D7.2: Report on Pilot Studies

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1 Introduction

1.1 Abbreviations

CBA – Cost benefit analysis
ECoC – European Code of Conduct
FFP – Falsification, Fabrication and Plagiarism
QRP – Questionable research practices
RFO – Research funding organisation
RI – Research Integrity
RIPP – Research Integrity Promotion Plan
RPO – Research performing organisation
SOP – Standard Operating Procedure
WP – Work Package

1.2 Terminology

Code: a document guiding the members of an organisation on ethical standards and how to achieve them.

Ethics/integrity codes are formal documents sending a message about moral standards guiding professional behaviour by providing principles, values, standards, or rules of behaviour.

Guideline: a statement of principles or issues to consider when performing a task, aimed to guide courses of action.

Guidelines give direction and help users make decisions. They are often created based on the consensus of experts after detailed evaluation and assessment of available evidence. They may include checklists.

Standard Operating Procedure (SOP): a detailed, written instruction, aimed to achieve uniform action step-by-step.

SOPs prescribe specific actions; they liberate users from decision-making by ensuring that the procedure is followed. They may come in the shape of a 'decision-tree'/flow-diagram, similar to what is referred to as an algorithm in clinical contexts.

Toolbox: a structured collection of easy-to-use SOPs and guidelines that Research Performing Organisations (RPOs) and Research Funding Organisations (RFOs) can use when developing their own Research Integrity Promotion Plans.

Research Integrity Promotion Plan (RIPP): a document describing how a specific institution will ensure, foster and promote responsible research practices, avoid detrimental practices, and handle misconduct.

It is the intention that RPOs and RFOs should form their own RIPPs that will be tailored to their needs by taking disciplinary, organisational, and national specifics and differences into account.

1.3 About SOPs4RI

SOPs4RI (Standard Operating Procedures for Research Integrity) is a four-year (2019-2022), multi-partner transdisciplinary project funded by the European Commission (H2020-SwafS-03-2018, Grant Agreement no. 824481). The project has 13 partners in 10 European countries, and is coordinated by Aarhus University (AU). SOPs4RI and research conducted in the project's work packages has also been preregistered at the Open Science Framework: https://osf.io/49fbk/.

Objectives

The SOPs4RI project aims to foster the promotion of excellent research and to strengthen research integrity (RI) culture, using the principles and norms of the European Code of Conduct for Research Integrity (ECoC) as a framework. The overall objective is to create an online, freely accessible toolbox to support and guide RPOs and RFOs in cultivating RI and consequently preventing, detecting and handling research misconduct.

In order to address the needs of both RPOs and RFOs, SOPs4RI takes a mixed-methods, co-creative approach to the development and empirical validation of SOPs and guidelines. During the pilot phase, as a final stage of refinement, the guidelines and SOPs, as well as a RIPP template were tested in selected RPOs and RFOs.

1.4 About this deliverable

Deliverable 7.2 is the report on the pilot studies within the WP7 of the SOPs4RI project. The methodology, processes and procedures, as well as the findings are discussed in detail, taking into consideration the broader cultural and organisational framework of the implementation phase, the outcomes from the previous empirical-based work and finally a more global contextualization. First, the overall goals of the pilot studies are introduced and the methodological framework is described, with a particular reference to the characteristics of the online environment, its challenges and benefits. In the next part, the most important steps of the implementation phase are presented, followed by the description of the main documents and templates developed and co-created with the pilot institutions. The Monitoring and Assessment chapter introduces the main findings, which are further discussed in the Conclusion section, in relation to the cross-cutting and recurring themes from other deliverables of the project and lessons learned from the pilot studies. Hereafter, the report will offer a short inspirational section on the possible way forward and an open discussion on steps needed for the development of a sustainable RI organisational culture, in line with the fundamental principles of the ECoC – *reliability, honesty, respect and accountability* (ALLEA, 2017).
In the Appendix section the crucial documents developed and co-created during the pilot phase can be found, i.e. the RIPP templates, the Implementation Guideline and the Stakeholder Mapping document.

2 Pilot testing

2.1 Main goals and objectives

The main goal of the pilot studies was to test the SOPs and guidelines developed in the SOPs4RI project and to encourage and support their implementation in selected institutions that are representatives of key players and stakeholders within the research community: RPOs and public and private RFOs. Furthermore, a template of a RIPP was created by the project partners, to be further fine-tuned and adjusted to the organisational needs during the pilot tests. The involvement of representatives of key stakeholder groups allowed not only for both improvement and a critical assessment of the resources produced within the consortium and identification of the gaps in the existing tools and procedures, but also to proactively address these missing steps, by developing documents and processes and showcasing good practices and lessons learned (Appendices I – VI).

The pilot studies were specifically designed to evaluate whether the SOPs and guidelines are comprehensive and practical towards the needs and expectations of selected institutions, and representatives of the key actors in the research system. Furthermore, to ensure a more sustainable and effective translation of the evidence-based findings into real-world settings – supporting documents and templates were created and fine-tuned with partners from the pilot sites (see section 3).

The employed participatory approach facilitated open, peer communication, creating a virtual community of practices, that often took the form of a mutual learning exercise[2]. The pilot studies gathered crucial input on practical issues related to implementing the SOPs and guidelines, by engaging representatives of pilot institutions with the SOPs4RI partners in multiple interactions in different formats and groups.

To achieve the objectives of the pilot studies, SOPs4RI partners were involved in different working groups (Task Forces), working simultaneously on specific tasks, namely:

[2] 'Mutual Learning Exercise (MLE) is a project-based mutual learning whereby participating countries jointly examine a challenge-driven question in more detail and which involves information acquisition and information sharing activities' (European Commission, Directorate-General for Research and Innovation, Luukkonen, T., Mutual Learning Exercises: a proposal for a new methodology: Horizon 2020 Policy Support Facility, Publications Office, 2016, https://data.europa.eu/doi/10.2777/292023, p.5)

(i) drafting the *Implementation Guideline* and a *RIPP template*: the Implementation Guideline offered a framework and concrete advice to both RPOs and RFOs on how to establish a RIPP and how to implement specific tools from the toolbox, which in turn assisted and facilitated the development of a RIPP by pilot institutions (see section 3.3.1, Appendices I – III);

(ii) *Content Tours* and *Content Helpdesk* – introduction to the main topics identified by the consortium to RFOs and RPOs (six and nine topics respectively – see Figure 1) through general sessions with SOPs4RI experts with follow-up meetings (see section 3.2.1);

(iii) *Jours fixes* sessions with pilot institutions to support and monitor the progress, facilitate discussions and gather feedback (see section 3.2.2);

(iv) co-creating a RIPP, tailored to each institution's needs; and

(v) conducting the cost-benefit analysis.

