENCE

National Report: Deliberative roundtable – United Kingdom

Project title: Probing the impact of integrity and integration on societal trust in science

Project acronym: POIESIS

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Grant Agreement no.: 101057253

Lead partner for this deliverable: *Centre national de la recherche scientifique (CNRS)*

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1. Introduction

1.1 Rationale of deliberative roundtable

The WP3 focus groups discussions were held with academics interested in the **Research Excellence framework (REF)** and **Professional Services Staff (PSS)** responsible for **Research and innovation (RI)** and **Public Engagement (PE)** across four universities: London School of Economics and Political Science (29th of February 2024); Bristol University (1st of March 2024); University of Glasgow (19th of February 2024) and Loughborough University (5th of March 2024).

Participants at the workshops noted that academics are worried by the extra workload they are saddled with by public engagement activities on their already stressed work schedule and are thus likely to push back. The ethics process is seen as another hurdle to take, rather than a responsibility. The REF has been normalised but creates tension across and within universities. REF together with the **Teaching Excellence Framework (TEF)** and **Knowledge Excellence Framework (KEF)** are designed to increase performance in research, teaching, and outreach but risk becoming instituted as 'police force for behaviour change', and it is not sure whether the redirection is right to guarantee a world class research culture. There are also tensions created by research integrity procedures and management. Institutions are working on a culture that bridges gaps between professional and academic staff.

To explore these issues further, we decided to convene again and deepen debates about the potential for misalignments: the tensions between REF and RI (Research Integrity) and PE (Public Engagement, the UK term for public integration).

Venue: The workshop was hosted by the Centre for Higher Education Transformation (CHET), Bristol University, UK

Participants: 13

Date: Friday 15th of November 2024

Length of discussion: from 12.00-15.30.

Host: Special thanks to Richard Westermeyer and Gemma Derrick for hosting the meeting at CHET.

Other notes: Participants were reimbursed for travel expenses.

1.2 Participants in the deliberative roundtable

There were 13 participants, some of whom had participated in the previous focus groups held between February and March 2024. Colleagues from Glasgow University were also invited, but their travel distance turned out to be too far, and we wanted to keep the workshop in-person only.

	Gender	Institution
1	M	University of Bristol
2	F	University of Bristol
3	F	University of Bristol
4	M	University of Bristol
5	M	Loughborough
6	M	Brunel
7	F	Sci Comm
8	F	LSE
9	F	LSE
10	F	LSE
11	M	LSE
12	M	LSE
13	M	LSE

- **List of participants at follow up workshop.**

2. Sequential description of deliberative roundtable

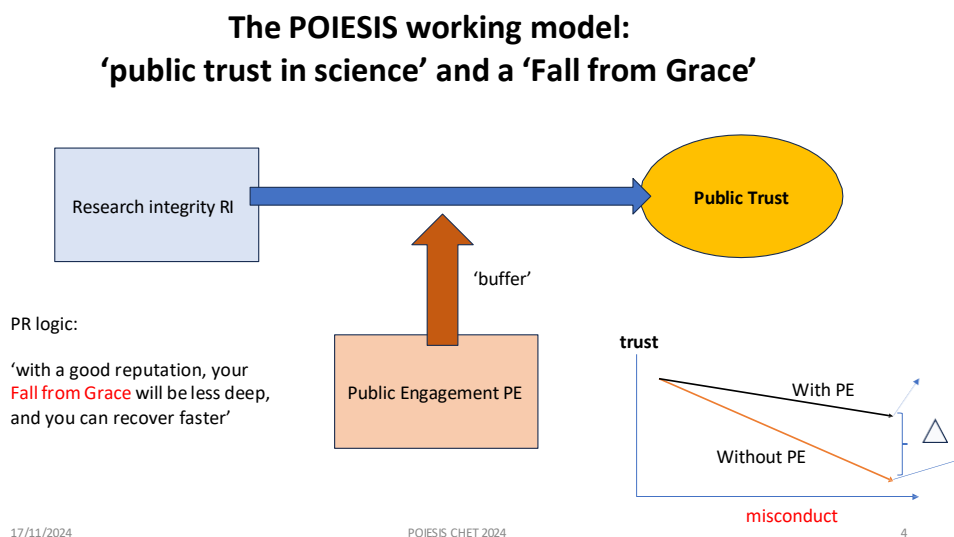
Three short presentations started up the proceeding serving as 'impulse talks.' A fourth was a long explanation in the middle of the deliberations. Summaries of the presentations are 2.1, 2.2, 2,3 and 2.4.

