

ROSIE

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D4.1. Report on two Cross-Swafs Stakeholder Forum workshops

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ABSTRACT:	<p>This report provides an overview of the Cross-SwafS Stakeholder Forum workshops conducted within the framework of the ROSIE project. The Cross-SwafS Stakeholder Forum for Responsible Open Science served as a platform for collaboration among stakeholders from various EU-funded projects focusing on open science, responsible research and innovation (RRI), and citizen science. The workshops aimed to leverage the diverse expertise and perspectives within the SwafS community to enhance the ROSIE project's efforts in incorporating publicly available results and feedback into its framework development work. Key objectives included obtaining feedback on framework development, transferring knowledge of ROSIE outcomes, and encouraging stakeholders to integrate ROSIE outcomes into their own practices. Through these workshops, the ROSIE project fostered collaboration, shared knowledge, and strengthened the foundation of research ethics and integrity in open science practices.</p>
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Keyword List:	open science, responsible research and innovation (RRI), citizen science, SwafS, research ethics, research integrity.
Abbreviation List:	CS: Citizen Science CSH: CS Hubs ECR: Early-career researcher GA: Grounding Action GDPR: General Data Protection Regulation HEFRC: Higher Education, Funding and Research Centre M&M: Marine and Maritime OS: Open Science RE/RI: Research Ethics and Research Integrity RFP: Research Funding Organisation RPFO: Research Performing and Funding Organisation RPO: Research Performing Organisation RRI: Responsible Research and Innovation SSH: Social Sciences and Humanities SwafS: Science with and for Society



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1 The cross-SwafS stakeholder Forum workshops

The idea behind these workshops was to focus on utilizing the diverse expertise and perspectives of related projects' stakeholders and to harness the previously established cross-SwafS stakeholders network within our ROSIE project. In this section we will explain the cross-SwafS stakeholder forum for Responsible Open Science, detailing the structure and purpose of these events taking place.

1.1 What is the cross-SwafS stakeholder Forum for Responsible Open Science?

The cross-SwafS stakeholder forum for Responsible Open Science is a network of relevant EU funded networks and research projects from SwafS-16-Ethics of Innovation, SwafS-05-Grounding RRI practices, SwafS-16-Ethics of Innovation, SwafS-23-Grounding RRI in society with a focus on citizen science, SwafS-29-Ethics of technologies, among others. In short, it is a stakeholder forum comprised of fellow »open science«, »responsible research and innovation« and »citizen science« practitioners within the Science with and for Society (SwafS) program. The Forum convened with the overall aim of sharing knowledge and experience, discussing challenges and opportunities, and strengthening the knowledge base about research ethics and research integrity in open science.

1.2 Main objectives

Although the central goal of the cross-SwafS stakeholder Forum for Responsible Open Science was to establish a cooperation with SwafS to incorporate the publicly available results of relevant EU funded networks and research projects into the work of the ROSIE project, the main objective of these originally two workshops was twofold. Firstly, to obtain feedback from the community of practice for the framework development work. Secondly, to transfer knowledge of the results and outcomes of ROSiE, including the feedback of the community of practice, and make these results available for others to use and build on. During the last workshop, these stakeholders (including also the ones who were actively engaged in the activities of WP3) were also invited not only to disseminate but also to take up ROSiE outcomes into their own practices.



1.3 Cross-Swafs stakeholder projects profiles

CO-CHANGE - Co-Create Change in Research Funding and Performing

Co-Create Change in Research Funding and Performing (CO-CHANGE) project is aimed at building transformative capacity and leadership for RRI through systemic change coalitions around different change labs, that will initiate and implement institutional changes. Seven change labs will co-create and test RRI related practices for institutional change in research funding and performing organisations, allowing the project to co-create and test RRI related practices and in the selected organisations and their ecosystems. (on Stocktaking exercise) In order to achieve this aim, first step is to identify the most important inroads for change by building on previous RRI projects and literature and through connecting with pioneers in the field as a baseline for activities. For this purpose, the aim of this task is to create a robust experience base and conceptual framework for the project. This exercise of collection, analysis and synthesis of data will contribute to the building up of the theoretical and practical understanding of the Co-Change project.

COESO - Collaborative Engagement on Societal Issues

COESO's main objective is to overcome the obstacles that hinder the development of citizen science (CS) in the social sciences and humanities (SSH). COESO aims to develop and sustain CS research in the SSH. COESO's mission is to enable strong growth of CS projects in the SSH and to support participatory research through a service-first approach. COESO addresses these challenges by building a comprehensive framework that:

- hosts CS pilots reflecting the variety of CS practices in the SSH; supports them with collaborative tools through a specific virtual ecosystem; targets the funding streams needed; provides support and training; produces knowledge on CS co-creation practices in the SSH through a rigorous assessment protocol on collaboration challenges in the pilots.

ETHNA System - Ethics Governance System for RRI in Higher Education, Funding and Research Centres

The project "Ethics Governance System for RRI in Higher Education, Funding and Research Centres", ETHNA System in short, intends to develop and apply an ethics governance system for the use of RRI in higher education, funding and research centres (HEFRCs). The system is composed of an ETHNA office and four tools and work methodologies for RRI: ethical code, ethics committee, ethical hotline and process indicators to report.



The ETHNA System will implement and validate an ethics governance system by integrating an ETHNA office into the management of six organisations from the consortium from Spain, Norway, Estonia, Bulgaria, Austria and Portugal. The purpose is to develop a governance structure that is sustainable over time and can be transferred to other centres, favouring a more responsible research and innovation based on engagement with citizens and society.

GRACE - Grounding RRI Actions to Achieve Institutional Change in European Research Funding and Performing Organisations

GRACE aims to contribute to the EC objective of spreading and embedding Responsible Research and Innovation in the European Research Area through the development of a set of SMART (Specific, Measurable, Achievable, Realistic, Time-bound) Grounding Actions (GAs) in six RFPOs leading to fundamental RRI-oriented institutional changes during the project. For each RFPO, the GAs will be incorporated in a 8-year long “Roadmap towards RRI” to set a solid platform for attaining further institutional changes during the ‘after GRACE’ 5 year of the roadmap. The project will develop in a co-creating environment, via an intense mutual learning programme including the 6 partners implementing the GAs (implementing organisations) and the 4 partners assisting with their comprehensive expertise on RRI (co-operating organisations). A suited evaluation and impact assessment scheme will be developed to oversee and monitor the project processes and impacts, applying MoRRI and SDGs indicators, and Swafs KPIs.

GRRIP - Grounding RRI practices in research performing organisations

GRRIP will embed sustainable RRI practices in 4 research performing organisations (RPO) and 1 dual function RPO and research funding organisation (RPO/RFO) (total 5 RPO&RFO) in the Marine and Maritime (M&M) sectors through Action Plans (AP) for institutional and cultural change. This will be accompanied by establishing a platform for engagement with the Quadruple Helix (QH) for each RPO&RFO, and a platform for mutual learning between the 5 RPO&RFOs and QHs. M&M is a high priority for the EU. However, the M&M is seriously exposed to the non RRI alignment between Research and Innovation (R&I), societal actors and the environment, affecting its performance and competitiveness. Objective 1: Co-develop, implement and evaluate self-tailored RRI APs to enable sustainable institutional and cultural change for the 5 M&M RPO&RFOs to embed RRI in their governance frameworks, structures and cultures. The APs will be based on a detailed audit of the RPO&RFO current RRI maturity level and the barriers identified. RRI dimensions will be incorporated into R&I. Objective 2: Establish structures to facilitate, promote and maximise real sustainable engagement with, and input from, the QH (industry, societal actors, policy and other RPO&RFOs). Objective 3: Establish indicators and methodology for impartial Monitoring, Reflection and Evaluation cycles, to ensure provision of evidence of societal, democratic, economic and scientific impacts of institutional changes. Objective 4: Develop a sustainable



Mutual Learning process across the M&M RPO&RFOs both during the institutional and cultural change project and thereafter. Objective 5: Legacy: To enable more M&M RPO&RFOs to ground RRI practices through institutional and cultural changes by a) creating a practical user-friendly RRI AP framework template & guidelines, and b) launching a M&M RRI community. Objective 6: Examine how an RFO can positively influence and encourage an RPO towards RRI via its funding policy and interaction.