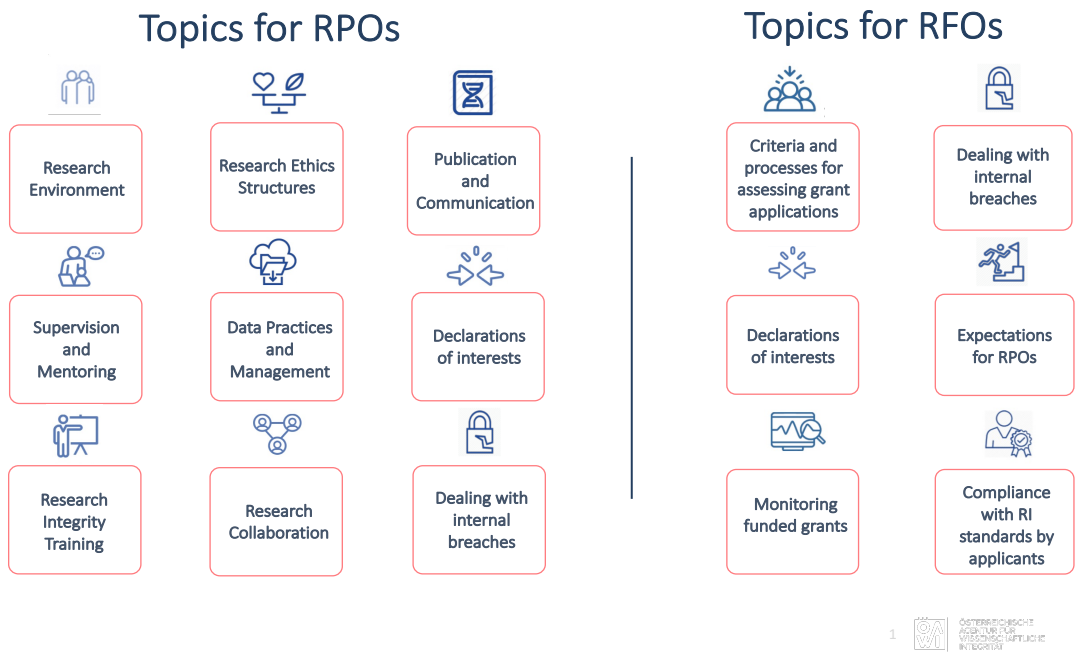

Figure 1: Topics to be addressed by RPOs and RFOs

In addition to the tasks of the pilot studies foreseen in the project proposal and further presented in detail in the Protocol on how the pilot studies will be carried out and how the results will be analysed (D7.1 "Detailed protocol on how the pilot tests will be carried out and how the results will be analysed", henceforth 'Protocol'), an additional survey of the RFOs was conducted within the piloting phase. This new element enriched the SOPs4RI empirical programme, by specifically informing the cost-benefit analysis, and has complemented the work of WP6 – the International Research Integrity Survey (IRIS) (D6.2 "Final Report and Recommendations – International Research Integrity Survey (IRIS)").

The main outputs of the pilot studies are presented in three reports: this deliverable (7.2.), the "Cost-Benefit Analysis" (Deliverable 7.3.) and Deliverable 7.4 "Results from survey of research funding organisations". These reports will be used in the development of the final version of the SOPs, guidelines, tools and toolbox.

The pilot studies were the final stage of informing and refining the toolbox – leading to version 5.0.

2.2 Pilot institutions

To fulfill the aims of the pilot studies within the SOPs4RI project, a pre-selection of institutions, representing a wide range of stakeholders, was described already in the project proposal. The goal was to engage representatives of RPOs and public and private RFOs in the validation process of the empirically-based outcomes of the project and to provide valuable 'in vivo' information on the costs and benefits of the tools and resources created by the consortium.

Pilot tests, designed and planned as participatory and co-creational activities, were developed to bring the SOPs and guidelines into a real-life setting, in close cooperation with selected pilot institutions: public RFOs (Austrian Science Fund {FWF} and the Research Council of Norway {RCN}), private RFOs (La Caixa Foundation and Novo Nordisk Foundation) and four RPOs: Ghent University, Jagiellonian University, University Pompeu Fabra and Janssen Pharmaceutica N.V. (member of the European Quality in Preclinical Data project {EQIPD}). The RPOs were sampled based on the following main selection criteria: geographical diversity, representation and inclusiveness of countries, profile diversity, members of European associations and umbrella organisations (The Guild of European Research-Intensive Universities, the European Association of Research Managers and Administrators, EQIPD, etc.).

The representatives of the selected institutions confirmed their interest in pilot testing during the kick-off meeting on the 27th of April 2021 – which marked the official beginning

of the pilot testing phase. After the meeting, two new institutions expressed their interest and joined the group: Barcelona Biomedical Research Park and University of Split, followed by another two institutes at a later stage: Singapore University of Technology and Design and the Croatian Science Foundation ("Second generation pilot institutions").

The pilot studies within the SOPs4RI attracted further attention, as three new partners indicated their willingness to take part: Eindhoven University of Technology, Maastricht University and Joanneum Research ("Third generation pilot institutions"). Due to time limitations (the third generation pilot institutions entered the pilot testing processes only after the introduction phase involving presentation of topics, tools and resources by the SOPs4RI experts and initial discussions) and the foreseen schedule of the pilot studies, these new partners were offered a more individual path of cooperation with the project partners, adjusted to their institutional needs and the resources of the WP7 team.

