



Disclaimer: *This deliverable has not yet been reviewed by the European Commission. Its content might therefore change as a result of the review process.*

D3.1: Report on a strategy to engage stakeholders

Author: Tom Lindemann

Editor: Dirk Lanzerath

Project title: Responsible Open Science in Europe

Project acronym: ROSiE

Grant Agreement no.: 101006430

Lead contractor for this deliverable: EUREC Office



Deliverable factsheet:

Project Number:	101006430
Project Acronym:	ROSIE
Project Title:	Responsible Open Science in Europe
Title of Deliverable:	Report on a strategy to engage stakeholders
Work Package:	WP 3
Due date according to contract:	M4 - 30 June 2021
Editor:	Dirk Lanzerath
Author:	Tom Lindemann
Reviewer:	Lisa Tambornino
Approved by	Søren Holm

ABSTRACT:	This report outlines the stakeholder engagement strategy of the ROSIE project. The report contextualises stakeholder engagement within the overall work of ROSIE, expounds the aims of stakeholder engagement, specifies the types of stakeholder engagement formats, and provides an overview of the stakeholders identified in the stakeholder mapping. The overview section also addresses the relevance of the expertise of the different stakeholders and their assumed willingness to contribute to the activities of ROSIE. Furthermore, the section sketches how the different stakeholders will be engaged. The final section of the report expounds how the stakeholder engagement strategy will be implemented during the project.
Keyword List:	Stakeholders, stakeholder engagement, participation, outreach

Consortium:

	ROLE	NAME	Short Name	Country
1.	Coordinator	UNIVERSITET I OSLO	UiO	Norway
2.	Partner	ÖSTERREICHISCHE AGENTUR FÜR WISSENSCHAFTLICHE INTEGRITÄT	OeAWI	Austria
3.	Partner	VEREIN DER EUROPÄISCHEN BÜRGERWISSENSCHAFTEN	ECSA	Germany
4.	Partner	EUREC OFFICE GUG	EUREC	Germany
5.	Partner	TIETEELLISTEN SEURAIN VALTUUSKUNNASTA	TSV	Finland
6.	Partner	HAUT CONSEIL DE L'EVALUATION DE LA RECHERCHE ET DEL'ENSIEGNEMENT SUPERIEUR	HCERES	France
7.	Partner	L'INSTITUT NATIONAL DE RECHERCHE POUR L'AGRICULTURE, L'AMINENTATION ET L'ENVIRONNEMENT	INRAE	France
8.	Partner	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	NTUA	Greece
9.	Partner	UNIVERSIDADE CATOLICA PORTUGUESA	UCP	Portugal
10.	Partner	LATVIJAS UNIVERSITATE	UL	Latvia
11.	Partner	TARTU ULIKOOL	UT	Estonia
12.	Partner	UNIVERSITETET I SOROST-NORGE	USN	Norway

Revision history:

VERSION	DATE	Revised by	Reason
0.1	25 June 2021	Tom Lindemann	First complete draft
0.2	28 June 2021	Lisa Tambornino	Comments on first complete draft
0.3	28 June 2021	Tom Lindemann	Pre-final draft
0.4	29 June 2021	Rosemarie Bernabe, Dirk Lanzerath, Søren Holm	Review for approval
1.0	30 June 2021	Tom Lindemann	Final version

Table of contents

List of figures	4
List of tables	4
List of abbreviations	5
1 Introduction	7
2 Aims of stakeholder engagement in ROSiE	7
3 Types of stakeholder engagement in ROSiE	9
4 Overview of stakeholders	10
4.1 Researchers	11
4.2 Research performing organisations	15
4.3 Research ethics committees and research integrity offices	17
4.4 Research funding organisations and scientific journals	19
4.5 Research managers	20
4.6 Research policymakers and advisory bodies	21
4.7 Science educators and science journalists	22
4.8 Industry associations	23
4.9 Citizen science associations and civil society organisations	24
4.10 General public	25
5 Implementing the stakeholder engagement strategy	26
6 References	27

List of figures

Figure 1: The relationship between research ethics committees, research integrity offices and society	17
---	----

List of tables

Table 1: Stakeholder assessment researchers.....	14
Table 2: Stakeholder engagement formats researchers	15



Table 3: Stakeholder assessment research performing organisations	16
Table 4: Stakeholder engagement formats research performing organisations.....	16
Table 5: Stakeholder assessment research ethics committees and research integrity offices	18
Table 6: Stakeholder engagement formats research ethics committees and research integrity offices	18
Table 7: Stakeholder assessment research funding organisations and scientific journals	19
Table 8: Stakeholder engagement formats research funding organisations and scientific journals	20
Table 9: Stakeholder assessment research managers	20
Table 10: Stakeholder engagement formats research managers	21
Table 11: Stakeholder assessment research policymakers and legal experts	21
Table 12: Stakeholder engagement formats research policymakers and legal experts.....	22
Table 13: Stakeholder assessment science educators and science journalists	23
Table 14: Stakeholder engagement formats science educators and science journalists	23
Table 15: Stakeholder assessment industry associations.....	24
Table 16: Stakeholder engagement formats industry associations.....	24
Table 17: Stakeholder assessment citizen science associations and civil society organisations ...	25
Table 18: Stakeholder engagement formats citizen science associations and civil society organisations.....	25
Table 19: Stakeholder assessment general public.....	26
Table 20: Stakeholder engagement formats general public	26

List of abbreviations

ALLEA	All European Academies
COPE	Committee on Publication Ethics
EARMA	European Association of Research Managers and Administrators
EC	European Commission
ECoC	European Code of Conduct for Research Integrity
ECSA	European Citizen Science Association
ENERI	European Network of Research Ethics and Research Integrity
ENRIO	European Network of Research Integrity Offices
ERI	Ethics and research integrity
ERION	Ethics and Research Integrity Officer Network



EU	European Union
EUA	European University Association
EUREC	European Network of Research Ethics Committees
LERU	League of European Research Universities
OECD	Organisation for Economic Co-operation and Development
OS	Open science
REC	Research ethics committee
RFO	Research funding organisation
RIO	Research integrity office
RPO	Research performing organisation
RRI	Responsible research and innovation
STOA	Panel for the Future of Science and Technology
WP	Work package
YERUN	Young European Research University Network



1 Introduction

Stakeholder engagement is one of the four pathways towards impact of the ROSiE project. Engaging stakeholders gives all those significantly affected by or affecting open science (OS) a say in creating the ROSiE framework for responsible OS in the European Union (EU) and thus ensures that the project is responsive to the needs and demands of crucially important actors and institutions. Stakeholder engagement in ROSiE is based on and contributes to the framework of responsible research and innovation (RRI) that underpins the move from “science for society” to “science with and for society”, which seeks to make research and research governance more inclusive and responsive (see Owen, Macnaghten & Stilgoe, 2012 and Stilgoe, Owen & Macnaghten, 2013 for a detailed elaboration of the RRI framework).