1. The POIESIS project and results so far: what have we heard earlier about potential misalignments of REF, RI and PE.
2. The UK REF, idea, design, and next round in 2029
3. Public Engagement (PE), history and diverse goals; impact imperative, a case study: the apparatuses and tick-boxing exercises to please funders interfere with reaching the audience.
4. PE, REF, institutional prestige economy and the logic of return on investment

2.1 The implicit working model of POIESIS

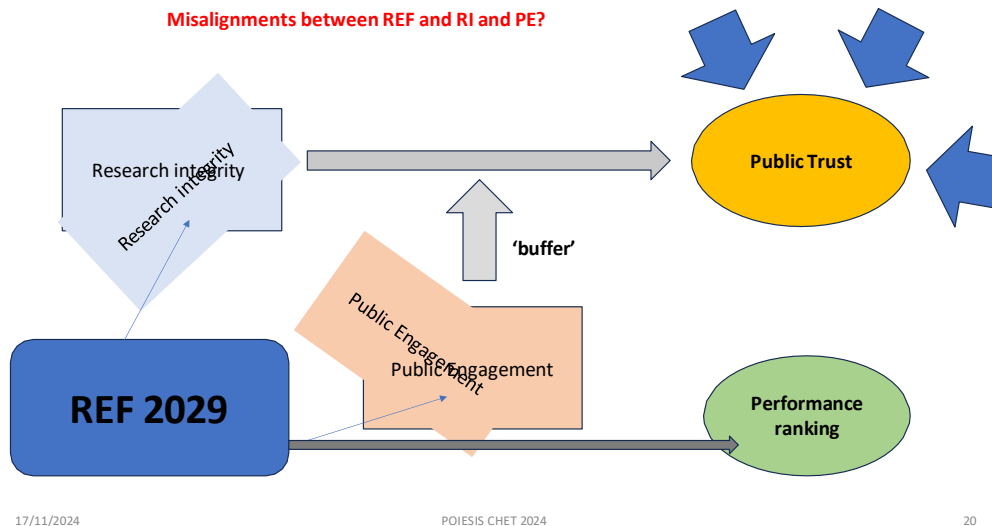
The POIESIS project and results so far

RI is a key factor of public trust in science; PE serves as a buffer when things go wrong. With a good reputation, any fall from grace will be cushioned, i.e. less dramatic and the recovery will be faster (Figure 1).



The problem of REF arises, when its implementation in the universities unsettles the RI practice and the PE activities, because of a goal conflict: REF seeks to establish a performance class 'ranking' for purposes of public funding allocation, whereas RI seeks to safeguard public trust. In addition, public trust has other factors than RI, e.g. labour law compliance, reputation as a teaching place and scandals of all kinds, conflicts of interest, doing the right kind of research etc.

The working model of public trust in science, interference from REF 2029?



The Research Excellence Framework

- A 5-7-year cycle, 2029 will be the third full cycle after 2015 and 2022.
- Its purpose is competitive public funding allocation, accountability of public money.
- Three criteria: output, environment, impact (shifting weights).
- Evaluation by disciplines in three categories, A, B and C; institutional structures do not map on REF categories, which creates local issues.
- REF evaluates on institutions, not individuals.
- What happens on the ground is due to implementation, not REF.

Debates about REF

- Should REF be continued or abolished: too costly and too disruptive?
- REF is a good idea, badly implemented in the universities.
- Unintended consequences of a good idea; how to avoid these, priority of use over design.

Debates about Public engagement PE summary:

- History of PE in the UK since the 1980s; Royal Society Report (1985) and House of Lord Reports (2000) suggests a diversity of goals grouped under two basic ones: 'empowerment & enlightenment' and 'institutional profile

& prestige'; also includes a critique of the deficit model and going beyond it to PE for different publics.

- The now dominant neo-liberal context (commercialisation of higher education)] favours a 'prestige economy', various initiatives and institution have been created, but these have recently gone quiet or are instrumentalised into reputation management as part of institutional public relations.
- The apparatus of PE that was created by institutions interferes and becomes a source of failure; box ticking for funders, failing the audience,
- Case study: symphony orchestra, 'Opera for Toddlers', Arts Council event (see 4.3.1 below)

Public engagement and Impact

- Is there a difference between PE and impact, or it is really the same?
- Is there a conflict of different goals involved?
- The happy line-up: Better REF, better impact is also better PE?

2.2 The UK REF, idea, design, and next round

- The REF is not about individuals. The REF is about units of assessment within universities which are aligned to disciplinary identities.
- While it appears the assessment creates a score that is used to allocate funding based on excellence in research, the definite connection to research is divided into three sub criteria, which units of assessments then make separate submissions to:
 - Outputs accepted: publications, books, and any types of dissemination. There are 25 different outputs that are applicable but 98.3% and 99.1% in REF 2014 and 2021 respectively were books and journal articles.
 - Impact: benefit to society beyond academia, has enjoyed an increasing prominence since its introduction. Did not explicitly include public engagement in 2014. The experience of the REF 2014 panel showed that it was impossible to assess impact without considering the pathways that would lead to that impact. This includes what is loosely defined as public engagement as a result. In 2021, the impact definition as well as the criteria of impact that were allowable changed to be more open and receptive to public engagement or aspects of public engagement Thus, anyone who did something beyond academia will be rewarded.