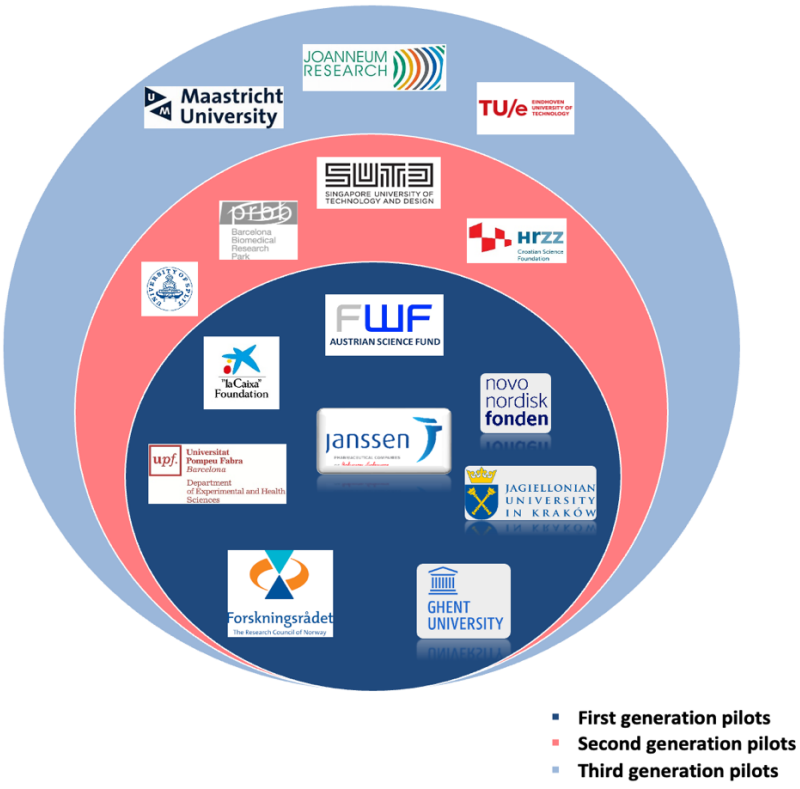

Figure 2: Pilot institutions

The growing attention from key stakeholders for the SOPs4RI project's mission and findings and the participation of new European and global partners enriched the planned pilot studies significantly. Involving actors from more diverse research performing and funding settings (in terms of size, structure, mandate, funding, existing cooperation with industry or business sectors, etc.), broadening the geographical scope, bringing a less Eurocentric approach, by integrating feedback from other countries and continents, proved to be one of the key factors for widening the analysis and opening discussions on general and most crucial topics such as systemic issues and limitations, research environment, cooperation with industry and non-academic bodies, incentives for strengthening responsible research culture and fostering a stronger movement towards excellency in science.

Additional graphs of country and gender distribution are displayed in Appendix VII to this Deliverable.

2.3 Implementation strategy

The pilot studies aimed to test Version 4 of the SOPs4RI toolbox and guidelines in selected, concrete settings among RPOs and RFOs, to collect feedback on the efficiency and effectiveness, as well as on the costs and benefits of the resources developed by the SOPs4RI consortium. The dialogue between the SOPs4RI partners and key stakeholders within pilot institutions stimulated a broader discussion on fostering a movement towards a common vision of responsible research in different institutional and organisational settings.

The co-creation and shared analysis work was directed towards achieving the main goals of this phase, namely: development of an institution-tailored RIPP, addressing the SOPs, guidelines and tools' efficiency and effectiveness and reflection on experiences of the implementation process, including its costs and benefits.

In addition to the actions and objectives planned in the Protocol, two new elements enriched the analysis and facilitated a better, in-depth understanding of the impact of the pilot testing phase:

a) systemic monitoring and assessment of the implementation processes in the pilot institutions,

b) RFO survey to examine perceptions of the need for research integrity policies and the relevance of SOPs and guidelines across the topical areas identified by SOPs4RI for RFOs.

The findings from the monitoring and assessment analysis are a part on this report (see section 4), the results of the RFO survey are discussed in Deliverable 7.4.

The specific actions and phases of the pilot studies implementation are presented in Figure 3.

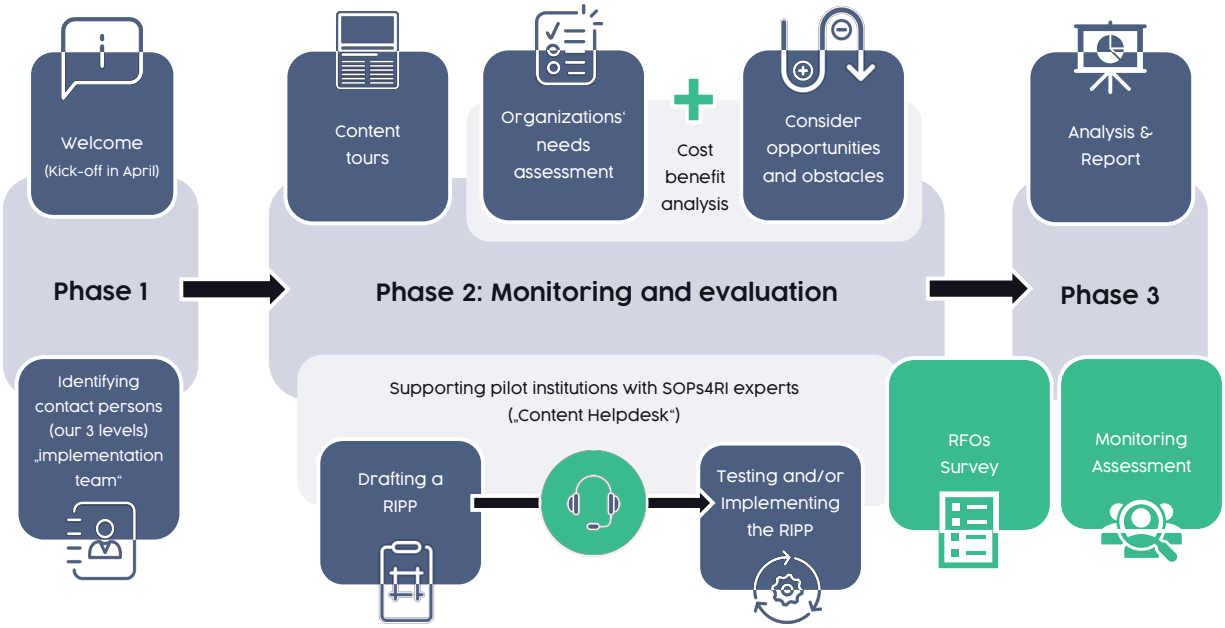

Figure 3: Implementation phases

2.4 Pilot testing methodology

The overall SOPs4RI methodological approach is based on mixed methods, involving participatory and co-creational activities in all four development cycles of the project (Figure 4). This methodological framework allowed for constant and inclusive communication and cooperation with multiple groups and individual key stakeholders. This facilitated systemic monitoring of the research input created and flagged steps, tools or documents that required a modification or revision. This, in turn, maximized the usefulness and applicability of the final version of the Toolbox for the intended stakeholders.