This report outlines the stakeholder engagement strategy of ROSiE. It explains the specific aims of stakeholder engagement, describes the engagement activities that will be implemented during the project, identifies the main stakeholders, and outlines how they will be engaged. The present report focuses on the stakeholder engagement activities of work package (WP) 3 *EXPLORE and ENGAGE: Stakeholder Engagement Practices*. The aims of the WP are to collaborate with all relevant stakeholders to identify, analyse, and address gaps of current OS practices in different research disciplines. Therefore, issues related to horizontal coordination with other research projects and issues related to dissemination and communication more broadly are only covered to the extent they are intertwined with WP3. Horizontal coordination is organised by WP4, while dissemination and communication are core tasks of WP8. Their activities will be expounded in greater detail in other project reports and on the ROSiE website.

The report is structured as follows: Section 2 explains why the ROSiE project engages stakeholders and describes the aims of stakeholder engagement in more detail. Section 3 outlines the types of stakeholder engagement implemented by WP3. Section 4 addresses three aspects: Firstly, the positions of the main stakeholders in the wider OS landscape are summarised. Secondly, the relevance of their expertise for the tasks of WP3 as well as their willingness to engage with ROSiE are assessed. Thirdly, an overview of the stakeholder engagement formats to which they will contribute is given. The final section provides important information on how the stakeholder engagement shall be implemented, focusing on the interaction of WP3 with other WPs.

2 Aims of stakeholder engagement in ROSiE

ROSiE utilises four pathways to develop and promote a framework for responsible OS in the EU:

EXPLORE: The *EXPLORE* dimension of the project will provide a systematic inventory of the ethics and research integrity (ERI) dimensions of OS and outline social and legal implications the ROSiE

framework will have to address. Furthermore, it will also provide a systematic inventory of existing technologies and platforms that promote and safeguard responsible OS.

ENGAGE: Supporting all other pathways, the *ENGAGE* dimension of the project will conduct consultations and stakeholder engagement activities to identify stakeholder needs and facilitate the development of tailored solutions. In addition, it will create an EU-wide community of stakeholders interested in responsible OS and pave the way towards the long-term sustainability of the ROSiE framework.

GUIDE: The *GUIDE* dimension of the project of the project will carry out a strategic policy assessment for promoting responsible OS, propose a policy document to complement the European Code of Conduct for Research Integrity (ECOC),¹ and develop operational guidelines on responsible OS for different scientific disciplines.

EQUIP: The *EQUIP* dimension of the project will improve the infrastructure for responsible OS by creating a sustainable knowledge hub and, moreover, upskill researchers of all career levels by developing training materials for responsible OS.

As part of this general framework, the overall aim of stakeholder engagement in ROSiE is to identify, analyse and address gaps of current OS practices in different research disciplines, and to support the development, use and uptake of the ROSiE framework. To that end, stakeholder engagement seeks to support the development of guidelines, policies, infrastructures, and educational materials by helping to tailor them to the needs and demands of their target groups.

More specifically, stakeholders will be engaged to explore issues and gaps of current OS practices, to obtain feedback during the development of the ROSiE framework, and to facilitate the uptake of project results. In this way, stakeholder engagement will help ROSiE accessing relevant knowledge and expertise, galvanise external support for the project, and facilitate endorsement of crucial project outcomes by key actors and institutions. In the first phase of the project, stakeholder engagement will explore prevalent views and attitudes towards OS and assess existing practices. Subsequently, this enhanced understanding of the current situation, combined with regular feedback on pilot versions of the ROSiE framework, will facilitate the development of guidelines, policies, infrastructures, and educational materials that reflect both highest ethical and legal standards and stakeholder needs. Thus, stakeholder engagement contributes directly to the *EXPLORE* and *ENGAGE* pathways of ROSiE, yet it also affects the *GUIDE* and *EQUIP* pathways through regular feedback loops.

To obtain a comprehensive overview and to maximise potential uptake of the ROSiE framework, assessing differences between scientific disciplines will be a focus of all stakeholder engagement activities. Consequently, a major aim of stakeholder engagement is to ensure that a diversity of

¹ <https://allea.org/code-of-conduct/> (last accessed 25 June 2021)

perspectives is represented in the exploration phase of the project. The results of this broad multi-perspective analysis shall subsequently inform the development of the ROSiE framework, which aims to address all fields of research and the entire scientific community.

3 Types of stakeholder engagement in ROSiE

Stakeholder engagement in research can be defined as “the active involvement and participation of others in some aspect of a research project” (Durham et al., 2014, 11). In general, four different levels of stakeholder engagement can be distinguished:

- *Collaboration*: Stakeholders are partners of the research team and help driving the research direction or contribute resources and perspective.
- *Involvement*: Stakeholders provide resources or data to the research and are engaged in a significant manner.
- *Consultation*: Stakeholders are asked for opinions and information.
- *Information*: Information is shared with stakeholders. (ibid., 11-12)

In the context of ROSiE, information measures are essentially synonymous with dissemination and communication, and therefore not addressed in any detail in this strategy. Hence, all stakeholder engagement activities discussed in this strategy fall either in the category consultation, involvement, or collaboration.