HYBRIDA - Embedding a comprehensive ethical dimension to organoid-based research and resulting technologies

The main objective is to develop a comprehensive regulatory framework for organoid research and organoid-related technologies. The project aims to address how the conceptual, epistemological and regulatory uncertainties arise in organoid research, and to develop a conceptual and regulatory framework able to overcome the 'persons vs things' dualism. From this follows also the need to communicate the potential and possible pitfalls of organoid research in ways that convey realistic- instead of hyped scenarios.

INCENTIVE - Establishing Citizen Science Hubs in European Research Performing and Funding Organisations to drive institutional change and ground Responsible Research and Innovation in society

It aims to demonstrate the potential of CS through the co-creation, establishment and assessment of CS Hubs (CSH) in 4 European Universities. By doing so, the project will accelerate the transition of these institutions to more inclusive, open and democratic innovation and scientific governance, under the principles of Responsible Research and Innovation. Moreover, the project seeks to deliver a legacy to European and international research institutes on how to create and operate their own CSH with the aim to secure a democratic and collaborative way of designing, implementing and monitoring scientific progress and technological growth.

INTEGRITY - empowering students through evidence-based, scaffolded learning of Responsible Conduct in Research (RCR)

INTEGRITY's innovative approach aims to empower students in responsible research: using RCR INTEGRITY will build a teaching philosophy that underpins comprehensive research integrity training. RCR will incorporate the conventional concerns of FFP (Fraud, Falsification and Plagiarism) and questionable research practices (QRC), yet use a new orientation, namely the empowerment of students. This is vital and innovative because today's students will encounter dilemmas that current practice cannot yet foresee but need equipment for.



INTEGRITY will develop an interactive curriculum with compelling and effective tools that will be co-created with students, using key values, namely Transparency, Honesty and Responsibility. It will include innovative training and mentoring for influencers and will experiment with nudging techniques for effectiveness. INTEGRITY will build capacity in a scaffolded manner, targeting different student group levels, and will deploy training in formal, non-formal and informal contexts and cover the full range of scholarly disciplines, including computer sciences technical studies, social sciences and humanities.

JoinUs4Health - Join Us to Optimize Health Through Cohort Research

The mission for JoinUs4Health is to engage study participants, citizens and other social groups from different countries in health research in order to achieve an integrative way of innovation and citizen engagement in cohort research. Consequently, they combine Responsible Research and Innovation (RRI) with crowdsourcing in a co-creative manner. RRI + Crowdfunding = Innovation and Citizen engagement

The objectives are to: 1) Establish and review a conceptual framework based on the idea that diverse societal groups can engage in research directly, turning the world into a living science lab where everybody can participate in a co-creative manner. 2) Develop, test and apply an open digital platform to facilitate engagement in CS on health research questions in a secure online environment. 3) Explore, implement and monitor necessary institutional changes to open the scientific world for citizens through information, education, communication, transparency, exchange and some form of reward system for participants. 4) Advance RRI and CS through education, so everybody can participate and develop a wider knowledge and better comprehension of academic work and its results. 5) Promote citizens' engagement and communicate and disseminate outputs, in diverse ways that reach different groups of the society.

ON-MERRIT- Observing and Negating Matthew Effects in Responsible Research & Innovation Transition

ON-MERRIT targets an equitable scientific system that rewards based on merit rather than the "Matthew Effect" of cumulative advantage. Responsible Research and Innovation (RRI), including elements like Open Science and Gender Equality, promises to fundamentally transform scholarship to bring greater transparency and participation to research processes, and increase the impact of outputs. Yet just making processes open will not per se drive re-use or participation unless also accompanied by the capacity (in terms of knowledge, skills, motivation and technological readiness) to do so. Absorptive capacity and ability to capitalize on knowledge resources vary considerably amongst business, researchers and the general public. Those in possession of such capacities are at an



advantage, with the effect that RRI's agenda of inclusivity is put at risk by conditions of "cumulative advantage" ("Matthew Effect"). Recognising this key threat to RRI, ON-MERRIT's transdisciplinary consortium deploys a cutting-edge combination of qualitative (surveys, questionnaires, interviews, focus groups, case-studies) and computational (scientometrics, social network analysis, predictive analytics, text and data mining) methods that use stakeholder participation and co-design to engage researchers, industry, policy-makers and citizens in examining the extent of the Matthew Effect in key RRI elements (Public Engagement, Gender, Open Access/Open Science and Governance) .

Path2Integrity - Rotatory role-playing and role-models to enhance the research integrity culture

Path2Integrity will support formal and informal learning methods and will contribute to establishing a culture of research integrity by pursuing the following aims:

- Establish excellent learning paths with research integrity role-models and rotatory role-playing by developing and disseminating a Path2Integrity handbook of instruction;
- Raise awareness of scientific facts about research integrity and role-models in educational organisations through a widespread Path2Integrity campaign;
- Achieve wide-spread implementation of excellent learning paths, by using existing and successful educational practices as a foundation and international collaborations across four continents, along with robust assessment methods;
- Create units for learning research integrity that address everyone either directly or indirectly involved in research, including secondary school students, undergraduates, graduates, and young researchers.

PRO-Ethics - Participatory Real Life Experiments in Research and Innovation Funding Organisations on Ethics

The implementation of participatory practices for the development of innovations has gained prominence over the last years. Through introducing open R&I configurations innovators can gather additional knowledge about the needs and desires of citizens, public and semi-public caretakers, NGOs, social entrepreneurs etc. and thus be able to answer those through innovative products and processes. However, the ways how this is done, how it is based on legal and regulatory frameworks and to what extent ethical issues are taken into account differ massively between various countries and contexts. Furthermore, concrete concerns regarding the protection of participating non-traditional stakeholders (e.g. citizens) and their potential exploitation emerge with these new modes of innovation.



Therefore, PRO-Ethics elaborates an ethics framework with principles, guidelines, assessment criteria, good practice and proposals on regulatory environments how citizens' engagement can be properly put in place without disregarding ethical principles of fairness, transparency, gender, privacy and sustainability.

PRO-RES - PROMoting integrity in the use of REsearch results

Delivering Responsible Research and Innovation (RRI) requires researchers and research agencies to balance many political, institutional and professional contradictions and constraints. These are as difficult and demanding in non-medical fields as in biomedical research. Researchers, reviewers, regulators and policymakers are tested by the diverse codes of ethical practice and regulations, by the complexities of relevant data protection legislation, by inconsistencies in the applications of regulations and by the practical professional pressures of acting in diverse non-medical research fields. To use research effectively policy makers need to trust in the validity and reliability of research findings. PRO-RES will address these constraints by delivering a supported guidance framework that is comprehensive, flexible and durable, covers the spectrum of non-medical sciences and offers practical solutions for all stakeholders that will comply with the highest standards of research ethics and integrity.

RESBIOS - RESponsible research and innovation grounding practices in BIOSciencies

ResBios will embed RRI practices within 4 universities and research institutions in the field of Biosciences, through the implementation of RRI Grounding Actions, to achieve sustainable institutional changes. The Grounding Actions will relate to RRI keys, they will dialogue with the MoRRI indicators and will be aligned with SDGs. The project is focused on the biosciences sector which is one of the crossroads in the relations between science and society. The project will set a mutual learning environment including the four partners implementing GAs ("RRI beginners"), some "RRI mentors" having already participated in a EU project about RRI in biosciences, partners experienced in Evaluation and Technical assistance, an international scientific Advisory Board, representatives of other EU projects, and representatives of Quadruple Helix actors.

SOPs4SRI- Standard Operating Procedures for Research Integrity

SOPs4RI aims to stimulate transformational processes across European Research Performing Organisations and Research Funding Organisations (RPOs and RFOs). SOPs4RI will deliver an online, freely accessible and easy-to-use 'toolbox' that can help RPOs and RFOs cultivate research integrity and reduce detrimental practice. SOPs4RI will establish an



inventory of relevant Standard Operating Procedures (SOPs) and Guidelines that RPOs and RFOs can draw on when developing governance arrangements promoting strong research integrity cultures.

SUPER_MORRI - Scientific Understanding and Provision of an Enhanced and Robust Monitoring system for RRI

In order for the aspirations of RRI to be realised, robust tools must be developed for R&I policy and practice. These tools are in the focus of SUPER_MoRRI which continues the work of MoRRI, ensuring sustained data collection, curation, further assessment and refinement of previously developed indicators. SUPER_MoRRI complements EU-28 data by monitoring data from selected non-EU countries.