The rich empirical programme (i.e., literature review, expert reviews, a Delphi survey, focus group interviews, co-creation workshops, surveys within the RPOs and RFOs settings) provided solid evidence for the knowledge output created, and informed all products developed by the consortium. A number of challenges to RI-related issues were investigated in the work cycles previous to pilot studies of SOPs4RI. Special attention was given to discipline and national differences, cultural variances, organisational and institutional structures. The findings from these research phases supported the development of Toolbox 4.0, which in turn was pilot tested within the selected institutions.

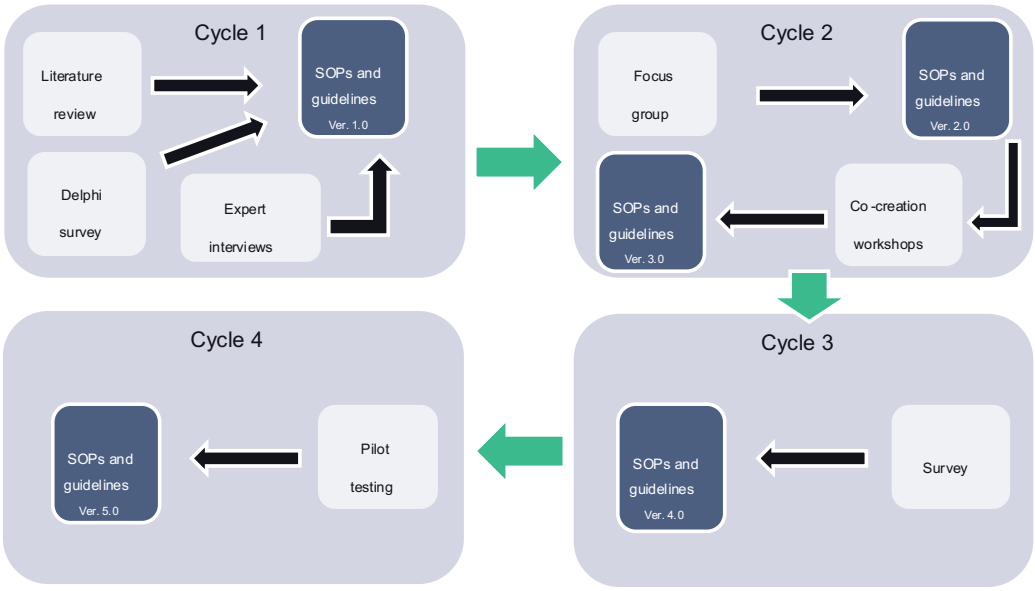

Figure 4: The four development cycles

Taking into account the goals and ambitions of the project, as well as the the work done in previous development cycles in the SOPs4RI, and translating them into specific needs for the pilot sites, a community-based participatory research methodology, combining both action research and participatory work, was introduced as a methodological framework (Minkler and Wallerstein, 2003; Rapoport, 1990; Bell and Napoleon, 2008). Strategies from implementation sciences, i.e., the non-linear implementation approach, (French et al., 2012) and techniques from organisational studies (storytelling, total quality

management framework – TQM, and TQM as a cultural phenomenon – Kujala and Ullrank, 2004) were also implemented.

Pilot studies within the SOPs4RI were conducted exclusively online, due to the global pandemic at the time of the pilot phase (April 2021 – May 2022). Designed in the project proposal as in-person group(s) meetings, the pilot studies were adapted in the Protocol according to the restrictions and limitations of the current Coronavirus (COVID-19) disease situation. Nevertheless, the online platforms facilitated a collaborative and self-reflective inquiry and a collective approach to the objectives of the pilot studies (see section 2.4.1). All main activities: the preparatory Content Tours with the Content Helpdesk, co-creation of the RIPP with the *Jours fixes* group discussions, individual and group monitoring and feedback meetings were set to foster open and inclusive dialogue and exchange of knowledge and experiences, that equitably involved all partners, by recognizing their unique input, expertise and perspective.

One of the guiding principles of the pilot studies was the flexible, non-linear approach to the interventions: the main topics identified by the consortium were presented and discussed several times, by different partners and within different groups, from multiple perspectives; recurring themes and issues were further contextualized throughout the piloting phase. In particular, feedback on tools and resources was continuously gathered and updated templates and documents were tested repeatedly with the pilot institutions.

Furthermore, our work has been drawing on the organisation, implementation and management studies literature, specifically on concepts of organisational change, travelling ideas and storytelling. The pilot studies involved aspects of knowledge-based change programs, as they refer primarily to a qualitative change, meaning a translation of an overreaching idea (in our case – RI and 'responsible research') as a justification for the knowledge-based institutional change (Giroux and Taylor, 2002). The diverse adaptation strategies of pilot institutions evoked Latour's "travelling ideas" concept, in which all reactions to a novel idea(s), including resistance, are described as positive and actively facilitating further transformation and transition from an abstract level to a real-live setting (Latour, 1986, 1993). Furthermore, with its broad variety of institutions involved, the pilot studies provided insightful perspectives on how these ideas translate amongst heterogenous actors and stakeholders within single institution ('Multidirectional Travelling Ideas', as theorized by Nielsen, Mathiassen and Newell, 2021). Organisational storytelling has offered, in turn, methods for both engaging and empowering key stakeholders, as drivers of an institutional change. Sharing personal experiences and lessons learned, good practices, but also encountered challenges, generated a more pro-

active involvement and strengthened the commitment of the key actors. It served as a framework for the Implementation Guideline and further – for the development of the 'inspirational stories'.