The stakeholder engagement activities will contribute to the development of all components of the ROSiE framework: guidelines for researchers from different scientific disciplines, policy documents, the knowledge hub, training materials, and community building. The following stakeholder engagement formats will be implemented by WP3:

- A focus group with 10 stakeholders of high importance for the project will discuss OS scenarios developed by WP1 to understand the views and attitudes of stakeholders towards OS. The focus group will help set the direction for the gap analysis that will inform the development of the OS guidelines for different scientific disciplines. Because the focus group asks participants to share their perspectives and shall help drive the direction of ROSiE, this format is based on a collaboration approach to stakeholder engagement.
- Interviews with stakeholders of high importance and overall high willingness to engage with ROSiE will be conducted to get a better understanding of the spectrum of challenges related to current OS practices. Like the focus group, the interviews will also ask stakeholders to share perspectives and contribute to setting the direction for the gap analysis that will inform the development of the OS guidelines for different scientific disciplines. Consequently, it is also based a collaboration approach to stakeholder engagement.

- Stakeholders will participate in workshops related to the development of guidelines and policy-related documents in WP5, the mapping of existing national and European OS infrastructures in WP6, the identification of training needs of students, researchers, and citizen scientists in WP7, and the dissemination and communication of project activities and results in WP8. These workshops will actively engage stakeholders to develop a demand-tailored framework for responsible OS and thus follow an involvement approach to stakeholder engagement.
- A permanent stakeholder forum will be established for the duration of the project. Forum members will be regularly informed about proceedings and interim results of ROSiE and asked to share their opinions and views on them. Whenever consultations with the stakeholder forum are focused on only a sub-set of the overall ROSiE framework, only those members who are stakeholders in the relevant domain will be consulted to ensure focused feedback. Because the stakeholder forum aims to obtain opinions and information, it is based on a consultation approach to stakeholder engagement.

The findings from the engagement process will continuously be analysed according to a reflective equilibrium approach, and the results of the analysis will be fed into the relevant WPs on an ongoing basis. Furthermore, a gap analysis will be conducted to identify gaps related to insufficient awareness about OS or insufficient regulation. Insights from the analysis shall help design the guidance and training tools developed in WPs 5, 6 and 7 in a way that avoids jeopardising the innovative potential of different types of research and helps balancing respect for transparency with rights to intellectual property and appropriate degrees of confidentiality. The analysis will be guided by the ECoC as a major – albeit not the only – reference document.

4 Overview of stakeholders

A stakeholder can be defined as “a person or group who influences or is influenced by the research” (Carney et al., 2009, 4). Thus, stakeholders are not only persons and groups who will be the users of (elements of) the ROSiE framework, but also actors and institutions affected by it. This distinction is captured by the differentiation between direct and indirect stakeholders.

ROSiE will engage 10 types of direct and indirect stakeholders that were identified in deliverable D8.1 (Kavouras, 2021). Of note is that the list of stakeholders has been slightly modified from the one provided in D8.1 because the focus of stakeholder engagement in WP3 differs from the focus of dissemination and communication in WP8. The defining criterion for grouping stakeholders into categories for dissemination is whether they can be reached by a common set of communication tools for a given dissemination aim, whereas the defining criterion for stakeholder engagement is related to the way actors can affect and are affected by project outcomes. Due to these considerations, the category “individual researchers, research ethics committees (RECs) and research integrity offices (RIOs), research managers” was dissolved into

three separate categories, and the category research performing organisations (RPOs) was added. Furthermore, the category “scientific journals” was added and merged with the category research funding organisations (RFOs). Also, the categories science educators and science journalists were combined to a single category. This results in the following list of stakeholders:

- Researchers
- RPOs
- RECs and RIOs
- RFOs and scientific journals
- Research managers
- Research policymakers and advisory bodies
- Science educators and science journalists
- Industry associations
- Citizen science associations and civil society organisations
- General public

In the following, the position of these 10 types of stakeholders in the OS landscape will be briefly described. In addition, stakeholder types will be further differentiated whenever there are reasons to assume that attitudes towards OS and OS practices vary considerably within a group. For each stakeholder group, the relevance of its expertise for ROSiE and its likely willingness to engage will be assessed. Assessments of relevance of expertise are focused on tasks of WP3, and thus may differ from assessments of WPs that implement other parts of the *ENGAGE* pathway, especially WP4 and WP8. The assessments are based on desk research, and it should be emphasised that they might change during the project. Furthermore, it will be indicated in which of the stakeholder engagement formats each stakeholder group will be included.

An important cross-cutting issue that will guide all stakeholder engagement regardless of stakeholder type and engagement format is the gender dimension. For all stakeholder engagement formats, ROSiE will strive to ensure that the number of female participants is at least 40 per cent.

4.1 Researchers

Researchers, both in their individual capacity and as members of research teams, are very important stakeholders of the ROSiE project because they will be main end-users of the guidelines for different scientific disciplines, the training programme, and the knowledge hub. For that reason, assessing their perspectives and meeting their needs is crucial for the credibility, relevance, and legitimacy of project outcomes and ensuring their widespread uptake.

However, researchers are not a homogenous group, and because of that further differentiation is necessary to get a full view of their attitudes towards open science and existing OS practices. Two lines of differentiation are particularly important: 1) differences between scientific disciplines



and 2) differences between research infrastructures across countries. The former affect OS because types of data used, predominant modes of publication and dissemination, and common ways of involving the public vary profoundly between scientific disciplines. For example, the natural and biomedical sciences overwhelmingly analyse quantitative data, whereas the humanities usually analyse qualitative data. As regards modes of publication, monographs are a common type of publication in the arts and humanities as well as in some of the social sciences, whereas in the natural and biomedical sciences as well as in engineering almost all research is published in journal articles.