SUPER_MoRRI will also examine the complex and diverse relationships between RRI policies and practices and their societal, democratic and economic benefits. These theoretical advances together with the continuous data stream into the project form the basis of the iterative learning processes needed to create a mature monitoring system with indicators and metrics that are robust, realistic, in themselves responsible, and easy to implement.

TechEthos – Ethics for Technologies with High Socio-Economic Impact

TechEthos vision - Ethics by design (The implementation of ethical, legal, and societal values), or in other words, to bring ethical and societal values into the design and development of technology from the very beginning of the process.

New and emerging technologies (Technologies whose development and application are not completely realised or finished, and whose potential lies in the future) are expected to generate new opportunities and offer a wealth of socio-economic benefits. However, in the early stages of their development, these technologies also pose a number of potential ethical challenges and societal consequences. In light of this problem, it is important to ask: how can we prioritise ethics and societal values in the design, development and deployment of new and emerging technologies, particularly those with high socio-economic impact?

The objectives are to reinforce the pivotal role of the European Union as an ethics trailblazer in new and emerging technologies. Such technologies bring with them new ethical challenges and societal consequences that need to be addressed. The project will develop guidance for the development and deployment of these technologies to ensure the highest ethical standards at the EU and international levels. It will carry out a horizon scan to identify three or four new technologies with high socio-economic impact. It will then identify and analyse the ethical issues raised by the selected technologies and explore the views and



attitudes of expert and lay stakeholders towards them and their ethical implications using scenarios and media analysis.

TIME4CS - Supporting sustainable Institutional Changes to promote Citizen Science in Science and Technology

TIME4CS aims at supporting and facilitating the implementation of sustainable institutional changes in research performing organizations (RPO) to promote CS. In other words it aims at facilitating a way in which the scientific ecosystem could better take societal - mindset of people inside the organisation – and the organizational - norms, protocols, procedures, policy - views into consideration by supporting Research Performing Organisations - i.e. research entities such as universities and research centres - in defining and implementing institutional changes that can lead to a better and more effective engagement of citizens in research and innovation. TIME4CS has identified 4 intervention areas that alone or combined can stimulate the institutional changes necessary to promote public engagement in R&I activities: i) Research; ii) Education and Awareness; iii) Support resources and Infrastructure; iv) Policy and Assessment.

The specific objectives of the project are: 1) To increase knowledge on the actions leading to Institutional Changes in Research Performing Organizations (RPOs) necessary to promote Public Engagement and Citizen Science in science and technology. 2) To support TIME4CS RPOs in the implementation of actions leading to Institutional Changes through continuous mutual learning and knowledge transfer programme. 3) To build a dynamic and inclusive Citizen Science stakeholder community. 4) To increase the awareness of the need for a sustainable and flexible organization of RPOs governance system to better respond to the evolving relationship between science and society.

1.4 Structure of the workshops

Two cross-SwafS Stakeholder Forum workshops were originally planned. The first one took place in M18 and gathered inputs for the framework development work, and the second one took place in M36, with the aim of showcasing the outcomes of the framework development work and discussing actualising ROSiE's outcomes.

However, with the final purpose of obtaining better feedback and given the constraints on the timing we opted for a flexible design for the first workshop. More specifically, the window of action between the outcomes being produced and open for feedback and their respective deliverables deadline was quite narrow. This limited the number of deliverables



incorporated for feedback in the first workshop. In this sense, together with the partners involved in the above mentioned deliverables and the project coordinator, we decided to move away from a single workshop as originally planned and have an additional series of events led by ROSiE where we could obtain feedback from the cross-SwafS stakeholders. This approach facilitated a timely and responsive exchange, allowing us to garner feedback at key stages in our project timeline. By dispersing our interactions with cross-SwafS stakeholders across numerous occasions we were able to align these events with the specific phases of our outcomes, enhancing the effectiveness of our collaborative efforts within the ROSiE project by ensuring that the feedback received is not only more frequent but also better timed.

In this sense, three consultation and feedback events were organized by ROSiE as part and natural follow up from our cross-SwafS stakeholder forum sessions for Responsible Open Science (from October 2022 to June 2023), in addition to ROSiE's Final Outcomes Dissemination Workshop (23 January 2024).

2 Results of the cross-SwafS stakeholder Forum workshops

2.1 Introduction to the draft version of training materials and invitation to participate in piloting of training materials – 13 October 2022

This event started with ROSiE members Signe Mežinska and Ivars Neiders introducing a draft of the training materials in development for the responsible practice of open science to 14 participants. The training materials are concerned with the intersection of open science and ethics, and can be used to train researchers, students or citizen scientists in the social sciences, humanities, health and life sciences, and natural sciences fields.

The materials were presented as having both “traditional” and online training formats, and featured activities with printouts, handouts and case studies. Examples of topics covered by the materials included open access publishing, ethics in citizen science, prevention of research malpractice and protection of intellectual property. A discussion followed the closing of the presentation.



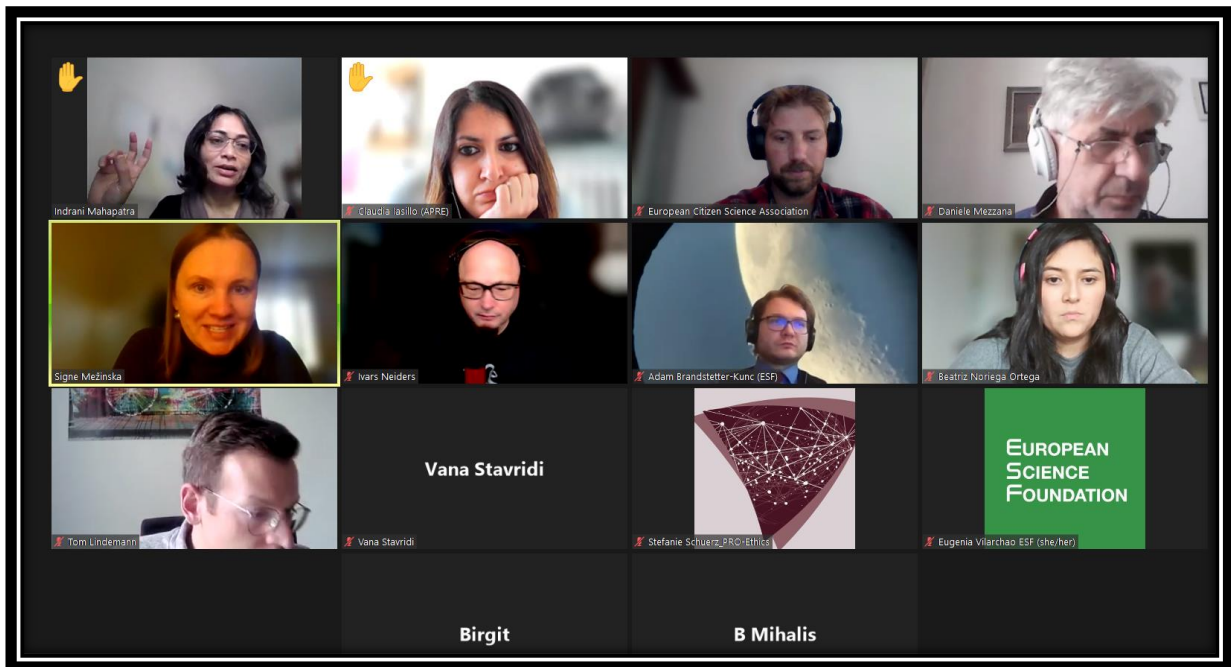
During the discussion section participants asked for examples of a case study for opening the discussion, focusing on ethical considerations in research. The presenters used a hypothetical example of a case study in medicine involving informed consent issues regarding a boy's photograph. Questions arose about informing participants or parents of the situation and the acceptability of publishing such case studies in open access. One participant shared their learning about the limitations of informed consent, emphasizing the need to discuss the potential implications before recording interviews.

The conversation transitioned with a participant expressing interest in coordinating efforts on a new project about researchers' responsibilities. Another participant inquired about specific organizations piloting training, offering to test the training within their research institute and university network. The participants explored diverse options for testing the training materials, including feedback from individuals and organizations.

Following this, plans to develop an online training course (MOOC) were discussed, with an emphasis on gathering feedback on content adequacy before further development. The conversation concluded with the invitation to spread the word about the training materials and the possibility of advertising through newsletters and partner networks. Participants expressed enthusiasm for collaboration and testing the training materials in various settings.