- People Culture and Environment (PCE): this was called environment in 2014 in 2021, and its contribution has been increasing from 15% in 2014 to 25% in 2024.
- Notably, impact has been increasing while output has been reducing in their overall contribution to university score. Output has been reducing not because of its decreasing importance but because of increasing importance attached to the PCE.
- We're in the middle of a REF cycle. There's a pilot going on as well as consultations. There is a lot of pushback. They are all about universities nervousness, perhaps around how competitive they will be with this new criterion that they know nothing about.
- There is also the idea that outputs or contributions to knowledge as they will be called in 2029, has been decreased to make way for a criterion that nobody knows what it is; so there are some concerns there and they are being resolved.
- REF has become a competitive exercise not because of the programme but how it is perceived and administered by the universities.
- REF doesn't give a performance ranking; any ranking is the outcome of somebody outside REF is processing the raw data.

2.3 Public Engagement, history, and goals

- The 'science wars' was a period of conflict between philosophically, realist natural scientists and the more relativists social scientists who were looking at quite fundamental ideas and disagreeing about whether science is the truth. As part of the discussion, there was a lot of finger pointing at left-wing scientists who apparently would try to undermine the system and a lot of accusations of fraud going around.
- The research integrity phrase thus has a bit of a free history in this rather nasty discussion that was going on, particularly in the USA, in the 1990s, about the relativist's realist discussion, so 'public engagement' is what we started to call 'science communication' after we decided it had to be a bit two way and a bit more inclusive.
- All these changes have been due to a sort of growing understanding that science communication is not a thing-in-itself, that it is a symptom of other relationships and systems in society.

- So REF came, and *'I remember giving a talk in early 2009 to dental researchers at my university and I explained to them that there was this new aspect of what they were going to be doing, they had to explain their work to more people now and I told them that this is part of a really big world change, to do with global economics etc., and not just some bureaucrat with a funny idea. One in the audience said to me after: Do you think this thing will still be there after the next election? I said, well, yes, and it that has turned out to be the case.'*
- The general common sense about innovation among scientists was that 'you invent something in the lab and then you push it out on to people and they just have to be nicely persuaded that it's okay and then they'll buy lots of it. I tried to convince them we are thinking more now about networks and feedback loops and that public responses have a constructive function in settling an innovation into society.'
- That was at the start of the REF era, and we can look at public engagement and its practices and languages and see that it has taken on a marketing function, not clear that it's particularly related to integrity and trust but certainly public engagement is there to facilitate the movement of innovations into society which wasn't what science communication was meant to be about back in 1985 when it was relaunched by the Royal Society.

2.4 PE, REF, institutional prestige, return on investment.

- Looking back historically, the public engagement infrastructure was built (around 2005) and at that time there was no impact talk; public engagement was the new thing, it was upstream engagement, how do we counter deficit models, etc., how do we do public engagement to improve the quality of our policy making and the policy we deliver, specifically, new, controversial emerging technologies.
- And then 2014, the impact comes along, and people in the Public Engagement Committee saying this is good, and I think there were a lot of academics evangelized by this agenda.
- Then in REF 2014, impact pictures up, and many people said, second wave, this is going to give us the vital injection we can use to really mobilise this idea, the science and society nexus, the engaged research and the like.
- However, the everyday experience of the REF by most academics, is one of ranking or being ranked, and the sense of fear about being counted and the numerical dimension of what the REF is.

- In our interactions with some researchers, there was a strong sense of dissociation, *'I do not want to be considered as someone who is REF impactful, I'm applied, this is intrinsic to my academic scholarly DNA, the REF is a bastardization of that.'*
- We see a very strong account of REF as a non-driver, in fact, it's something that many people are in resistance to. It's being claimed as something that is impacting and affecting their sense of identity and what they do.
- *'The point about public engagement and the destabilisation element is not only do you see it kind of disappear within 2020 REF impact case studies. Interestingly, in substantive research, wealthy universities that have the capacity to fund this kind of stuff were no longer funding it because they were finding it very difficult to rationalise in the terms of a procedure; what is the return on investment?'*
- A lot of people, across research councils who were the public engagement lead teams felt incredibly vulnerable, because it felt like public engagement had disappeared. The sense is how we rationalise this PE on the basis of the return of investment, because that's what universities did. It's the positionality within the league tables that comes into focus.

3. REF, ranking, impact and unintended consequences.

REF, as laudable as has been appraised, has unintended effects considered to be rather serious issue for academics. These include perceptions of REF as a ranking and surveillance or policing tool and a plot to enforce behavioural change. It has also created a culture of competition among institutions affecting public trust, positively for some and negatively for others. We discuss these below.

3.1 Is REF a ranking tool?

A major issue discussed was if REF, an assessment tool for fund allocation, is also a ranking tool in consequence. Speaker D argued strongly that REF *'is not about ranking, it is about unit of assessment and it's about universities for the purpose of allocating funding.'*

Speaker D

REF does not give a performance ranking ... You can't even know what your publication was ranked, it's not allowed, we just know that X proportion of all outputs, in this unit of assessment, in this university, was ranked 3 stars and above.

The follow up question to this was if a ranking of three bars does not constitute a ranking. The following debate ensued.