Due to these differences, views and attitudes towards OS and existing OS practices are likely to vary significantly between fields of research. A useful differentiation between scientific disciplines is offered by the Frascati Manual of the Organisation for Economic Co-operation and Development (OECD) (OECD, 2015). It differentiates between six fields of research and development (so-called broad classification), each of which contains several subfields (so-called second-level classification):

1. Natural sciences

- i. Mathematics
- ii. Computer and information sciences
- iii. Physical sciences
- iv. Chemical sciences
- v. Earth and related environmental sciences
- vi. Biological sciences
- vii. Other natural sciences

2. Engineering and technology

- i. Civil engineering
- ii. Electrical engineering, electronic engineering, information engineering
- iii. Mechanical engineering
- iv. Chemical engineering
- v. Materials engineering
- vi. Medical engineering
- vii. Environmental engineering
- viii. Environmental biotechnology
- ix. Industrial biotechnology
- x. Nanotechnology
- xi. Other engineering and technologies

3. Medical and health sciences

- i. Basic medicine
- ii. Clinical medicine
- iii. Health sciences
- iv. Medical biotechnology
- v. Other medical science



4. **Agricultural and veterinary sciences**
 - i. Agriculture, forestry, and fisheries
 - ii. Animal and dairy science
 - iii. Veterinary science
 - iv. Agricultural biotechnology
 - v. Other agricultural sciences
5. **Social sciences**
 - i. Psychology and cognitive sciences
 - ii. Economics and business
 - iii. Education
 - iv. Sociology
 - v. Law
 - vi. Political science
 - vii. Social and economic geography
 - viii. Media and communications
 - ix. Other social sciences
6. **Humanities and the arts**
 - i. History and archaeology
 - ii. Languages and literature
 - iii. Philosophy, ethics, and religion
 - iv. Arts (arts, history of arts, performing arts, music)
 - v. Other humanities

To get a broad perspective on views and attitudes towards OS and existing OS practices in the *EXPLORE* dimension of the project, and to develop a framework that addresses the needs of as many researchers as possible in the *GUIDE* and *EQUIP* dimensions, stakeholder engagement activities will involve researchers representing all six fields of research and development. In case fewer than six researchers can be included in a stakeholder engagement activity, at least one researcher shall come from a field of research and development that is not contiguous to the fields from which the other participants come (e.g., if only three researchers can be included in an engagement format and two of them have a background in the natural sciences and engineering and technology, the third should not come from the medical and health sciences, but from a field farther away), unless the engagement activity primarily is targeted at only a subgroup of researchers. Whenever the format of stakeholder engagement allows for the inclusion of several researchers from each of the six groups, efforts will be made to maximise in-group variation. In that regard, task leaders of the tasks a concrete stakeholder engagement activity supports will be consulted to inquire whether including certain disciplines is particularly important, and it will be jointly assessed if limiting the diversity of scientific disciplines represented would be practically advisable and normatively justifiable.

Involving researchers from a broad range of countries in the stakeholder engagement is important because most research infrastructures are funded, managed, and operated at the



national or federal level, often embedded in national research strategies (OECD and Science Europe, 2020, 11). The OECD and Science Europe identified four different research infrastructure portfolio management models, namely 1) ministry alone, 2) ministry and agencies, 3) agencies alone, and 4) ministries, agencies and regional authority (the studied EU member states fell in categories 2 and 3) (ibid., 14). Also, national research funding patterns are not uniform across Europe (Reale, 2017).

Accordingly, the extent to which responsible OS practices are structurally supported and incentivised are likely to differ between countries. Because of that, stakeholder engagement activities will involve researchers from different countries. In a similar way to including researchers from a diverse set of disciplinary backgrounds, efforts will be made to include researchers from all regions of Europe and a wide range of research infrastructures. Task leaders of supported tasks will be consulted to inquire whether inclusion of certain research infrastructures is particularly important.

As researchers will be the main end-users of many components of the ROSiE framework, involving them throughout all phases of the project is very important. Their willingness to participate in stakeholder engagement and to contribute to the ROSiE project is likely to vary, depending on their disciplinary backgrounds and the research infrastructure they are embedded in. Especially researchers from disciplines where OS practices already are relatively common, like several of the natural sciences, are more likely to be willing to contribute because the benefit of a common framework for responsible OS will presumably be more obvious to them than to researchers from disciplines where OS is currently less common. For that reason, outlining the benefits of OS will be crucial for successfully engaging researchers from disciplines that hitherto have been on the margins of OS, like significant parts of the arts and humanities and some of the social sciences. It will be important to stress that the ROSiE framework will be tailored to the needs of different fields of research.

The same will likely hold true for differences between research infrastructures, which might covary to an extent with disciplinary differences (i.e., it seems likely that research infrastructures not only vary between countries but also between scientific disciplines). Researchers embedded in research infrastructures that do not reward OS might be less inclined to engage with ROSiE than researchers embedded in research infrastructures that already incentivise OS.

Researchers	
Relevance of expertise	High
Willingness to engage	Medium - high

Table 1: Stakeholder assessment researchers

Due to the high relevance of their expertise, researchers will be involved in all stakeholder engagement activities of the ROSiE project. Access points to invite researchers to stakeholder engagement activities will be provided by researcher associations, networks of RPOs, and



networks of ROSiE consortium partners. Moreover, dissemination and communication measures of ROSiE will invite interested researchers to express their interest in participating in stakeholder events via a suitable web interface.

Engagement format	Involvement
Focus group	Yes
Interviews	Yes
Workshops	Yes
Stakeholder forum	Yes

Table 2: Stakeholder engagement formats researchers

4.2 Research performing organisations

RPOs will not only facilitate involving researchers in stakeholder engagement and be a crucial target group of many dissemination and communication measures, but also are important stakeholders themselves. RPOs are crucial transmission belts for the implementation of research and innovation policy because they provide the local research infrastructures and thus influence whether, for example, training programmes are offered, platforms are supported, or policies are endorsed and reflected in organisational culture (see Mejlgaard et al., 2020). Moreover, they play an important role in the assessment of researchers, an issue area recognised as highly relevant for promoting research integrity in the Hong Kong Principles for assessing researchers that were developed as part of the sixth World Conference on Research Integrity (Moher et al., 2020). Thus, RPOs shall be included in stakeholder engagement activities, particularly those related to the exploring and developing policies and practices conducive to responsible OS.

There are various kinds of RPOs. A useful way to differentiate them is by the focus of their research (basic research vs. applied research) and the primary source of their funding (public funding vs. private funding). Most universities (at least in the EU), for example, are publicly funded and often pursue both basic and applied research. Several research institutes (e.g., Max-Planck-Institutes and Helmholtz-Institutes in Germany) are mainly publicly funded and conduct a lot of basic research. By contrast, industrial research is usually primarily privately funded and tends to focus on applied research. Applied research often has an intellectual property dimension and might at some point even blur into product development. Consequently, RPOs are likely to view OS differently, not least depending on the focus of their research and their primary source of funding. Because of that, stakeholder engagement activities of ROSiE will strive to ensure that different RPO perspectives are represented.