2.1.1 Pictures of the event





2.2 Policy Paper on Responsible Open Science - 6 April 2023

The policy paper on responsible open science was presented to 14 participants in this session by Teodora Konach and Mathieu Rochambeau of the Austrian Agency for Research Integrity (OeAWI). The paper, D5.1: Report on existing policies and guidelines, was produced as part of a ROSiE work package and serves as an overview of existing open science public policies in selected EU member states, Norway and the United Kingdom. It was stated that the document will be used in part to develop policy documents and guidelines.

After the presentation, the session was opened to feedback from participants. An extensive discussion originated between ROSiE's colleagues in charge of the Policy Paper on Responsible Open Science and a participant from ZSI from the Pro-Ethics project. The latter pointed out that colleagues from another organization were involved in drafting the National Open Science Strategy in Austria. She emphasized the need for recommendations due to Austria lagging behind in such matters. She highlighted that ROSiE has developed some very interesting publications that they are definitely going to take a closer look at. She also suggested a comprehensive approach with guidelines, illustrative cases, and best practices, highlighting the complexity of using flow charts in this context. Reservations were also expressed by the participant about using flow charts in the ethics framework they are developing, questioning if it's the most effective format. She highlighted the value of an observed cookbook approach, emphasizing the importance of starting with questions to guide the process. She finalised mentioning Margaret



Gold's interactive cookbook, suggesting that approaching the framework with specific questions in mind could be a valuable and interactive way to navigate complex topics.

In addition, a participant from the PRO-RES project highlighted the dismissal of checklists in contemporary discussions due to concerns about exhaustiveness and complexity. He referenced the "Checklist Manifesto," sharing examples of its effectiveness in surgery and aviation. He argued for the value of combining decision trees and checklists, acknowledging the need for critical thinking, especially in ethical considerations. He emphasized that checklists don't eliminate the need for thinking but serve as tools to acknowledge awareness and prompt further consideration. Finally he expressed frustration with the negative perception of checklists, asserting their valuable role in various fields, including research ethics.

A participant from the iRECS project emphasized the importance of selecting tools based on the specific problem at hand, suggesting prioritization is essential. He acknowledged the reluctance of some ethicists towards endorsing checklists, noting their suitability for standardized issues like data management practices. He expressed that the problem may lie more in the types of checks conducted, advocating for a more reflective and granular approach to thought processes within the checklist format.

The participant from the Pro-Ethics project acknowledged the value of checklists, especially in highly standardized fields as mentioned previously. However, she raised concerns about their applicability in the context of citizen science, where transparency is an ongoing and dynamic process, making it challenging to simply check off and consider complete. She highlighted a potential breaking point of checklists when people perceive a task as finished without continuous reflection. Stefanie emphasized the importance of understanding when and where checklists make sense, suggesting their effectiveness is context-dependent.

The discussion ended with comments from our project partners in charge of the strategic policy paper who commented on the project's approach, outlining a progression from the strategic policy paper to the more operationalized guidelines and the Knowledge Hub. She deliberated on the idea of connecting checklists, decision trees, or flow charts to the training materials being developed to facilitate discussion and guidance. Finally she highlighted the challenge of applying open science principles to privately funded research, suggesting it's an area that warrants analysis and discussion, though perhaps not within the ROSIE project's scope.

Among the additional resources that participants provided we received:

- Recommendations for a National Open Science Strategy in Austria: <https://zenodo.org/record/4109242#.ZC7BnPZBxD9>
- <https://www.weobserve.eu/weobserve-cookbook/>
- Atul Gawande - The Checklist Manifesto.

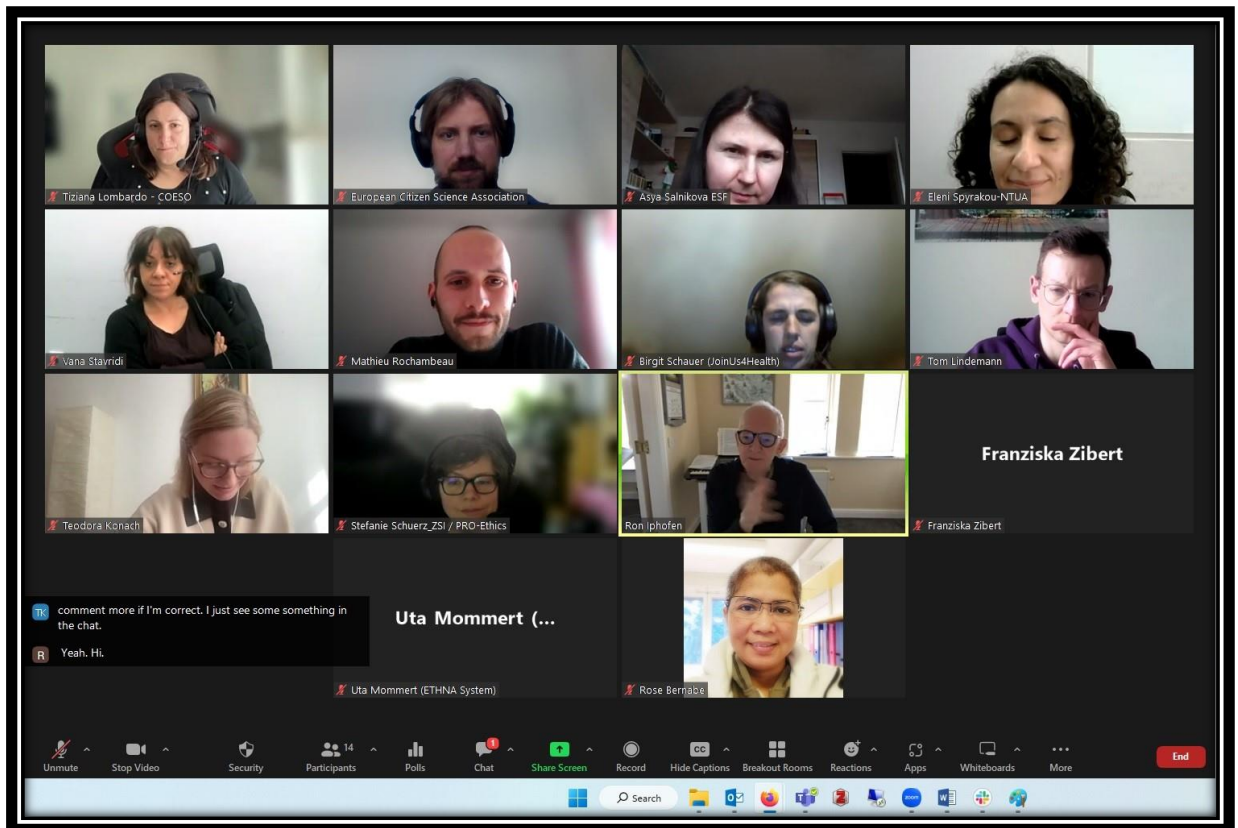


2.2.1 Pictures of the policy paper event

The screenshot shows a Zoom meeting interface. The main content is a presentation slide titled "Open science or just science?". The slide features two diagrams: a central circular diagram with "Open Science" at the core, surrounded by "Open research data", "Open accessibility/communication", and "Open access to publications". This is further divided into "INDICATORS" (Research data repositories, Open peer reviews, Journal policies on open peer review, Use of alternative platforms, Corrections and retractions, Researcher attitudes towards open access, Journal policies on open access) and "CHARACTERISTICS" (Funder policies on data sharing, Researcher attitudes towards data sharing, Open access publications, Preprints*, Alternative publishing platforms*, Funder policies on open access). To the left, a smaller diagram lists "Components of Open Science" including Open Science, Open Access, Open Peer-Review, Open Educational Resources, Open Data, Open Labs, Open Innovation, Open Publishing, Open Hardware, Open Evaluation, Citizen Science, and Open Funding. A URL <https://openaccess.be/what-is-open-access/> is provided. The Zoom interface shows a grid of participants on the right, including Tom Lindemann, European Citizen Science, Tiziana Lombardo - CO, Asya Sarikova EST, Eleni Spyriakou-NTUA, Uta Stawski, Mathieu Rochambeau, Teodora Konach, Birgit Schauer (J...), Birgit Schauer (JohU4H...), Stefania Schuerz, Franziska Zibert, Uta Mommert (...), Franziska Zibert, Uta Mommert (ETHNA S...), and Rose Bernabe. A chat window at the bottom displays the text: "the very beginning that the principles of research, ethics, and research integrity were not conceptualized within the existing open science framework. Now it is a little bit different since the United".