Speaker F

But it's still a ranking 3 stars.

Speaker D

It's not a ranking, they don't put it in a ranking.

Speaker F

So, the three stars, it's not relative to other institutions.

Speaker D

Ranking is of the universe of the overall submission not one university against another.

Some participants disagreed about the non-ranking profile, arguing that though it may not be explicitly stated, it performs a ranking function. Speaker B classified the ranking function as *'an unintended consequence.'* For Speaker E, it is insincere for the monitoring agencies (REF, TEF and KEF) to pretend they are not ranking institutions.

Speaker E

I do think it's a bit disingenuous for REF/TEF/KEF to pretend that they don't get used as rankings and have some responsibility.

The argument that REF is not a tool for ranking ignores the multifaceted nature of innovations, that they can be repurposed for other uses not in the intention or explicit design of its architects, which may be good or bad.

3.2 Is REF a surveillance tool?

Another issue that arose during the workshop was the possibility of REF being a surveillance tool by the government to monitor the higher education sector through the back door using funding policy. Speaker A noted that it puts us into boxes.

Speaker A

Research funding policy, by defining what we're allowed to do research about, puts us into different kinds of boxes on this, if we're to do research on this, but not that, then there's particular types of outcomes expected, and I think that's what REF is keeping an eye on.

Speaker B however disagreed arguing that it is an accountability issue and funders need to justify their expenditure.

Speaker B

Funders want to see what's come out of the money, so they want to be able to go and justify to the public that we've invested X amount in research this year, but this is all the good stuff it's done ...

I think REF is about trying to drive good practice, more generally, in the UK.

3.3 Is REF a tool for behaviour change?

The impact of REF on academic research independence, direction and goals was also highlighted. Speaker 1 argued that REF is a tool for behavioural change.

Speaker D

The REF is a powerful tool to change researcher behaviours towards desirable behaviours; we've seen it in open access, we've seen it with EDI (Equity Diversity and Inclusion), we've seen it with all these sorts of things. ... Is not, in contrast to these things, it can be used to further them.

The issue that arose from the behavioural change argument was if this is a positive development given that scientists are highly educated. Speaker E argued this may be more about shifting priorities rather than changing behaviour and thinking about how one could build in engagement and impact. Speaker E argued that it may not be individual academic behaviour change but institutional economic change with how resources are allocated.

Speaker C argued that REF did not reinvent the academic just for public engagement and impact since the academics have always been working. The question argued Speaker F is if REF redesigns academic priorities and goals in a particular direction that is not consistent with its history. Speaker B while 'putting up a passionate defence of REF' however cautioned that some measures are wrong and measuring people's REF performance shouldn't be without inequality control.

Speaker B

... in the kind of the stuff we do we do as researchers, quite a lot of career decisions, and also the things that come out into the public will be based on all those networks and power structure, the old boys' networks at the universities.

Speaker E said REF 'gives so much power' and drew attention to the need to make sure 'it's incentivising the right thing.' Speaker D said the safeguard that it's doing the right thing is that the rules are periodically changed.

Speaker D

But the REF is a machine that changes with what the public expects from its research, that they fund, as well as what they expect from universities overall in terms of research. It is an evolving base ... it's not a static instrument.

Speaker D added that some people think the changing nature also prevents game planning by the higher education institutions.

3.4. Impact of REF on institutions

While there were explicit reservations about the impact of the unintended consequences of REF in ranking, its overall impact on institutions of higher education was seen as positive by all sides. For Speaker B 'REF is a good measure.' Speaker B said an independent resource (such as REF) is a good thing at least 'in theory'. Speaker J said '... one thing that the REF has actually done is it has enabled more infrastructures to be constructed which has a long-term span.'

3.5. REF, competition and trust issues

Speaker D argued that REF has become a competitive exercise not because of the REF itself, but because of university's orientations and the way that they administrate the REF preparations. Speaker B agreed that the university is the problem and not REF, but noted however that it has become a tool to increase funding.

Speaker B

There's an underlying element there in that REF is one significant lever universities have been put on to increase funding ... in the last 10 years, student fees have not gone up, there's more pressure on foreign students coming in and this is a lever that can be pulled to increase funding.

Speaker B agreed REF does not give a ranking but argued that it's 'still something that happens, whether in our best intention to have or not.' Performance, he said, 'will still be ranked' and it is like 'an unintended consequence.' Ranking he noted, is a trust issue and very important for UK universities lately.

Speaker B

from my experience, we compete against (UNI A) going to places around for students, so where we are on the Guardian league table has become very important ... even though they are not statistically significant ...

So given 4 universities are actually quite good, one university or two or three universities will be at the bottom three, I think this is what creates trust issues ... I think ranking is a trust issue.

3.6. The burden of REF

REF undoubtedly increases the workload of researchers, but the question is whether this is a good or bad thing or a burden that can be avoided, shared or remediated. Speaker B lays out the problem.