As OS has become an increasingly important topic in research policy, the willingness of RPOs to engage with ROSiE is likely to be high among RPOs seeking to advance OS, whereas it might be lower among RPOs that regard OS as incompatible with their organisational interests.

Research performing organisations	
Relevance of expertise	Medium – high
Willingness to engage	Likely to vary among RPOs, depending on their organisational interests

Table 3: Stakeholder assessment research performing organisations

RPOs will be represented in the stakeholder forum and will be engaged in workshops that focus on the policy dimension of ROSiE. Whether a workshop has a significant policy dimension will be assessed jointly by WP3 and the other WPs involved in its organisation. Access points to RPOs will be sought via networks such as the European University Association (EUA),² the League of European Research Universities (LERU),³ the Young European Research University Network (YERUN),⁴ All European Academies (ALLEA),⁵ Science Europe,⁶ and associations of research-intensive industries.

Engagement format	Involvement
Focus group	No
Interviews	No
Workshops	Yes
Stakeholder forum	Yes

Table 4: Stakeholder engagement formats research performing organisations

² <https://eua.eu> (last accessed 25 June 2021)

³ <https://www.leru.org> (last accessed 25 June 2021)

⁴ <https://www.yerun.eu> (last accessed 25 June 2021)

⁵ <https://allea.org> (last accessed 25 June 2021)

⁶ <https://www.scienceeurope.org> (last accessed 25 June 2021)



4.3 Research ethics committees and research integrity offices

RECs and RIOs are crucial intermediaries between the scientific community and society that help promoting and safeguarding responsible research and good scientific practice. Although RECs and RIOs have different mandates, a considerable amount of their activities overlap because *ethics ad scientia* (research ethics) and *ethics in scientia* (research integrity) often cannot be strictly delineated in practice. The European Network of Research Ethics and Research Integrity (ENERI⁷) conceptualises the relationship of RECs and RIOs as shown in Figure 1.

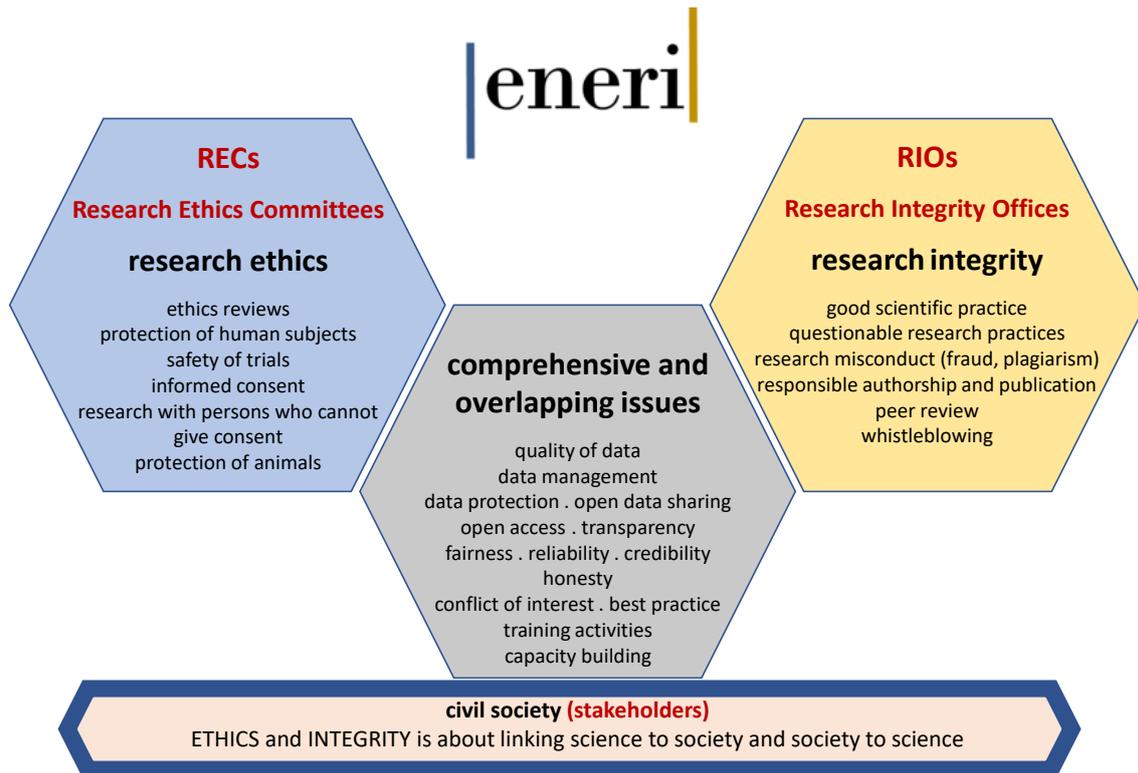


Figure 1: The relationship between research ethics committees, research integrity offices and society

As the figure illustrates, most of the ERI issues related to OS fall in the category “comprehensive and overlapping issues”, for example, data management, data protection, open data sharing, open access, and transparency. Thus, RECs and RIOs belong to the same stakeholder group within the ROSiE project.

Because support from RECs and RIOs is crucial to ensure widespread uptake of the ROSiE framework, they will be included in many stakeholder engagement activities. RECs and RIOs have ample experience and vast expertise in the development and application of guidelines, and thus

⁷ <https://eneri.eu> (last accessed 25 June 2021)



are excellently positioned to support the ROSiE project in developing a framework that is ethically and legally sound, and that builds on and strengthens existing infrastructures.

Access to RECs and RIOs will be provided via consortium partner EUREC⁸ that together with the European Network of Research Integrity Offices (ENRIO⁹) and ALLEA forms the core of ENERI. ENRIO has expressed its formal support of ROSiE. Moreover, ROSiE partner OeAWI¹⁰ is a member of ENRIO and ROSiE partner NTUA is closely tied to it via the Greek network member EARTHnet.¹¹ Using these European infrastructures as access points will ensure that perspectives from different RECs and RIOs will be represented. To ensure that also ethics review bodies other than RECs will be included in stakeholder engagement activities, ethics review experts from the European Commission (EC) will be invited to some engagement activities.