The screenshot shows a Menti poll question: "What would be the ideal format for our discipline-specific guidelines on responsible Open Science?". The poll options are: Cases, Checklist, Best practice guide, and Decision tree. A donut chart indicates that 5 votes have been cast for "Best practice guide". The Menti interface shows the poll progress and a list of participants on the right, including Tiziana Lombardo - CO, European Citizen Science, Asya Sarikova EST, Eleni Spyriakou-NTUA, Uta Stawski, Mathieu Rochambeau, Teodora Konach, Tom Lindemann, Birgit Schauer (J...), Birgit Schauer (JohU4H...), Stefania Schuerz, Franziska Zibert, Uta Mommert (...), Franziska Zibert, Uta Mommert (ETHNA S...), and Rose Bernabe.





2.3 Consultation on the General Guidelines for Responsible Open Science as a Complement of the EcoC – 1 June 2023

In this consultation session, ROSiE presented the "General Guidelines for Responsible Open Science" as a complement of the European Code of Conduct.

The nine participants worked collaboratively to provide feedback on ways to improve the quality and clarity of the guidelines. Issues regarding the correct use of language, properly and adequately defining roles of those participating in open science, making sure points with relevance to multiple sections correctly cross-referenced etc. were addressed. The discussion and feedback took place directly on the Teams shared document as shown in the images below.



2.3.1 Pictures of the consultation process on the General Guidelines for Responsible Open Science

Draft of the ROSIE Complement to the ECoC Page 1 of 7

Instructions for commenters: Please feel free to provide comments directly on the document; however, to allow other commenters to read the original version, we request you to not change the text of the document. Instructive comments are encouraged to facilitate the implementation of suggestions. Note that all comments are gathered and this document refreshed every Friday at 12:00 CET.

ROSIE General Guidelines for Responsible Open Science

- This document aims to provide guidance on how to conduct Open Science (OS) responsibly.
- In addition to the principles of the European Code of Conduct for Research Integrity, several additional principles should be considered in the context of responsible OS, including sharing and solidarity (especially of data, knowledge, and infrastructures), collaboration (including citizen science practices and stakeholder engagement), and equity (especially regarding access to OS infrastructures and funding).
- While OS is an essential component of responsible research practice, it should be balanced with other values, and additional safeguards should be created to prevent the misuse and abuse of open research.
- The values of transparency, openness, accountability, and traceability, along with their associated norms (such as open access, open data, and open methods, open materials, among others), increase scientific credibility by allowing research to be more reproducible and reliable, which can increase the integrity and trust in science.
- National and Europe-wide policies conducive to responsible OS are instrumental in signaling to researchers the political commitments to support and promote OS.

Research Environment

- Adequate support structures, such as data stewards on the institutional level, could help researchers translate OS-supportive principles, such as the FAIR principles and the adage "as open as possible, as closed as necessary," into practice.
- Research Funding Organizations (RFOs) should be aware and sensitive to the fact that OS practices and regulations in different countries are diverse. The baseline for openness requirements must be clear and attainable to European countries.

Keziah Chanyisa Khayadi Dash
Consider defining responsibly

Guest User
Consider defining responsibility, as people interpret responsibility as per their field of research or experience. For example, environmental scientists and health scientists feel whatever research they are doing is responsible.

Keziah Chanyisa Khayadi Dash
Birgit will comment on this part next Monday. Moreso about citizen science.

Keziah Chanyisa Khayadi Dash
There must be clear communications among different actors, in research processes and how to deal with power imbalance. Everyone's role should be explicitly defined, such as Authors and acknowledging efforts made from the onset of a research to the end. The input and the output.

This should be included in citizen science and stakeholder engagement.

Keziah Chanyisa Khayadi Dash
Across all titles, there are some items necessary in others. Do we have a way to link such comments? One point leading to another. It is challenging, because it starts to read so legal. We need to find a way to deal with this.

Rosemarie de La Cruz Bernabe
Policy-makers, at the national or European levels, and RFOs should provide incentives to RPOs for the promotion and practice of OS and get away from traditional practices.

Open Access Publications

- Researchers have an ethical and social responsibility to make their research results open to peers, and to the public in a timely manner. For publicly funded research, in most countries it is a legal requirement.
- RFOs, RPOs, and public policies should promote open access models that incur no costs for the researchers, such as green or diamond.
- RFOs and RPOs should provide guidelines to support researchers in finding reputable publishers to avoid supporting predatory publishing practices.
- Publishers and researchers are encouraged to use Creative Commons (CC) licenses, meaning authors retain their rights under predefined conditions.
- Pre-prints are an important element of OS; however, pre-prints should be treated according to their status, not as peer-reviewed publications. Papers deposited on pre-print platforms have not been subjected to formal quality control, such as peer review, and thus should be read carefully, especially by non-experts.

Researcher Evaluation

Keziah Chanyisa Khayadi Dash
1. Different stakeholders to support open publications and open access platforms
RPOs can support that by having agreement with Open publications
RFOs is not so clear, to support the participation of researchers as reviewers. This shift should be supported to have a qualitative side on open publication
2. Ways to refresh this?

Guest User
This might be linked to point 2. should promote (support / encourage) researchers to act as reviewers and editors (increasing the quality of research in open access publishers and making these more reputable).

Rosemarie de La Cruz Bernabe
RPOs should provide incentives to researchers

4 Protecting the Environment, Ecosystems, and Cultural Heritage

- It must be recognized that respect for ecosystems and cultural heritage may limit openness in research. The principle of openness according to the nuances of different research fields and methods must be explored.

Open and Reproducible Research

a) Open research practices

- Researchers and RPOs should ensure open access to the entire research process, including open data, open methods, open tools and open materials, as much as possible.
- Contracts with commissioning parties and funding organizations should include equitable agreements about access to and dissemination of data and research materials.
- Research processes and findings should be documented in a detailed, accurate, and clear manner in accordance with the guidelines specific to the subject of study. All information and resources produced throughout the research processes, including those that have not yet been published, must be responsibly managed and conserved by the research institutions and the researchers.
- RPOs should ensure appropriate infrastructures to allow the proper conservation and management of all knowledge and materials generated in the research processes, including those unpublished, ensuring their protection and adequate access to them for a reasonable time.
- Researchers should ensure that sources are verifiable, and that research data and materials used and collected are described as precisely and clearly as possible, to allow the research to be examined and, when relevant, reproduced. The methods used and the respective steps of the entire research process must be clear.
- Researchers should always provide references when reusing research data and materials.
- Data management should facilitate search, accessibility, interoperability, and reuse of data for other research studies.

b) Open data

Research data should be open and accessible to promote integrity, advance public awareness, encourage data reuse, and guide practice and policy.

- Open data promotes transparency, accountability, and reproducibility, allowing for better public awareness and advancing research across different fields

Lilian Kwamboka Mocheche
Consider putting under the general idea of "as open as possible, as closed as necessary"

Rosemarie de La Cruz Bernabe
Sections under research environment/open data

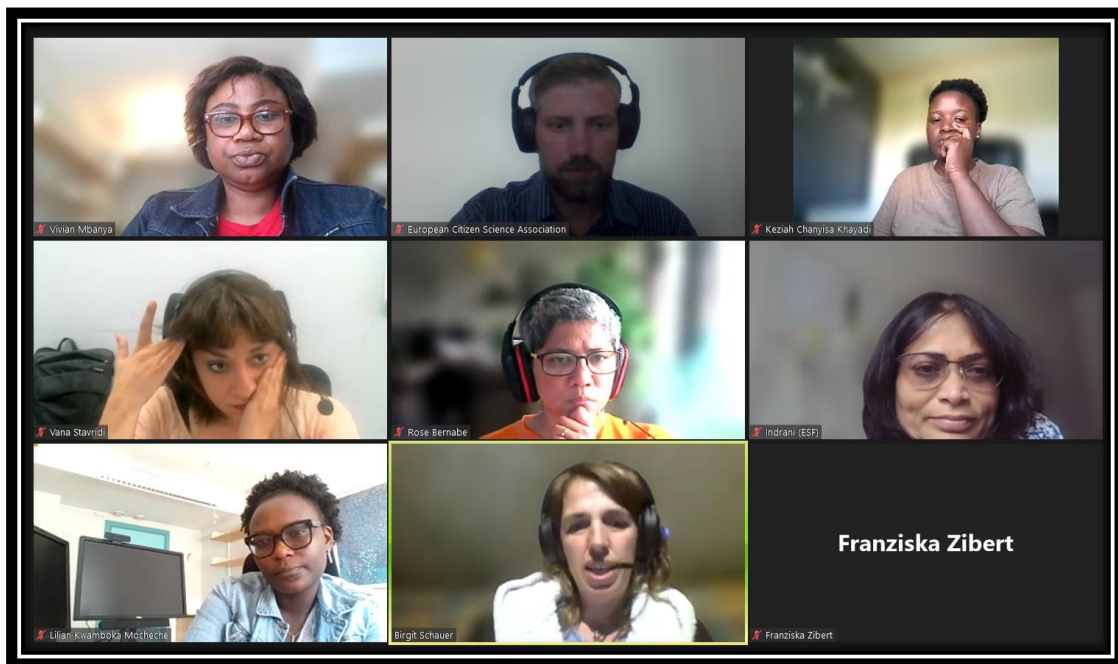
Gastbenutzer
possibly also include interim evaluation / reflection especially in activities of longer duration to allow reflecting on whether all the information gathered fulfills the purpose/expectation (e.g. using interim data, quality reports, engaging external stakeholders)