Speaker B

There's still only 24 hours in a day. There's still only seven days in a week, and all the stuff that comes with REF, trusted research, due diligence, with all of these kind of just getting piled on ... to the point that, you actually are not able to do good decent research ...

Speaker D held a contrary view, arguing that work has been more stressful over the years and REF is not the fuel for that. Responding, Speaker B said he is not disputing the importance of REF, but the one criteria is time, and there may come a point in time when we realise something needs to change, because it's not sustainable, 'we can't just keep piling it on.'

While pressure on academics to 'publish or perish' for knowledge creation, promotion and other career goals can be seen as an institutional problem not related to REF, it is hard to sustain the argument that REF does not aggravate the problem. Speaker B said even though there are institutional issues, there is a lot of self-policing because of competition for promotion.

Speaker B

Two people apply for professor, one has eight publications a year, you have six publications that (8) might be a bit better ... and now it becomes existential because every second university has a redundancy program.

Speaker G also noted that the inequalities between universities become more problematic the more complex you make it and a smaller university with a smaller funding base is not likely to be able to keep pace with everything that's required for REF 2029 when you're thinking about where the redundancies are inevitable, and they come from those departments that support impact.

3.7. REF: Responsibility for unintended consequences

Who is to be blamed for the unintended consequences? Speaker D put the blame on the doorstep of ranking agencies, 'I'll vote for blaming Times Higher Education for everything.' Speaker B blamed institutions and the way they strategize, 'the way they game the system to try and gain advantage.' Speaker B



blames the lack of immediate incentive (emotional or material) which moves the incentive somewhere else (ranking).

4. REF, Research Integrity, Public Engagement and Trust

4.1 Research integrity and EDI, contradictions and challenges.

What is research integrity? Does this include the composition of the research team in terms of equity diversity and inclusion (EDI)? Should integrity be limited to falsification, faking data and plagiarism, or are there other issues involved?

For Speaker G integrity is about the robustness and the rigour of science, the absence of which undermines research findings and impact.

Speaker G

... I've seen so much negative impact just from poor methods, lack of expertise, people cutting corners ... not even people doing things like P hacking, just people who don't have the skills, the expertise or the resources to conduct the research to the best possible standard ... that, to me, is much more problematic than falsification because it's so much more widespread.

EDI concerns should be wrapped in research rigour, she said pointing out that some databases such as the UK biobank are not representative of the population, so are biased data sets but some researchers still use them and apply the findings. This, she argued, is a research integrity issue.

Speaker G

'... unless you look at the impact of that bias, you acknowledge that bias, and it rarely is, although it's starting to change now, then you're going to deceive people about the impacts that your research can have.'

Speaker B observed that a lot of people have a narrow perspective of ethics in research, limiting it to submitting an ethics application to do a project. This ethical environment has now been regarded as indicative of research integrity such that there is no longer a differentiation between an ethics application and good behaviour. EDI and culture, he argued, should not be part of research activity but may come out of REF as part of cultural behaviour.

Speaker B's different approach from Speaker G highlights the ambiguity in the definition and application of EDI. Should EDI be about the research instruments, ensuring representativeness of the population of participants or the researchers, ensuring the research team is diverse, balance on gender, etc., or a much broader approach which includes both?

Speaker H pointed out that there are some publics, such as those in the United States who see EDI as being superfluous to trust in science and would focus on citations, bibliometrics, etc., as indicators of integrity, while there is another group that focuses on the bureaucratic aspect of research integrity such as team, diversity and nurturing of the environment.

Speaker G explained that her concern was with the representativeness of the sample population. She however noted that there is evidence that if you have an

imbalanced culture in research teams, you're likely to impact quality of outcome negatively.

Speaker G

Where (there is) a very hierarchical structure, people don't feel the ability to raise their hands and say, I made a mistake, I computed 10 instead of five and then the lack of ability to raise issues snowballs into larger issues. So, having, you know, having a culture where everyone feels that they can speak up when a mistake is made, or they can speak up when they see a concern, has an impact on what I call the research quality outcome, which is, can you trust the result?

Speaker C said in wider society, concepts like having a diverse team are part of a good research culture. She noted the popularity of books talking about how so much of our world was constructed on data that is about white men and how there are now being questioned with people asking, 'why didn't we have these diverse teams?'

Speaker J said interesting concerns over these books have come out and people have questioned the integrity of the research on which they are based. He however noted that despite this, 'there is still a very high public trust in science. To this Speaker said, 'I think we are lucky.' Speaker A however noted that while there is disquiet among the public about those kinds of situations, 'it's about human behaviour and office dynamics and science is cruel to women' and it is these kinds of concern that are at play not 'oh dear this might have skewed the data.'

It appeared there was no consensus on EDI as research culture being part of integrity, but it was obvious from the debate that perceptions were influenced by definitions of where EDI should be addressed, in the research sample population or in the environment in which the research took place. Speaker G argued EDI issues are responsibility of the institutions. Fundamental to whom and where however was research rigour. One way of resolving this might be: if there is empirical evidence that any aspect of EDI jeopardises RI (understood in a narrow sense), it will then be a driver of RI and become relevant.