Since promoting responsible research and safeguarding legal and ethical standards are core activities of both RECs and RIOs and since the ROSiE consortium has strong ties to relevant networks, the willingness of RECs and RIOs to support the project is expected to be high.

Research ethics committees and research integrity offices	
Relevance of expertise	High
Willingness to engage	High

Table 5: Stakeholder assessment research ethics committees and research integrity offices

Members of RECs and RIOs will be invited to participate all stakeholder engagement activities of ROSiE because their comprehensive expertise will be valuable throughout all phases and for all components of the project.

Engagement format	Involvement
Focus group	Yes
Interviews	Yes
Workshops	Yes
Stakeholder forum	Yes

Table 6: Stakeholder engagement formats research ethics committees and research integrity offices

⁸ <http://www.eurecnet.org/index.html> (last accessed 25 June 2021)

⁹ <http://www.enrio.eu> (last accessed 25 June 2021)

¹⁰ <https://oeawi.at/en/> (last accessed 25 June 2021)

¹¹ <http://earthnet.ntua.gr/?lang=en> (last accessed 25 June 2021)



4.4 Research funding organisations and scientific journals

Although the roles of RFOs and scientific journals in the research endeavour differ in many regards, they are grouped in the same stakeholder category because both significantly influence incentives and opportunities for responsible OS. RFOs, for example, can decide whether to include open access fees in research grants and specify which open access model, if any, grantees are obliged to follow. In a similar vein, scientific journals can facilitate responsible OS by providing supportive infrastructures. On the negative side, the rise of so-called predatory journals is a detrimental side-effect related to the OS movement that needs to be addressed lest OS risks losing some of its legitimacy and academic publishing part of its credibility as a quality safeguard of science.

Therefore, RFOs and scientific journals are important actors in the OS landscape and pivotal stakeholders of ROSiE. Since OS has numerous direct repercussions on how they operate (especially in the case of scientific journals) and since the ROSiE framework can help them implement and promote responsible OS (e.g., by demanding adherence to the guidelines from grantees and mandating or recommending participation in responsible OS training), their willingness to participate in engagement formats is expected to be rather high and their expertise is regarded as very valuable

Research funding organisations and scientific journals	
Relevance of expertise	High
Willingness to engage	High

Table 7: Stakeholder assessment research funding organisations and scientific journals

Access to RFOs and scientific journals will be facilitated by contacts and networks of the ROSiE consortium as the partners are strongly connected in the OS and ERI communities. Among others, the Committee on Publication Ethics (COPE¹²) and projects (partly) focused on the role of RFOs in RRI (e.g., PRO-Ethics¹³ and ETHNA-System¹⁴) will serve as contact points.

Due to their important role in enabling, promoting, and incentivising responsible OS and the importance of their support of the ROSiE framework to ensure its widespread uptake and embedding on the research governance level, representatives of RFOs and scientific journals will be invited to participate in all stakeholder engagement formats.

¹² <https://publicationethics.org> (last accessed 25 June 2021)

¹³ <https://pro-ethics.eu> (last accessed 25 June 2021)

¹⁴ <https://ethnasytem.eu> (last accessed 25 June 2021)



Engagement format	Involvement
Focus group	Yes
Interviews	Yes
Workshops	Yes
Stakeholder forum	Yes

Table 8: Stakeholder engagement formats research funding organisations and scientific journals

4.5 Research managers

Research managers often serve as intermediaries between the upper echelons of organisational governance in RPOs and researchers. They are, for example, involved in grant applications and grant management, support researchers in meeting ethical and legal requirements, and assist RECs and RIOs in their daily work. Because of that, research managers often are acutely aware of the challenges both RPO leaders and researchers face.

Especially ERI managers are among the most important stakeholders of ROSiE because they are well-positioned to provide insights about the challenges of current OS practices and can help assessing whether proposed guidance materials are practically useful. Their willingness to participate in stakeholder engagement is expected to be high because the ROSiE framework can support them in developing or adjusting management procedures to seize the opportunities OS offers while also addressing challenges in an adequate manner.

Research managers	
Relevance of expertise	High
Willingness to engage	High

Table 9: Stakeholder assessment research managers

Access to research managers, especially ERI managers, will be sought via the Ethics and Research Integrity Officer Network (ERION¹⁵) of the European Association of Research Managers and Administrators (EARMA). As research managers can add a vitally important perspective on many of the issues ROSiE addresses, they will be invited to participate in all stakeholder engagement formats.

¹⁵ <https://www.earma.org/about/governance/thematic-groups/ethics-and-research-integrity-officer-network-erion/> (last accessed 25 June 2021)



Engagement format	Involvement
Focus group	Yes
Interviews	Yes
Workshops	Yes
Stakeholder forum	Yes

Table 10: Stakeholder engagement formats research managers

4.6 Research policymakers and advisory bodies

Research policymakers are, for example, officials from the EC as well as politicians from various levels of government (European, national, local). The term advisory in this context refers to legal advisers who help interpreting law and who provide guidance in fields related to research and innovation. The perhaps most well-known and influential body for such legal guidance on the EU level is the Panel for the Future of Science and Technology¹⁶ (STOA). Both research policymakers and legal advisers are direct stakeholders with regard to the policy dimension of ROSiE. By contrast, they are indirect stakeholders with regard to those elements of the ROSiE framework that have researchers, RPOs, RECs, RIOs, and research managers as their main target groups. While they play an important role in enabling, promoting, and incentivising the uptake and embedding of the ROSiE framework, especially policymakers operate at some distance from concrete research practice.

Due this relative distance from concrete challenges researchers face, research policymakers and legal advisers are overall less well positioned than the previously discussed actors when it comes to exploring current practices and obstacles to OS. Besides, policymakers and – albeit presumably to a lesser extent – legal advisers might overall be less willing to participate in many stakeholder engagement activities of ROSiE because OS is only one of many issues on their agendas.