Keziah Chanyisa Khayadi Dash
It is important to have interim evaluation throughout the process, and share the reports to open the discussion and not at the end of the study for people to reflect and engage as stakeholders

Gastbenutzer
Great thanks Keziah!

Keziah Chanyisa Khayadi Dash
Welcome

Keziah Chanyisa Khayadi Dash
1. To make sure there is enough time and resources to curate data
2. How should we name this sub-section? Open data or fair data?
AGREED! We can keep "open data", the word fair can be found in other sections.
Fair and open data can be defined and understood differently



2.4 Last dissemination workshop – 23 January 2024


2.4.1 List of Participants

	Position	Organisation
1	Senior researcher	ENEA
2	Prof emeritus	University of Oslo
3	Researcher	UiO
4	Researcher	University of Vienna
5	Senior Policy Officer	EMBO
6	Postdoc	University of Aarhus
7	Science Communication Expert	Pensoft
8	Senior specialist	TSV
9	Senior Researcher	National Technical University of Athens
10	Researcher	UiO
11	Researcher	EUREC Office
12	Senior Specialist	TSV
13	Strategy specialist	Jisc
14	CEO	Access 2 Perspectives
15	Researcher	pibinko.org Network / Jug Band Colline Metallifere
16	Advisory Board Member	Eurodoc
17	Senior Researcher	Polish Rectors Foundation
18	Research Fellow	University of Tartu
19	Chair of practical philosophy	University of Tartu
20	Data Steward	Technische Universität Berlin
21	Researcher	National Technical University of Athens
22	Research assistant	University of Oslo
23	Research assistant	EUREC
24	Teaching assistant	University of Twente
25	Researcher	Kiel University
26	Project Officer	OeAWI
27	Adjunct Professor of Research Integrity	University College Dublin
28	Senior Scientist	BBMRI-ERIC
29	Assistant Professor	U.Porto
30	Managing Director	Citizen Science Zurich/ University of Zurich
31	Professor	University of Oslo
32	Senior Advisor	Environment Agency
33	President	Eurodoc
34	Deputy regional director	CU GHRCCA





35	Assoc. Prof.	University of Latvia
36	Communications and community officer	ECSA
37	Project officer	ECSA
38	Junior researcher	NTUA
39	Scientific Policy Officer	ALLEA


2.4.2 Agenda



ROSIE Final Outcomes Dissemination Workshop

 **Place:** https://us02web.zoom.us/meeting/register/tZUcce6tpjwoGtbi9ZA5lnqJeJG8TR_Erc5l

 **Date:** 23.01.2024

 **Time:** 12:00 – 14.00 CET

Agenda

- 12:00 Opening remarks**
 Introduction of ROSIE & Agenda (F. Jost, ECSA)
- 12:05 1st Presentation session on challenges of Open Science**
[Ethical and disciplinary challenges of OS](#) (K. Simm, Tartu Univ.)
 OS promises and challenges from a [stakeholder perspective](#) (L. Häberlein, EUREC)
 Presentation of [General Guidelines on Responsible Open Science](#) (M. Rochambeau, OeAWI)
- 12:30 Brainstorming session on General Guidelines on Responsible Open Science**
 Group Work on Responsible OS guiding principles
 Open Discussion
- 13:20 2nd Presentation session on Solutions to practice responsible OS**
[ROSIE Knowledge Hub](#): A user-friendly platform to practice responsible open science (P. Kavouras, NTUA)
[Training materials](#) for promoting responsible practice of Open Science (S. Mežinska, Univ. of Latvia)
- 13:40 How can we put these into practice? Discussion on the way forward**
- 13:55 Closing words**
 Take away notes and path ahead (R. de La Cruz Bernabe, Oslo Univ.)

2.4.3 Activities

For the last dissemination workshop, we decided to summarize and focus the dissemination of ROSiE's outcomes into two sessions, the first with three presentations and the second with two presentations. These presentations were kept very concise in order to maximise the collaboration and allow more time for the input from participants. After the first round a brainstorming session in form of a group work took place. Here participants were invited to join a Miro Board (see pictures of their input in 2.4.4.) in order to discuss in 3 groups about the general guidelines on responsible OS.

For each group (see below), 10 guidelines were preselected and depicted for participants to discuss around them. Besides selecting which of the guidelines they were confronted with or found more relevant (See 2.4.4.), participants also discussed and provided feedback on the challenges of each guideline they were confronted with and the ones they found most useful and why.

2.4.3.1 Challenges in guidelines (participants were confronted with):

- ❖ Guideline 1: As much as reasonably possible, researchers and RPOs should ensure open access to the entire research lifecycle, which includes, as the ECoC states, publications, data, metadata, protocols, code, software, images, artefacts, and other research materials and methods.
 - Collaborating colleagues disinclined to share raw data etc.
 - Current assessment criterias do not incentivise these practices.
 - Partner didn't want to make data transparent without giving concrete explanations (one could be a lack of participants in his data collection and therefore he/she questioned the reliability of his/her findings; also his/her methods could be questioned)--> self protection? A whole project "accepted" this and thus enabled this kind of "wrong infrastructure" in the sense of human infrastructure (just in order the project (developing a product) can continue in time...)
 - The challenge here is resources in institutions - and also the knowledge base researchers (and institutions have) regarding open access methodologies.
 - Challenges with the resource availability including human resources and the different levels of resources available in each country.



- Infrastructure should include data steward roles
- Researchers are busy and OS requirements seem like an extra burden
- The systems infrastructure is not yet in place to allow all types of research output to be recorded and recognised, including identifiers.
- the communities should have a say in how open the outcomes will be.
- ❖ Guideline 2: Researchers should ensure that sources are verifiable, and that open data practices are responsible, to allow the research to be examined and, when relevant, reproduced. The methods used and the respective steps of the entire research lifecycle should be clear.
 - deadlines sometimes don't allow for preregistration of study, especially in applied fields.
 - Usually detailed guidance is not provided. In most cases the guidelines are taken from the biomedical sector, so they are barely usable for other disciplines.
 - Researchers often do not understand how to verify data sources. Guidelines and/or training needed.
 - Need to raise awareness of identifiers and citation practices.
 - More awareness and training on the need of this still necessary.
 - Methods used and steps of the research process should be clear, also for the citizens participating.
- ❖ Guideline 3: Whenever possible and reasonable, research data should be open and accessible to promote integrity, accountability, advance public awareness, ensure public trust, encourage data reuse, advance collaborative research, and guide practice and policy. careers.
 - Research data should be open to be used not only by other researchers, but also by citizens. But researchers have a tendency to want to "own" the data they have collected instead of sharing it!
- ❖ Guideline 4: Equip researchers, librarians, research support officers, data stewards, and/or data protection officers with knowledge on FAIR and, if applicable, CARE principles from the onset of their careers.
 - Funding & other resources currently lacking.
 - If researchers have to inform themselves and no compulsory training is offered, there is a risk that gaps will exist and knowledge will be unevenly distributed.



- ❖ Guideline 5: Collect, analyse, and present research data with the prospect of making it open and reusable.
 - Does this make us more careful or more reluctant?
 - We want to recommend this to our researchers, we have not made it explicit though.