Speaker A recalled an episode with the Institute of Cancer Research when the institution insisted on improvements in gender equality at work, as a prerequisite for funding application. This she noted led to institutional change. Speaker G also recalled that in Japan, government decision to increase number of months of maternity leave improved dramatically the number of women that stayed in work. Both are indicators that funders or external institutions can introduce lasting changes in the workplace to address EDI issues which may improve research integrity if we adopt the broader definition that includes the workplace.

4.2. REF and Research Integrity, contradictions and challenges

What is the impact of REF on research integrity in institutions? Given the additional workload, does it lead to a better alignment which strengthens individual and institutional goals or rather a misalignment of goals which creates tensions among individuals and between individuals and institutions? The reactions were mixed.

Speaker G identified sources of tension as the additional workload and burden, as you 'don't have much time as you want to make the research open, to curate your data set so that people can reuse it, which puts much effort into developing robust methodologies.' She noted also that research ethics is prime example of a process where people never look at the fitness and 'just pile requirements on top of each other.

Speaker G

... if you've got an ethics committee that's having to review 15 different aspects of a study, they're going to spend less time looking at the points that are really fundamental to the ethics of the research, because they've got all this other stuff they have to look at as well, all the other boxes to make sure that they've been properly ticked.

Speaker H pointed out that that RI has procedural issues: what to include in the annual reporting cycle to UKRIO under the concordat? How to deal with allegations? Institutions warn about potential damage to reputation from public reporting. Funders are draconic in punishment, which encourages blame avoidance tactics.

Speaker H noted that good research has inherent qualities and where the pressure on research integrity comes in is in 'systematising and measuring' them and since we have created all sorts of rules of the game, the competition that ensues is what drives people to cut corners.

It was not all about the negative effect of additional workload on already stressed academics. Others argue it changes academic behaviour positively maybe negatively for the institutions.

Speaker B

I don't think it misaligns it. I think it enhances it ... like open access ... that REF has kind of brought in, that has created a positive environment, but I think the gamesmanship that some institutions play with, it possibly has a negative spin ... It's not REF that's the issue, it's the institution and perhaps it could be the leadership of an institution.

Speaker J argued that REF could play a role in creating the enabling environment that will enhance research integrity such as the provision of infrastructure or tools that make things work, money, time, policies rewards and recognition for good behaviour.

Some of the pressure from additional workload are however being relived through continuous system improvement exercises. Speaker G spoke of the revamping of the ethics approval process by some units.

Speaker G

I've seen groups who have said, okay, stop. This is ridiculous. We are not going to add any more sections to this form process ... We're going to have a video call we're going to ask the researcher questions, and we might ask them to complete a one pager and they've completely reinvented their process of reviewing research for ethical approval ...

For Speaker C, there are ongoing discussions with her institution's research ethics committee if there is going to be additional ethics processes and approvals that may create a new burden for an already overburdened team. There are also discussions about how to increase capacity to make sure they comply with guidelines.

Speaker E pointed out that her institution is undergoing a systems review with a massive infrastructure project that will create better systems and free up time and resources on areas of research support.

Speaker B acknowledged there is value in reinventing the process, because it is good to regularly look at your systems and processes and ask if it is delivering what we actually want it to deliver. This, he however argued, should be on a regular basis and not every 10 to 15 years as a lot of institutions do.

Speaker B was however not so optimistic about the speed of systems overhaul in higher education citing an institution which took six years from start to finish to implement a costing system. He also cited the lack of trust in internal specialists and the bungling of projects by external consultants.

4.3. REF, institutions and public engagement

Public engagement, according to Speaker A, can do a lot of different things at once and the message she impacts on her students is that what they are trying to achieve should be the driver of the engagement activity.

Speaker A

.. (PE) can do a lot of different things, and that's why I would always ask my students to think about, what are they trying to achieve, and what do the people who are paying you think you are trying to achieve.

Speaker E pointed out that some types of public engagement are fundamental to the acceptance of scientific innovation and if not rightly done, the right regulation may not evolve from the process. She pointed to Genetically Modified foods, which had lots of promise, but you couldn't get the regulation right. She noted that a colleague has taken another approach with Stem Cell research, which brings the public onboard to set objectives and limits.

Speaker E

... her argument is that kind of public engagement, to bring the public on board, but also allow them to challenge and decide where their red lines are etc, actually enables the best science and the best innovation and the changes that are going to make our lives better in the future.

The argument is regulation, science and public engagement are essential and must work together.

Another issue is given the different sets of skills required and the additional burden this brings on researchers, who is best to do public engagement, the researcher or a professional. Speaker E calls for teamwork and redistribution of roles between academics and professionals.

Speaker E

I think in research, there is an understanding now that not all skills ... have to sit within one person, the researcher. Research teams ideally should be built from people with different skill sets ... and that just means more money.

4.3.1. How not to do PE: a case study

Speaker A gave an example of a public engagement activity which did not achieve its aims.