Research policymakers and legal experts	
Relevance of expertise	Medium
Willingness to engage	Medium

Table 11: Stakeholder assessment research policymakers and legal experts

¹⁶ <https://www.europarl.europa.eu/stoa/en/home/highlights> (last accessed 25 June 2021)

As a result, policymakers and legal advisers will only be invited to stakeholder engagement activities with policy implications. This will maximise benefits from their expertise and reduce the risk of stakeholder fatigue. They will be accessed directly through their offices.

Engagement format	Involvement
Focus group	No
Interviews	No
Workshops	Yes
Stakeholder forum	Yes

Table 12: Stakeholder engagement formats research policymakers and legal experts

4.7 Science educators and science journalists

Both science educators and science journalists are intermediaries between the scientific community and the public. Science journalists communicate research to the public usually in a unidirectional mode of interaction, whereas science educators educate the wider public or students about how to understand, interpret, or conduct research in interactive settings. They are grouped in the same stakeholder category because they are similarly positioned towards the ROSiE framework which can help them to access research more easily and to communicate research findings more transparently. In addition, science journalists are potentially important conduits to raise awareness about proceedings and results of ROSiE, while science educators are part of the target group of the training programme.

Consequently, science educators and science journalists are well-positioned to bolster the impact of ROSiE within and beyond the scientific community. However, it should also be emphasised that the importance of their expertise is high only for with respect to some aspects of ROSiE, unless they are also researchers (many educators at universities are also – often even primarily – researchers). Willingness to participate in stakeholder engagement among science educators is expected to resemble willingness among researchers. Science educators who teach subjects that already tend to recognise the importance and promises of OS will presumably have a higher baseline interest in the project than science educators who teach subjects that hitherto have remained on the margins of the OS movement. Achieving an adequately balanced representation of different science educators thus will be a priority in stakeholder engagement activities that address this target group. By contrast, willingness to engage with ROSiE is expected to be rather high among science journalists because the project contributes to an important issue on the research policy agenda and because the ROSiE framework, most notably the knowledge hub, can support science journalism by facilitating and standardising access to information.



Science educators and science journalists	
Relevance of expertise	Medium
Willingness to engage	Medium – high

Table 13: Stakeholder assessment science educators and science journalists

Science educators and science journalists will be invited to participate in stakeholder engagement activities related to the development of the training programme (science educators) and to events aimed at maximising the uptake of the ROSiE framework. Hence, they will participate in dedicated workshops and be given the opportunity to join the stakeholder forum. Access to science educators will be sought via suitable networks of higher education institutions (e.g., EUA Council for Doctoral Education¹⁷) and existing educator networks (e.g., the VIRT2UE research integrity trainer network currently build on the Embassy of Good Science¹⁸ and the Path2Integrity community network¹⁹).

Engagement format	Involvement
Focus group	No
Interviews	No
Workshops	Yes
Stakeholder forum	Yes

Table 14: Stakeholder engagement formats science educators and science journalists

4.8 Industry associations

Industry associations are primarily relevant for promoting the results of ROSiE among their members that have large research and development departments. Hence, they are by and large indirect stakeholders of the project that serve as potential multipliers regarding the dissemination of results. Researchers and innovators working in these departments will be engaged through activities aimed at researchers.

Industry associations usually have a broad mandate of which OS is at best a small part, not least because industrial research conducted with the goal to eventually be converted into product development often requires relative secrecy and a high degree of confidentiality. Therefore, their

¹⁷ <https://eua-cde.org> (last accessed 25 June 2021)

¹⁸ <https://embassy.science/wiki/AboutCertifiedTrainers> (last accessed 25 June 2021)

¹⁹ https://www.path2integrity.eu/community_network (last accessed 25 June 2021)



overall interest in and their willingness to actively engage with ROSiE is expected to be rather low. Also, their expertise is not as relevant as the expertise of most other stakeholders because they are not part of the direct target groups of the ROSiE framework.

Because WP3 does not implement general dissemination measures but instead focuses on gathering and analysing information about positions towards OS, challenges related to current OS practices, and the practical usefulness and normative appropriateness of proposed solutions, engagement measures specifically targeted at industry associations will not be part of the WP. Nonetheless, industry associations will be made aware of ROSiE by dissemination and communication measures implemented by WP8. If due to these measures representatives of industry associations express an interest in engaging with ROSiE more actively, they will have the opportunity to apply for membership in the stakeholder forum. Whether their involvement in workshops could yield mutual benefits would be assessed on a case-by-case basis.

Industry associations	
Relevance of expertise	Low
Willingness to engage	Low

Table 15: Stakeholder assessment industry associations

As mentioned above, outreach to industry associations will be channelled through WP8. However, opportunities for engagement will extend to industry associations in case they actively seek involvement in the project.

Engagement format	Involvement
Focus group	No
Interviews	No
Workshops	Possible
Stakeholder forum	Possible

Table 16: Stakeholder engagement formats industry associations

4.9 Citizen science associations and civil society organisations

Citizen science associations as well as civil society organisations are important stakeholders of the ROSiE project, especially as regards fostering the widespread dissemination of the project's findings and mobilising support for the promotion and incentivisation of responsible OS in the policy area. A major benefit of OS is that it greatly facilitates the active involvement of citizens in all aspects of research. Hence, engaging civil society to tailor the responsible OS framework ROSiE shall develop also to their needs is crucial for maximising the impact of the project.



As citizen scientists are already committed to getting actively involved in research, their willingness to participate in stakeholder engagement activities of ROSiE is expected to be high. Willingness might be somewhat lower among civil society organisation with a broader mandate, yet it seems likely that it will be high overall because part of their mission is making the voices of civil society heard. Concerning the relevance of their expertise, citizen science associations are more relevant than civil society organisations. Unlike civil society organisations, citizen science associations and their members not only can help galvanising support for responsible OS, but also will be end-users of the guidelines, knowledge hub, and training programme. Thus, more stakeholder engagement activities will include citizen science associations than civil society associations.

Citizen science associations and civil society organisations	
Relevance of expertise	Medium - high
Willingness to engage	High

Table 17: Stakeholder assessment citizen science associations and civil society organisations

Citizen scientists will be invited to participate in all stakeholder engagement formats of ROSiE, whereas outreach to civil society organisations will focus on events aimed at the policy dimension and maximising the impact of ROSiE. Moreover, citizen science associations and citizen science projects will be involved prominently in the horizontal coordination and community-building activities of WP4. ROSiE consortium partner European Citizen Science Association (ECSA)²⁰ will be a major access point to engage both citizen science associations and civil society organisations.