- ❖ Guideline 6: Respect privacy and confidentiality by de-identifying research data where necessary and complying with ethical guidelines and legal requirements.
 - With the rise of AI, it becomes tricky on how well data can be de-identified. Perhaps clear and robust methods are needed for this.
 - How to share data across different jurisdiction can be a problem.
 - So much nuance across disciplines in terms of data privacy - hard to have general guidelines
 - A lot of legal issues - careful what you do with the data
 - ROSiE case studies - found examples from different fields. Need to make researchers aware of issues and to ask the right questions.
 - Infrastructure issues around access to sensitive data - some data may be restricted by location.
 - Extensive anonymisation of data in order to become open, sometimes leaves room for 'cooking' of data. Also lose nuance. And you can't cross-check easily.
 - The balance between anonymization and identification is a challenge.
 - For some disciplines such as sociology, some personal information are central for the research findings and the anonymisation can therefore be quite hard to do or put some groups at risk (marginalised communities).

- ❖ Guideline 7: Whenever possible, researchers should contribute to and make use of open-source tools, open codes, open hardware, and open software in their research. This allows other researchers to replicate the research, build on the findings, and potentially identify errors or limitations in the methodology.
 - Assessments do not give enough credit for these open sources.
 - Researchers usually avoid publishing negative results.
 - In principle agree but it is context and domain dependent - it should never be an imposition as there will be push-back. The advantages of using open-source resources should be the determinant factor.



- Training may need to be provided to make this happen.
- Not always possible in some government bodies as preferred codes may not meet internal standards.
- ❖ Guideline 8: Researchers have an ethical and social responsibility to make their research results open to peers and to the public in a timely manner.
 - Journals' publishing processes and embargoes etc., can delay.
 - Sometimes there are constraints as far as time is concerned, particularly related to publication timing.
 - This might be a problem in design based research processes, where research is the way to develop a product/idea/service... and the findings may change throughout the project.
 - There is the challenge that many researchers are in temporary jobs and may never get round to it before moving to another position.
 - For citizens, it is very difficult to understand that the aspect of writing a paper and dissemination takes such a long time -> there is a different understanding of "timely".
 - For researchers, the publication in a scientific journal is what counts the most. But the public would need an entirely different channel.
- ❖ Guideline 9: Policymakers, RFOs, and RPOs should promote open access models that incur no costs for the researchers and readers.
 - While diamond-open access (OA) journals exist in my field and are even co-funded by my funding agency, the assessment practices by the same funding agency de-incentivize publishing in just these same journals...
 - Who should pay the costs? No volunteers.
 - OA in high-impact journals often very expensive, publishing elsewhere less prestigious and counts for less.
 - Open access is expensive for researchers who work with limited funds.
 - Good in theory but there are always costs related to data management which hosting organisations are not always funded appropriately.
- ❖ Guideline 10: RFOs and RPOs should provide guidelines to support researchers in finding reputable publishers to avoid supporting predatory practices.
 - Currently there is a foggy mix of JIF-based lists (e.g. assessment practices applied by my funding agency), intransparent collections of so-called predatory journals



(without any backing evidence, mostly just put up by individuals), but no really good means of verifying reputable publishers or verifying the quality control of any given journal.

- a lot of confusion there because the lines between reputable and non-reputable are not often clear.
- This is a collective effort and publishers mainly need to take care of their domain.
- This is something we are asked about often as an organization. The problem with those lists is that you can incur in legal issues with publishers who are not put on the lists.

2.4.3.2 Most useful guidelines:

- ❖ Guideline 1: As much as reasonably possible, researchers and RPOs should ensure open access to the entire research lifecycle, which includes, as the ECoC states, publications, data, metadata, protocols, code, software, images, artefacts, and other research materials and methods.
 - there are no guidelines that consider specific needs of the communities
 - in CS there will be situations where it is not a good idea to share the data sets - e.g. identifying the location of rare species
- ❖ Guideline 4: Equip researchers, librarians, research support officers, data stewards, and/or data protection officers with knowledge on FAIR and, if applicable, CARE principles from the onset of their careers.
 - was highlighted by several participants, with one fully agreeing with it and mentioning that the reason behind this is that support services need to be properly resourced.
- ❖ Guideline 7: Whenever possible, researchers should contribute to and make use of open-source tools, open codes, open hardware, and open software in their research. This allows other researchers to replicate the research, build on the findings, and potentially identify errors or limitations in the methodology.
 - Open source programs are very important because you can continue to use also if you change affiliation etc and lose the possibility to use the commercial version.
- ❖ Guideline 8: Researchers have an ethical and social responsibility to make their research results open to peers and to the public in a timely manner.

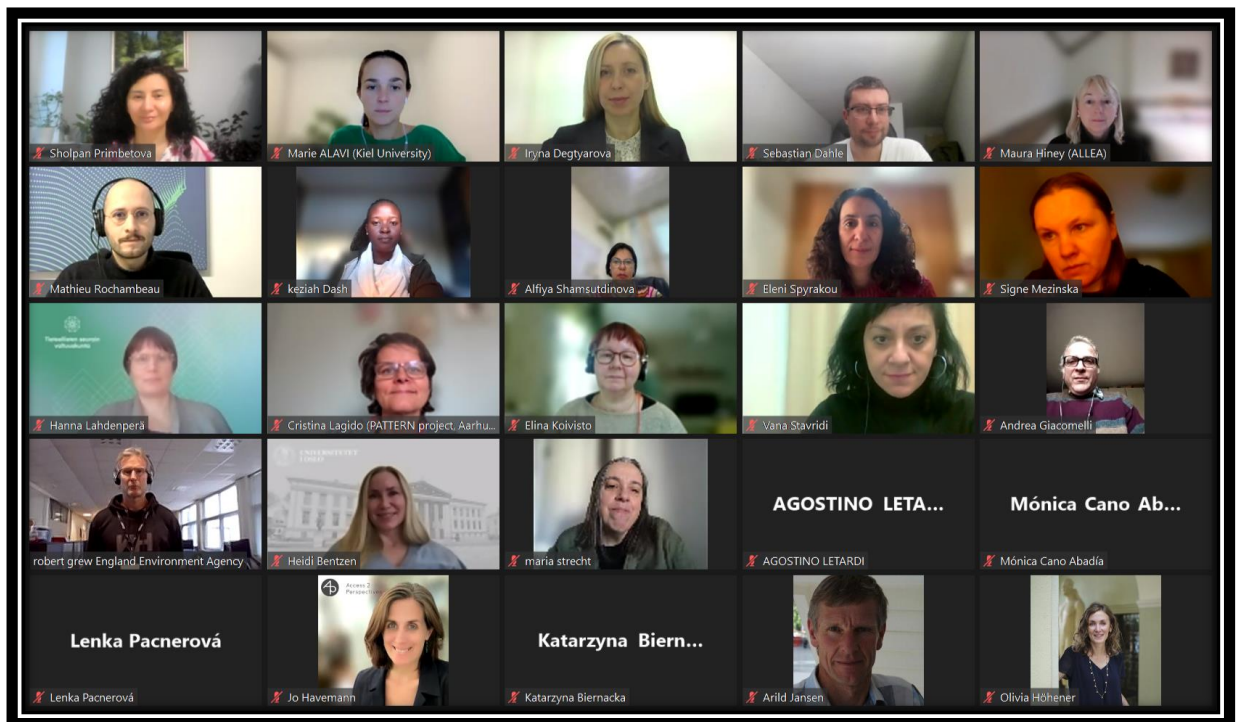


- It speaks of obligation, which most clearly addresses the researcher's responsibility and expectation to act accordingly. The guidelines is very specific which encourages people to act upon it.
- ❖ Guideline 9: Policymakers, RFOs, and RPOs should promote open access models that incur no costs for the researchers and readers.
 - To implement OS in a responsible manner, it is extremely important that the policymakers and institutions take the lead. The implementation of OS requires infrastructures and a new research culture that researchers cannot implement alone.
- ❖ Guideline 10: RFOs and RPOs should provide guidelines to support researchers in finding reputable publishers to avoid supporting predatory practices.
 - This (and support services in general) is very important, the responsibility should not be on individual researchers.
 - It would be great if RFPs or RPOs would offer more guidance, at the moment the researcher is on her own in selecting a journal. This disadvantages especially young researchers with less experience who might publish in predatory journals.
 - Especially important for ECRs. Senior researchers could also show a good example by encouraging to publish responsibly and not prefer high impact factor journals only.