Speaker A

An event I went to by a symphony orchestra, 12 world ranking classical musicians on the stage, three engagement officers, advertised as suitable for children aged 3 plus so the audience was little kids and their parents.

I think it was an unmitigated disaster apart from the short performances by the musicians who were world-class, the children were not interested, were not engaged, they couldn't even look in the right direction, it totally failed to engage them, despite the 3 expert engagement practitioners.

And this is odd, because when musicians play, it's not like a scientist doing research in the lab, they're already engaging with the public, but somehow, they had to engage about their engagement.

I think all this achieved really was to show that classical music is not very accessible. And I wondered why they would go around, saying that even without realising it and I looked at their funding conditions, their main funder is the arts council, and the arts council is very explicit that a region with a regional symphony orchestra should be economically more prosperous than the one that doesn't have. Also, the orchestra needs to be representative of the local community and it needs to demonstrate high standards of sustainability and make everyone more productive.

4.3.2. Impact of REF on public engagement activities

For Speaker G, REF has enabled universities provide expertise that would otherwise not have been provided in the universities because they cost money which universities are always reluctant to spend, 'it's beneficial, and that is great, especially about officials for engagement ...'

Speaker J explained that one of the problems with academics and communication activities is that they're trying to construct a public for each activity, whereas an institutional engagement outreach or convening publics which exists for research purposes can be used at times rather than going out and trying to communicate every time something new comes up.

Asked if these functions could not be provided through classical public relations, Speaker G said universities talk about public relations in terms of public engagement. Her institution, she noted, does not have a public relations department but media and communications and impact and engagement. Speaker E said her institution also does not have a public relations department but a brand team. Speaker D however argued that public relations in the classical sense may not serve the same functions as public engagement, but they are nowadays 'one and the same.'

Speaker D

Public relations (in the classical sense) is about maintaining the brand of the university, whereas public engagement (in research sense) is about making the most and pushing researcher for the institutions game, but the objective is not to protect the brand, is to promote the research.

The blurring of the distinction was a concern to speaker A, who asked, 'are we just playing with names here', to which speaker D replied, 'yes, I think we are.'

4.4. REF, institutions and societal impact

Indicating impact¹ of proposed research has become a compulsory requirement of most grant applications and is included in the assessment criteria for REF. Its definition in REF includes public engagement or aspects of public engagement.

For Speaker B scientists should move away from doing impact for REF to a culture where REF becomes the byproduct of the outcomes of a good research culture, consistently producing good impact. REF, he said, is ultimately trying to instil a good culture where you are measured every seven years. He noted however that the fact that it is evolving, and you are getting information quite close to the time, and it could be quite different to the way in which you did something in the previous iteration of the process, is a problem.

Speaker B

... because then you're always reactive and doing it for that particular cycle, whereas if... we get to a place where it's consistent, and this is the way in which you measure, you can get to that process where it's

business as usual and you're not being reactive, because they've changed.

Speaker C was of the view impact has to become part of scientific culture.

Speaker C

I think the structure certainly is key and apt, that is they are virtue methods that we should be doing impact for research and supporting impact for research, and then the REF comes around, because we buy into impact for research, it's just it's going to there, it's not we are doing it because of that but because we are already doing it.

The discussion also focused on the readiness of academics to do impact case studies and the availability of institutional support and funding required. The structures and capabilities may however have been instrumentalised for different end by the institutions and the academics. Speaker H said, 'that is how it works, one way around or the other.'

Speaker H

... instrumental goals for both parties, both have different weights and different examples of ongoing case studies. It isn't like all academics come wanting to engage the world in a benevolent way. Some just want to have the digital advantage of having an impact case study.

Speaker B added that you could also have those academics who could do something impactful but don't, because they say they 'don't have the time, and it's too much hassle,' so they're not going to do it, and the institutions don't always do something to address this.

Speaker A, as a follow up question, asked if doing impact is not also driven by the availability of money. Speaker B recognised the fact that academics are reluctant to add more money in grant applications for impact.

Speaker B

I rarely see anything in applications ... because there's the fear that the more, I put in and the more expensive I am, the less chance I'm going to have getting the award. That's not the case, but that is the fear.

4.5. REF, Institutions, Societal Impact and Trust in Science

A question was asked by Speaker E, 'what impact does impact have on public trust? This question is a major concern for the European community and the POIESIS project.

For Speaker A, there is no problem with public trust. The counter argument raised by Speaker F is if these activities could be some form of buffer for a possible future collapse in trust and past goodwill is needed as part of restoration efforts. Speaker A insisted there is no problem with public trust or levels of public trust and all concerns about research integrity in the public

domain is seen as individuals, 'bad apples,' never portrayed as science is corrupt or science can't be trusted, 'it's we've weeded out this naughty boy here.'

Another issue was the impact of the private sector funding higher education and the implications for trust in science. This is what Speaker A referred to as 'commercialisation of higher education, the commercialisation of research.' Speaker D however sees funding from corporations as symbolic of increasing public trust, 'because if I trust you, I'm willing to invest money in you doing it because I trust you to do it.'