The open and inclusive methodology supported the main goal of the pilot testing – maximizing a community-targeted approach to the fine-tuning and co-development of knowledge outputs in order to foster a movement towards a more responsible research culture and to empower the participants as the drivers of this change.

2.4.1 Pilot testing in the virtual environment

The SOPs4RI project's mission is to develop empirically-informed tools and resources for fostering responsible research in a variety of institutional settings. To reach this goal, the project had an extensive empirical programme, which was affected by the outbreak of the COVID-19 pandemic. As the work for pilot studies started only in April 2021, we were able to adapt and re-shape our activities accordingly to the global situation.

The fully virtual environment for the pilot testing, involving communication on platforms like Zoom (Zoom Video Communications, San Jose, CA, USA) or MS Teams (Microsoft Corporation, Redmond, WA, USA), turned out to be beneficial in many aspects: it allowed for the active participation of the partners from the Singapore University of Technology and Design; enabled extended individual approaches to each institution's needs, schedule and representatives' working arrangements; and it facilitated meetings of different groups of SOPs4RI experts with the pilots. It also supported significantly the non-linear character of the pilot studies, especially while engaging with the constantly growing group of pilots joining on different stages of our work.

The limitations and challenges encountered with the virtual setting related mostly to sharing and co-creating documents, as the e-mail exchange, GoogleDocs and SharePoint – tools selected and widely used by the pilots and the project members – were assessed as not fully supporting the work processes, and especially, the in-depth, dialogue-based revision and comments of documents.

3 Implementation of the pilot studies – key activities and main documents

3.1 Implementation procedure

The implementation strategy and main activities were designed to successfully fulfil the aims of the pilot studies, namely to test the SOPs and guidelines developed in the SOPs4RI project in a real-life setting and to give feedbacks to the final version of the Toolbox (Version 5.0).

The pilot studies consisted of three main phases:

1. ***Planning, designing and informing***,
2. ***Pilot testing*** and ***cost benefit analysis,***
3. ***Analysis and reporting***.

Phase one started with the Protocol (Deliverable D7.1), building on the knowledge gathered previously within the project's empirical programme and the expertise of the consortium. Therefore, a strong cooperation and involvement of the members of respective WPs that contributed to the development of the empirical validation of the SOPs and guidelines were established (i.e., with WP 3 – regarding the literature review and the Delphi survey, WP4 – as responsible for the development of the SOPs and guidelines and the co-creational workshops, WP5 – in relation to the focus groups' findings).

As the work planned for the pilot testing entailed multiple activities and diverse objectives, the SOPs4RI partners from the project consortium were involved in six working groups (*Task forces*). Four working groups were dedicated to simultaneously perform specific tasks, namely to:

1. draft an Implementation Guideline and co-create a RIPP, tailored to each institution's needs (*RIPP template and implementation guideline working group*);
2. introduce the main topics identified by the consortium to RFOs and RPOs (six and nine topics respectively) through general sessions with follow-up meetings for each pilot institution ('*Content Helpdesk working group'*);
3. pilot test the SOPs, guidelines and other toolbox resources ('*Pilot testing working group'*) and

4. conduct the cost-benefit analysis (‘*CBA and evaluation working group’*).

In addition, to ensure continuous cooperation with the WPs responsible for the development of the Toolbox two coordination working groups were created:

5. ‘*Toolbox permanent working group*’ and
6. ‘*Self-assessment and communication working group*’.

The preparatory work within the Tasks Forces for the pilot studies was aimed at developing a flexible framework for participatory and co-creational activities, to foster an open and inclusive communication and to facilitate dialogue between the representatives of the pilot sites with the SOPs4RI consortium members.

The next steps within phase one of the pilot studies entailed:

- stakeholder mapping – the identification of potential partners within the pre-selected institutions,
- establishing first contact with relevant actors in each pilot institution,
- preliminary reconnaissance in the pilot sites, including the feasibility of potential access to key stakeholders and informants and relevant opportunities and constraints to the implementation of the various SOPs and guidelines and
- the kick-off meeting (27th of April 2021) with representatives of the pilot institutions, introducing the goals and timeframe for the pilot testing.

Already in phase one, new topics and issues arose, that were not explicitly identified by the consortium, but proved to be of significance to the representatives of the pilot institutions. They were added to the work in the next phase.

The kick-off meeting marked the beginning of the actual pilot testing of the SOPs and guidelines, and the transition to phase two, crucial for the work planned.

Phase two comprised of all main elements and activities within the pilot studies:

- Drafting the ***Implementation Guideline*** – a collective reflection tool designed to facilitate the co-creation and development of the RIPP by institutions. The Implementation Guideline was intended to serve as an adjustable framework for organisations to identify their starting points, within the already existing RI culture, in order to contextualise and address topics selected by the consortium and finally – to support a further translation into actions and implementation strategies. The

RIPP template was also developed by the WP7 members, to allow a more structured approach to topics and tools to be addressed by institutions (see section 3.3.1 and Appendices I – III).

- Introducing the main topics and resources identified for RPOs and RFOs to the pilot institutions by experts from the SOPs4RI consortium: the ***Content Tours*** and ***Content Helpdesk***. During the eight Content Tours sessions the topics, as well as the resources and tools from the SOPs4RI toolbox, were presented as a framework and possible reference for each organisation's needs. The representatives of the pilot organisations got familiarized with the rationale for the topics' selection, the structure of the toolbox and resources contained in the toolbox, as well as the SOPs and guidelines developed by the project partners. At this stage, the process of continuous feedback on both content and functionality of the SOPs4RI toolbox started. The ***Content Tours*** were prepared by experts from the consortium, responsible for respective topics – as an introductory presentation of the topic, including a state-of-the-art section and the most recent developments within the project, with following Q&A session (see section 3.2.1). Their guidance continued throughout the whole pilot testing, as the ***Content Helpdesk*** – a platform for joint and inclusive discussions on the relevance of the topics selected and a shared reflection on the usefulness of institutions' existing practices as compared to the proposed SOPs and guidelines and the feasibility of the planned implementation. In addition, the input from this phase gathered already some preliminary findings for the cost-benefit analysis.
- ***Co-creating a RIPP*** – the crucial task of the pilot phase, designed as a non-linear, participatory activity, comprised of multiple individual and group actions, facilitating the translation of the selected topics into a RIPP. The actions included: the self-assessment of the RI-related policies and processes within each pilot institution, further contextualization and reflection using the Implementation Guideline, internal mapping of relevant key stakeholders by main groups (administrators – researchers/scientific officers – policy makers), group or individual drafting of an institutional RIPP, joint progress-monitoring discussions (*Jours fixes*) and/or individual monitoring and feedback meetings with SOPs4RI experts (see section 3.2).
- Systemic ***Monitoring and Assessment*** – the final stage of collecting feedback from the pilot testing phase to further inform and fine-tune the last version of the SOPs and guidelines, and the RIPP template. Special attention was given to input

concerning the gaps and limitations of the proposed SOPs and guidelines, tools not relevant or not acceptable within the organisational culture(s) of the pilot institutions and the feasibility of the proposed implementation strategy (see section 4). Input from this stage informed both this deliverable and the report on cost-benefit analysis (Deliverable 7.3).