Engagement activity	Involvement
Focus group	Yes (only citizen science associations)
Interviews	Yes (only citizen science associations)
Workshops	Yes
Stakeholder forum	Yes

Table 18: Stakeholder engagement formats citizen science associations and civil society organisations

4.10 General public

Addressing the general public in outreach activities will help ROSiE raise awareness about its findings and outcomes, as well as increase knowledge about OS in general. However, the general

²⁰ <https://ecsa.citizen-science.net> (last accessed 25 June 2021)



public is too diffuse and heterogenous to be meaningfully included in stakeholder engagement activities of WP3 which are specifically targeted at tailoring project outcomes to the concrete needs of clearly defined stakeholders. Besides that, members of the general public are unlikely to possess OS expertise of significant relevance, and their willingness to get engaged is expected to be low because the salience of OS in the general public discourse is rather limited.

General public	
Relevance of expertise	Low
Willingness to engage	Low

Table 19: Stakeholder assessment general public

The general public’s views on OS will partly be gauged through the engagement of civil society organisations, although these are not necessarily representative of all segments of society. Overall, though, engagement of the general public will not exceed disseminating information and thus be confined to measures implemented by WP8. As in the case of industry associations, interested citizens will have the opportunity to register for the stakeholder forum should they wish to contribute to ROSiE.

Engagement format	Involvement
Focus group	No
Interviews	No
Workshops	No
Stakeholder forum	Possible

Table 20: Stakeholder engagement formats general public

5 Implementing the stakeholder engagement strategy

The stakeholder engagement strategy will be implemented by WP3 in close cooperation with WP4 and WP8. As mentioned above, WP4 focuses on horizontal coordination with other projects and, moreover, seeks to build a community of practice, while WP8 focuses on disseminating and communicating the proceedings and results of ROSiE to various audiences, including all above-mentioned stakeholders. To maximise synergies between these WPs and to avoid duplications of work, monthly meetings of WP representatives have been scheduled for the duration of the project.



Several stakeholder engagement activities, especially workshops, will be co-organised with other WPs, usually with the latter taking the lead regarding overall workshop design and organisation. Thus, WP3 will regularly consult the relevant partners in other WPs (primarily WPs 5, 6, and 7) to discuss workshop formats and specific goals. In this way, the stakeholder engagement strategy will continuously evolve towards a finer level of granularity during the implementation of the project.

As the results from the stakeholder engagement process are intended to provide crucial insights to all WPs, WP3 will regularly update all consortium partners about interim results from the stakeholder engagement process. Furthermore, WP3 will ensure that relevant project proceedings will be communicated to the stakeholder forum. This will be facilitated by the involvement of WP3 leader EUREC in all WPs of ROSiE. In addition, leaders of all WPs will be consulted regularly to inquire whether they would like to report interim results from their WP to the stakeholder forum to obtain external feedback.

The regular communication with other WPs will also be used to monitor whether the stakeholder engagement strategy yields the intended results. Based on this informal formative evaluation, WP3 will continuously assess whether the strategy needs to be modified. In case an update is considered necessary, the consortium will be involved in making the necessary adaptations and be informed about all relevant changes in due time.

6 References

Carney S, Whitmarsh L, Nicholson-Cole SA & Shackley S (2009): *A dynamic typology of stakeholder engagement within climate change research*. Tyndall Centre for Climate Change Research, Working Paper 128. <https://tyndall.ac.uk/sites/default/files/publications/twp128.pdf> (last accessed 25 June 2021)

Durham E, Baker H, Smith M, Moore E & Morgan V (2014): *The BiodivERsA Stakeholder Engagement Handbook*. BiodivERsA, Paris. <https://www.biodiversa.org/702> (last accessed 25 June 2021)

Kavouras P (2021): *D8.1: Report on the dissemination and communication plan*. ROSiE: Responsible Open Science in Europe, unpublished project deliverable.

Mejlgaard N, Bouter LM, Gaskell G, Kavouras P, Allum N, Bendtsen A-K, Charitidis CA, Claesen N, Dierickx K, Domaradzka A, Reyes Elizondo A, Foeger N, Hiney M, Kaltenbrunner W, Labib K, Marusic A, Sorensen MP, Ravn T, Scepanovic R, Tjeldink JK & Veltri GA (2020): Research integrity: nine ways to move from talk to walk. In: *Nature*, 586, 358-360. <https://doi.org/10.1038/d41586-020-02847-8>



Moher D, Bouter L, Kleinert S, Glasziou P, Sham MH, Barbour V, Coriat A-M, Foeger N & Dirnagl U (2020): The Hong Kong Principles for assessing researchers: Fostering research integrity. In: *PLOS Biology*, 18(7), e3000737. <https://doi.org/10.1371/journal.pbio.3000737>

OECD (2015): *Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, the Measurement of Scientific, Technological and Innovation Activities*. OECD Publishing, Paris. <https://doi.org/10.1787/9789264239012-en>

OECD and Science Europe (2020): *Optimising the operation and use of national research infrastructures*. OECD Science, Technology and Industry Policy Papers, No. 91, August 2020. <https://www.scienceeurope.org/media/cbchuqpi/se-oecd-policy-paper-optimising-the-operation-and-use-of-national-research-infrastructures-aug-2020.pdf> (last accessed 25 June 2021)

Owen R, Macnaghten P & Stilgoe J (2012): Responsible research and innovation: From science in society to science for society, with society. In: *Science and Public Policy*, 39(6), 751-760. <https://doi.org/10.1093/scipol/scs093>

Reale E (2017): *Analysis of national public research funding-PREF*. Final report, Publications Office of the European Union, Luxembourg. <https://doi.org/10.2760/19140>

Stilgoe J, Owen R & Macnaghten P (2013): Developing a framework for responsible innovation. In: *Research Policy*, 42(9), 1568-1580. <https://doi.org/10.1016/j.respol.2013.05.008>