Speaker recalled previous focus group research where participants expressed distrust in corporate funding because they thought the funder had a particular agenda which ultimately is reflected in what is published. Speaker D in response, maintained her position, insisting this is indicative of some sort of competitive advantage associated with university researchers conducting the research rather than the companies relying on their own researchers or employing the services of a consultant, 'because they trust that it will be done well.' She also pointed out that 'not all commercial funders are evil either.'

Speaker A agreed commercial funders are not evil but argued that they operate differently.

Speaker A

Well, they're not evil, but they have different models, different modes of operation, different set of values, and when you clunk that down in the middle of what traditionally has been a public institution, and what is still understood by many people in this country as public institutions, then you're going to get some tensions.

Speaker A was worried about the underlining motive, for profit, which may not be in the interest of scientific research.

Speaker A

I think it's linked to how much money they think they can make out of it ... The relationship between trust and knowledge, is very similar to the relationship between trust and money. If you've got enough of one, you don't need the other one.

Speaker F said there is a lot of survey evidence indicating that industry funding is a source of distrust, but over time this has become less problematic in the UK than in other places. Speaker A noted since the pandemic, people now think Pfizer, which has the worst records for research ethics of any company, 'are wonderful.'

Speaker C noted that a large chunk of UK's one and half to two billion pounds a year in spin off money comes from China, 'it's not from industry, it's from Chinese venture capital firms' and this is not well known to the public.



Speaker D said, 'maybe trust is not static, its fluid.' 'It is situational' said Speaker G. Speaker F added that 'It is well known that you can easily lose it but very difficult to find.'

5. Conclusions

5.1 Key issues raised.

- Universities need more direct funding from government.
- There is support for REF as a tool of research assessment, research integrity and knowledge impact in society.
- REF has unintended effects which affect institutions, academics, research integrity and public engagement activities, both positively and negatively.
- The unintended negative effects are pronounced and lead to a misalignment between impact and PE and output and RI.
- One major effect is ranking and the attendant Matthew effect (disadvantage to young academics and lower ranked institutions).
 - Young academics may be compelled to seek short term goals while chasing short term impact (as REF is 7-year cycle) rather than carving a new research space for themselves which may be more beneficial to science in future.
 - Lower ranking universities may find it more difficult to recruit students and don't get as much money from REF.
- Ranking puts pressure on institutions and they transfer this to academics, despite reassurances otherwise; this transfer reality is murky.
- The additional pressure on existing workload and need to publish in high impact journals to reduce chances of perishing, may lead to unethical practices by desperate researchers putting research integrity into jeopardy.
 - We have seen many articles retracted for unethical practices, cutting corners, citation gaming.
 - We have seen botched public engagement activities (ex, Opera for toddlers)
- Doing public engagement for impact and not being recognised or failing to meet REF assessment may also be a disincentive for future PE, a misalignment.
- There was no consensus on whether REF should also be credited with the unintended effects or whether blame should be on the doors of the Universities and university ranking agencies such as Times University Rankings.
- REF however needs to recognise the unintended effects and consciously work to minimise impact on young academics who are denied opportunities by the drive for applicants with potential for REF assessment research and smaller universities at the bottom of the ladder who wish to grow but struggle with REF compliant research.
- Universities face massive 'institutional learning difficulties'; A culture change is difficult to achieve and will take time.

5.2. Recommendations from the follow up workshop

- REF should be instrumentalised locally to build up institutional capacity for PE.
- REF should recognise and must act nationally to reduce unintended ranking effects.
- There is need for the following.
 - to review the entire system of adapting the institution to REF.
 - get consultants to advice on how to free up time to do actual research rather than accounting for research.
 - reduce the accounting burden at all levels.
- Controlling academic workload will increase research integrity and encourage public engagement based on intrinsic motives of researchers; both will lead to less errors and corner cutting, more and better interaction between scientists and the public (i.e., public engagement), seeking genuine public engagement is likely to increase trust relationships.
- Capacity building or 'genuine' PE (i.e. not institutional prestige management) needs to be encouraged. This means raising awareness of the PE toolbox (such as the Wellcome Trust Onion model) and its purposes. Training should be on offer for all staff from PhD onwards.
- RI is important for research culture and public trust, and it needs to be safeguarded and shielded from REF effects.
- Best practice sharing among institutions is good for PE and RI. Need to overcome the tendency for 'operational secrecy' in the prestige economy, i.e. institutions do not want to open the sources of their success, thus holding back on sharing practice.
- More resources will be needed, but this is difficult in time of financial constraints.
- Focus on division of labour: doing the research, doing the PE and impact case studies; depersonalising the REF machine to reduce stress for researchers.
- Compensate smaller institutions who have difficulties to support PE and RI

References:

¹Reed, M. S., Ferré, M., F-Ortega, J., Blanche, R., Lawford-Rolfe, R., Dallimer, M., & Holden, J. (2021). Evaluating impact from research: A methodological framework. *Research Policy*, 50(4), 104147.