Phase three provided analysis of the work done in form of three reports: this deliverable on the pilot studies, the deliverable 7.3. "Cost-Benefit Analysis" and the additional deliverable 7.4 "Results from survey of research funding organisations". The input gathered during the pilot testing phase fulfilled the main objectives of the studies and offered crucial feedback on the key documents, templates and tools developed within the project. Furthermore, the pilot tests addressed more general and overreaching issues and challenges related to RI in the global research system. The joint discussions and co-creation with representatives of the pilot sites enriched significantly the spectrum of topics initially designed by the consortium and broadened the implementation perspective by addressing systemic and cultural factors. The commitment of the pilot institutions for continuous work towards strengthening a responsible research environment, beyond the project-related activities, has proven the impact of the SOPs4RI goals and mission in real-life settings and daily research practice.

3.2 Key activities

The main objective of the pilot testing was to create a space for an open and inclusive, practice-oriented discussion on the tools and resources developed within the project, by involving relevant key stakeholders from both RPOs and RFOs. Recognising the unique organisational culture of each pilot site, embedded in a specific national administrative and legislative framework, with different mandates, missions and resources, we initiated a search for a common ground and shared understanding of the rational for creating a RIPP and addressing the selected topics (as a non-exhaustive list).

All designed activities were participatory, offering an individual path for both developing a RIPP and providing feedback on the toolbox, with no mandatory elements. Voices of the frontrunners in the RI field, as well as opinions of beginners, were further explored and discussed during individual, group and plenary meetings, with special attention to recurrent themes and most common challenges.

The entirely virtual environment of the pilot studies facilitated a very individual approach to each pilot institution's needs, according to the schedule and work arrangements of their representatives involved.

3.2.1 Content Tours and Content Helpdesk

The Content Tours and the Content Helpdesk were the initial actions taken, designed to facilitate communication with the representatives of the pilot sites and to engage the pilot institutions with the topics identified for RPOs and RFOs within the SOPs4RI project. Groups of experts from the SOPs4RI consortium were established, accordingly to their main expertise and/or practical exposure, to be responsible for presenting selected topics, from the very beginning and through the whole process of pilot testing and implementation of tools.

The Content Tours were the first meetings, prepared by the Content Helpdesk experts responsible for selected topics. In eight sessions in total, the nine topics for the RPOs and the six topics for the RFOs respectively were discussed. These meetings provided also a state-of-the-art section and presented the most recent developments within the project, with a following Q&A session. SOPs4RI partners were responsible for the presentation and introduction of selected topics, that reflected their specialisms, knowledge and experience (Table 1 & 2).

Date	Topic	Responsible partner
25 May 2021	Research Cooperation	National Technical University of Athens
09 June 2021	Publications and communication and Declarations of interests	University of Split School of Medicine
25 June 2021	Mentoring & Research environment	VU Medical Centre Amsterdam
15 September 2021	Research ethics structures and Training	Katholieke Universiteit Leuven
30 September 2021	Data practices and management & Dealing with breaches	University of Split School of Medicine – Austrian Agency for Research Integrity
16 November 2021	Follow-up meeting on the Content Tour	Austrian Agency for Research Integrity – European Association of Research Managers and Administrators

Table 1 – Content Tours for RPOs

Date	Topic	Responsible partner
20 September 2021	Declarations of interests and Dealing with breaches	University of Split School of Medicine – Austrian Agency for Research Integrity
05 October 2021	Monitoring of funded projects; Criteria and processes for assessing grant applications; Compliance with RI standards by applicants; Expectations for RPOs	Health Research Board Ireland

Table 2 – Content Tours for RFOs

To allow the representatives of pilot institutions a more flexible and unlimited access to the topics discussed during the Content Tours, the presentations of experts from the SOPs4RI consortium were recorded and stored on the SOPs4RI SharePoint, in a dedicated space for WP7 partners and pilots, in alignment with the procedures and safeguards outlined in the SOPs4RI Data Management Plan. Furthermore, pilot institutions were encouraged to share documents, guidelines, institutional policies, etc. that are available for dissemination outside of their institution. In agreement with the representatives of the pilot institutions and after an internal assessment process, selected documents will enrich the tools and resources in the Toolbox (according to the Quality Assessment process, see Deliverable 4.6, section 4).

Taking into consideration the participatory and inclusive framework of the pilot tests, we have motivated the representatives of the pilot institutions to engage in open discussions and self-assessment of their institutional and organisational needs and challenges, applying the Chatham House Rule[3] during the sessions. These discussions were not being recorded to ensure the privacy and create an environment in which participants would feel free and safe to share their thoughts and opinions.

[3] Chatham House Rule reads as follows: "When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed." (https://www.chathamhouse.org/about-us/chatham-house-rule)

The Content Tours' meetings fulfilled their primary goal of presenting and introducing the SOPs4RI framework, objectives and work done to date. These meetings also identified topics of interest for pilot institutions and informed their decision on how to cooperate with the SOPs4RI partners onwards (i.e., level of support preferred, individual path of work *vs* group co-creational efforts, active exchange with other pilots *vs* internal collaboration). Taking into consideration the community-based participatory approach to the pilot studies, we supported the individual choices of the representatives of the pilots and adjusted our activities accordingly, offering different ways of interaction specifically during the RIPP drafting co-creational phase.