Finally, for one of the groups it became clear that effort and time focused more on the challenges rather than the identifying and describing why participants found some of the presented guidelines most useful. A comment referring to all guidelines in general was that these guidelines are overall guidelines for good science. Mentioning that some guidelines are quite generic about OS and not necessarily the 'responsible' aspect of it and wondering whether the list could be shorter.

2.4.4 Pictures of the event and results from the groups work reflecting the guidelines they found relevant





ROSIE General Guidelines on Responsible Open Science

1. As much as reasonably possible, researchers and RPOs should ensure open access to the entire research lifecycle, which includes, as the ECOC states, publications, data, metadata, protocols, code, software, images, artefacts, and other research materials and methods.
2. Researchers should ensure that sources are verifiable, and that open data practices are responsible, to allow the research to be examined and, when relevant, reproduced. The methods used and the respective steps of the entire research lifecycle should be clear.
3. Whenever possible and reasonable, research data should be open and accessible to promote integrity, accountability, advance public awareness, ensure public trust, encourage data reuse, advance collaborative research, and guide practice and policy.
4. Equip researchers, librarians, research support officers, data stewards, and/or data protection officers with knowledge on FAIR and, if applicable, CARE principles from the onset of their careers;
5. Collect, analyse, and present research data with the prospect of making it open and reusable;
6. Respect privacy and confidentiality by de-identifying research data where necessary and complying with ethical guidelines and legal requirements;
7. Whenever possible, researchers should contribute to and make use of open-source tools, open codes, open hardware, and open software in their research. This allows other researchers to replicate the research, build on the findings, and potentially identify errors or limitations in the methodology.
8. Researchers have an ethical and social responsibility to make their research results open to peers and to the public in a timely manner.
9. Policymakers, RFOs, and RPOs should promote open access models that incur no costs for the researchers and readers.
10. RFOs and RPOs should provide guidelines to support researchers in finding reputable publishers to avoid supporting predatory practices.

Click on the guideline you were confronted with, or was/is relevant for your project/institution

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ROSiE General Guidelines on Responsible Open Science

Click on the guideline you were confronted with, or was/is relevant for your project/institution

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<p>7. Whenever possible, researchers should contribute to and make use of open-source tools, open codes, open hardware, and open software in their research. This allows other researchers to replicate the research, build on the findings, and potentially identify errors or limitations in the methodology.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>8. Researchers have an ethical and social responsibility to make their research results open to peers and to the public in a timely manner.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>9. Policymakers, RPOs, and RPOs should promote open access models that incur no costs for the researchers and readers.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>10. RPOs and RPOs should provide guidelines to support researchers in finding reputable publishers to avoid supporting predatory practices.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>



ROSiE General Guidelines on Responsible Open Science

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<p>1. As much as reasonably possible, researchers and RPOs should ensure open access to the entire research lifecycle, which includes, as the ECoC states, publications, data, metadata, protocols, code, software, images, artefacts, and other research materials and methods.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
<p>2. Researchers should ensure that sources are verifiable, and that open data practices are responsible, to allow the research to be examined and, when relevant, reproduced. The methods used and the respective steps of the entire research lifecycle should be clear.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
<p>3. Whenever possible and reasonable, research data should be open and accessible to promote integrity, accountability, advance public awareness, ensure public trust, encourage data reuse, advance collaborative research, and guide practice and policy.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
<p>4. Equip researchers, librarians, research support officers, data stewards, and/or data protection officers with knowledge on FAIR and, if applicable, CARE principles from the onset of their careers;</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>5. Collect, analyse, and present research data with the prospect of making it open and reusable;</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<p>6. Respect privacy and confidentiality by de-identifying research data where necessary and complying with ethical guidelines and legal requirements;</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<p>7. Whenever possible, researchers should contribute to and make use of open-source tools, open codes, open hardware, and open software in their research. This allows other researchers to replicate the research, build on the findings, and potentially identify errors or limitations in the methodology.</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
<p>8. Researchers have an ethical and social responsibility to make their research results open to peers and to the public in a timely manner.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
<p>9. Policymakers, RFOs, and RPOs should promote open access models that incur no costs for the researchers and readers.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>10. RFOs and RPOs should provide guidelines to support researchers in finding reputable publishers to avoid supporting predatory practices.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

2.5 Final feedback and lessons learned

2.5.1 Final feedback on the Guidelines for responsible OS:

The final discussion centered on identifying priority areas within the guidelines to ensure the responsible implementation of OS. Participants across various groups emphasized the imperative to enhance the visibility of open science beyond open access, recognizing the challenges of anonymizing data across diverse disciplines and navigating the complexities of

GDPR compliance. Another focus emerged on infrastructure, training, and education, with an emphasis on acknowledging and supporting emerging roles, such as data stewards, to assist researchers in adapting to the demands of open science. Country-specific variations in open science practices were underscored, stressing the importance of pre-adoption training, especially in scientific communication and combatting misinformation. The influence of researcher assessments on open science adoption was discussed, highlighting the need to align assessments with the goals of open science. Concerns were raised about confusion in data identification standards and journal selection, with a call for increased institutional support to guide researchers, particularly younger ones, in making well-informed choices. The challenges and opportunities of collaboration in lower-middle-income countries were also addressed, emphasizing the necessity for enhanced support and mechanisms to facilitate collaboration in these regions.

Beyond the above mentioned feedback provided during an open discussion, below are more specific inputs written by participants as an answer to the question "If more effort could be made to ensure that OS is employed responsibly, what area or subject do you think should be prioritised?".

- Inclusion of the Low- and Middle Income Countries
- Making data open, accessible, storing it in useful and trustworthy repositories - these are all technical skills that need to be learned. Accessible, comprehensive, practical "how to" materials for various disciplines on this would be great.
- Publishing is central to researcher's life. Measures to decrease the confusion around trustworthy journal publishing are necessary.
- Improving the connection between Open Science Infrastructure initiatives (eg EOSC) with responsible research / research integrity initiatives - especially in Horizon funded projects.
- Make visible that open science is not only about open access.
- The connections between open science and research integrity is being made only if we know what are the extra features of OS.
- Important to provide skills / career development for open science support roles (as well as resources).
- Given that OS primarily addresses the hard sciences, and is much about data, soft sciences should be addressed more in terms of what OS practices are relevant here.
- Cultural competence of researchers - context of diversity and inclusion/specific training when working with specific segments.

2.5.2 Discussion on Knowledge Hub and the Training Materials:



A participant from the PATTERN project in Aarhus University started the discussion inquiring about the licenses that allow for adaptation and sharing for the training materials.

Our ROSiE colleague in charge of these mentioned ongoing discussions within their group regarding licensing. She revealed the plan to implement a license allowing modification and reuse of materials. Moreover, she highlighted that the materials were developed using H5P, an HTML5 package which is easy for everyone to create, share and reuse interactive HTML5 content. Therefore the training materials could be easily reusable for various courses, such as Moodle courses or other compatible platforms.

Furthermore, a participant from the PATTERN project expressed interest in collaboration, suggesting incorporating ROSiE's training materials into the PATTERN project, specifically in the context of unethical concerns, and offering support.

Finally ensuring sustainable dissemination was also discussed by a participant from the ALLEA project, emphasizing the importance of capturing and updating training materials on platforms like the embassy of good science. The participant from ALLEA highlighted that any developed training materials should be made available in the previous mentioned platform for use and update by others.

Regarding the ROSiE Knowledge Hub, a question related to the sustainability of the Knowledge Hub was raised. There was an interest in understanding the longevity of this platform beyond the program's conclusion, along with the assurance of continued updates and maintenance.

3 Conclusions

This report provides an overview of the Cross-SwafS Stakeholder Forum workshops conducted as part of the ROSIE project, highlighting their significance in fostering collaboration among stakeholders from various EU-funded projects focusing on open science, responsible research and innovation (RRI), and citizen science. The workshops served as a platform to leverage the diverse expertise within the SwafS community, aiming, among others, to enhance the ROSIE project's framework development by incorporating publicly available results and feedback. With the primary objectives of obtaining feedback, disseminating ROSiE's outcomes, and encouraging stakeholders to integrate these outcomes into their practices, the workshops successfully fostered collaboration, shared knowledge, and strengthened research ethics and integrity in open science practices. Through various consultation events and workshops, including those focusing on training materials, the policy paper, and general guidelines for responsible open science, the ROSIE project



effectively engaged stakeholders and facilitated meaningful discussions, ultimately contributing to the advancement of responsible open science practices.