3.2.2 Developing a Research Integrity Promotion Plan with *Jour fixe* meetings

The development of a RIPP was the task in which all documents and resources created within the project were most actively tested by the pilots – not only as separate tools, but specifically with respect to their internal cohesion across multiple levels (RIPP template – selected topics – developed tools – possible actions) and in different aspects (relevance, adaptability, efficiency, effectiveness, feasibility).

As a preparation for this phase, supporting documents and templates were created by the SOPs4RI consortium partners. One of these documents is the Self-assessment matrix, envisioned as a basic tool for mapping existing policies and procedures and aligning them with the topics developed by the consortium. Another document is the Implementation Guideline which provides concrete advice to both RPOs and RFOs on how to establish a RIPP and how to implement tools from the SOPs4RI toolbox. Moreover, the RIPP template gives the specific framework and structure, allowing at the same time further adjustments to the organisational needs. Finally, the Stakeholder mapping document aims to outline internal key actors to be involved and consulted during the implementation processes (see section 3.3).

The representatives of the pilot institutions were asked to reflect on the usefulness of their existing practices, policies and documents, as compared to the proposed SOPs and guidelines, but also on the feasibility of the planned implementation.

Following pilot institutions' needs and recommendations, different strategies were implemented during the drafting of the RIPP phase. Individual meetings (Table 3) with representatives of both RPOs and RFOs were offered to further discuss the RIPP template, the relevance of the topics, the alignment with the existing organisational documents, as well as existing RI processes and procedures.

Date	Topic	Responsible partner
08 November 2021	Topic – Self-Assessment Matrix with the Singapore University of Technology and Design	Austrian Agency for Research Integrity
24 January 2022	Topic – RIPP template with la Caixa Foundation	Austrian Agency for Research Integrity
26 January 2022	Topic – RIPP template with the Croatian Science Foundation (HRZZ)	Austrian Agency for Research Integrity
27 January 2022	Topic – RIPP template with Joanneum Research	Austrian Agency for Research Integrity

Table 3 – Individual meetings

While most of the RFOs decided to work individually on their RIPPs, the representatives of the RPOs asked for additional group monitoring meetings in form of monthly *Jours fixes* (Table 4).

Date	Topic	Responsible partner
11 January 2022	1st *Jour-fixe*	Austrian Agency for Research Integrity – European Association of Research Managers and Administrators
01 February 2022	2nd *Jour-fixe*	Austrian Agency for Research Integrity – European Association of Research Managers and Administrators
08 March 2022	3rd *Jour-fixe*	Austrian Agency for Research Integrity – European Association of Research Managers and Administrators

22 March 2022	Mid-term meeting with the RPOs	Austrian Agency for Research Integrity – European Association of Research Managers and Administrators

Table 4 – *Jours Fixes* with the Mid-term meeting

The *Jour fix* meetings were dedicated to discussing selected topics, however the agenda was always kept very flexible, allowing all other questions and challenges that would come up during the discussions to be addressed. These more informal meetings quite often took the form of a mutual learning exercise, in which the SOPs4RI partners were in the role of facilitators, while the representatives of the pilot institutions were exchanging experiences, practices and lessons learned from their internal RIPP-drafting exercises. The final meeting for this stage ('Mid-term' meeting on the 22nd of March 2022) ended the co-creational phase and started the preparation for the monitoring and assessment work.

3.2.3 Monitoring and Assessment procedure

The complete shift to the online environment of many of the SOPs4RI activities, due to the global pandemic situation, stimulated a new allocation of tasks, from which the pilot studies benefited, as new elements supported the work planned.

In the beginning of 2022, a working group on Systemic Monitoring and Assessment within the pilot studies was added. This new element allowed for a more structured and elaborated investigation and analysis of the outcomes from the pilot studies. An additional survey was designed and distributed to the piloting institutions, directly after the mid-term meeting (22nd of March 2022), marking the planned deadline for the individual work on the RIPPs. After collecting the results and the preliminary analysis of the findings, online follow-up interviews were conducted, to gather in-depth reflection on the tools, resources, documents and processes within the pilot testing phase (Table 5). The interviews were divided in two separate parts: the first one relating strictly to the pilot testing and feedback on main documents and templates, and the second one addressing the cost-benefit analysis. The interviews for the pilot testing were mostly conducted by partners not directly involved in the previous work within the pilot tests. This facilitated a more open discussion, as the interviewers had not been interacting directly with the representatives of the pilot sites before. This feedback procedure will be discussed in more detail in section 4 of this deliverable.

Date	Topic	Responsible partner
12 April 2022	Interview with the Singapore University of Technology and Design	Centre for Science and Technology Studies, Leiden University – Aarhus University – London School of Economics and Political Science
13 April 2022	Interview with University Pompeu Fabra & the Barcelona Biomedical Research Park (UPF-PRBB)	VU Medical Centre Amsterdam – Aarhus University – London School of Economics and Political Science
13 April 2022	Interview with la Caixa Foundation	VU Medical Centre Amsterdam – Aarhus University – London School of Economics and Political Science
19 April 2022	Interview with Janssen Pharmaceutica N.V.	Centre for Science and Technology Studies, Leiden University – Aarhus University – London School of Economics and Political Science
19 April 2022	Interview with the Research Council of Norway (RCN)	Centre for Science and Technology Studies, Leiden University – Aarhus University – London School of Economics and Political Science
27 April 2022	Interview with the Austrian Science Fund (FWF)	VU Medical Centre Amsterdam – Aarhus University – London School of Economics and Political Science
27 April 2022	Interview with Ghent University	VU Medical Centre Amsterdam – Aarhus University – London School of Economics and Political Science
27 April 2022	Interview with the University of Split	Centre for Science and Technology Studies, Leiden University – Aarhus University – London School of Economics and Political Science

Table 5 – Interviews for Monitoring and Assessment

3.3 Main templates, documents and resources developed and co-created

To support the testing studies and stimulate a more practice- and action-oriented narrative, additional documents and templates were developed and co-created with the participating organisations. The most crucial document for the fulfillment of the project's overreaching goals is the RIPP template, as it provides the alignment between the general topics identified by the SOPs4RI project and specific actions to be undertaken by an institution. The Implementation Guideline document serves as an explanatory complement to the RIPP template – a step-by-step guide. The RIPP templates and the Implementation Guideline are our main, guiding documents. The Self-assessment matrix and the Stakeholder mapping documents were designed to support the internal processes of collecting resources and creating 'implementation teams' within single pilot institution. During the pilot testing, the representative of Ghent University developed an additional document for their institution – the Action Plan matrix – to describe in detail actions, people and resources to be mobilised and allocated for the creation and implementation of the RIPP. This document was further discussed within the RPOs pilot group and received most positive feedback. Participants indicated that the document could be used as a template that would greatly support organisational efforts, in terms of systemic monitoring and identifying responsible personnel, key performance indicators, milestones and expected outcomes. In the last stage of the pilot studies, the Monitoring and Assessment group identified another potential gap to be addressed – a need for a catalogue of personal experiences and lessons learned from the pilot testing, to support other institutions, especially not directly involved in the SOPs4RI work, when developing and/or implementing a RIPP. Such a collection (as video or written testimonials) will soon be created and will become available on the project's website, to encourage and guide potentially interested institutions.

Based on the feedback obtained through the survey and follow-up conversations, as well as feedback gathered through other means, e.g. Content Tours, workshops and informal conversations, we updated and finalised the RIPP template and the Implementation Guideline. In particular, the feedback led to the changes and updates discussed in detail in the following sub-sections.

Apart from the major improvements and developments indicated below, the feedback also triggered a set of minor changes in the documents, mostly on a textual level, helping to clarify some of the topics and steps of the implementation process.

3.3.1 Main input to the Toolbox: Research Integrity Promotion Plan and the Implementation Guideline – the guiding documents

3.3.1.1 Research Integrity Promotion Plan

The central document developed and co-created during the pilot phase is the RIPP template. Since the structure and content of a RIPP is different for RPOs and RFOs, distinct documents are provided for both types of organisations. For both of them, the template outlines the various elements that will be included in an organisation's RIPP and aims to provide support in structuring the writing process. This RIPP template is designed to be used in close consultation with the SOPs4RI Implementation Guidelines (see next subsection). The template lists the priority areas/topics for developing a RI culture, as identified through the various stages of the SOPs4RI project (six topics for RFOs, nine topics for RPOs). For each area/topic it gives an overview of the elements that will be discussed and addressed in the RIPP, with a brief description of the expected RIPP content. It also provides specific examples of how each RIPP topic could potentially be addressed, building on the rich resources of the SOPs4RI project.

The document is intended to be used flexibly by a diverse range of organisations, acknowledging differences in scale, aims, resources and disciplinary cultures. Henceforth, it acknowledges that some of the areas presented may be of greater or smaller relevance to an organisation's local context. The template consequently posits to be used flexibly, tailoring it to an organisation's needs.

The RIPP templates for RPOs and RFOs respectively can be found in Appendices I and II.

3.3.1.2 Implementation Guideline

To assist in designing and implementing a RIPP, we established a concrete guideline to structure this process. The guideline is based on organisational change theory and centres on a well-established model which consists of three phases: Preparation, Execution and Monitoring. Each of these phases subsequently involves tasks to be carried out in multiple steps. Importantly, the model proposes a cyclical format of creating, maintaining and revising the organisational RI culture. As input to the first cycle, an organisation may use the list of topics to be addressed in a RIPP (nine for RPOs and six for RFOs). Throughout the first cycle, a RIPP will be created and implemented. This RIPP will then constitute the input to the next cycle.

In the Implementation Guideline, we discuss every step of the implementation model, guided by an illustrative example centring on a fictive university, called the Global Integrity College (GIC). The Guideline describes what is expected of the organisation in every step of the implementation process, and provides specific suggestions on how to address these. It points to relevant stakeholders and resources needed to successfully handle the entire RIPP development, implementation and monitoring process. The Guideline is intended to be used in close consultation with the RIPP template. Unlike the RIPP template, the Implementation Guideline is a single document for both RPOs and RFOs, because, despite the differences in RIPP content, the process of developing, implementing and monitoring is similar for both RPOs and RFOs, although the importance of RI topics may vary between organisations.

The Implementation Guideline is added as Appendix III to this Deliverable.

3.3.1.3 Feedback and adjustments procedure

After the pilot studies we included and extended the preamble to the RIPP templates and Implementation Guideline in order to describe their intended use as being flexible and tailored to an organisation's local needs and contexts. In particular, that means that some of the topics to be addressed in a RIPP or some of the steps outlined in the Implementation Guideline might be of greater or smaller relevance to individual organisations. We therefore explicitly state in the final version of the documents that parts of the template or implementation process can be omitted if deemed irrelevant for an organisation at its current stage of RIPP development and implementation.

We paid more prominent attention to the examples featured in both the RIPP template and Implementation Guideline, especially for organisations that are in the early stages of developing or implementing a RIPP, and for which the amount of information and the number of steps to take can be quite overwhelming. Therefore, having concrete examples of how a particular RIPP topic can be addressed or how an implementation step can be approached was deemed very valuable by the pilot organisations. To accommodate for this, we extended the use of the examples provided within the documents as well as slightly altered the layout of the documents to have the examples appear more prominently in them.

3.3.2 Internal working documents: the Self-assessment matrix and the Stakeholder mapping document

3.3.2.1 Self-assessment matrix

The Self-assessment matrix was specifically designed for the needs of the pilot studies, as a basic step to initialise the process of mapping internal documents, policies and procedures, and other resources by the pilots. It also helped to align the existing organisational framework with the topics proposed and developed by the SOPs4RI consortium. The matrix served as an initial tool for fostering self-reflection and a starting point for the internal preparatory work within pilot institutions. It was distributed simultaneously with the first Content Tours meetings, to stimulate independent work and mapping related to the topics presented by the SOPs4RI experts. The Self-assessment matrix was distributed to the representatives of both RPOs and RFOs.

The Self-assessment matrix is added as Appendix IV to this Deliverable.

3.3.2.2 Stakeholder mapping document

The Stakeholder mapping document aimed to assist the institutions in identifying internal key stakeholders and actors involved in RI related tasks and procedures within the organisational structure. It specifically addresses the RPOs, as already in the first stages of the pilot testing, some issues related to the multiplicity of structures (including cases of overlapping positions and mandates), as well as the diversity of policies and procedures within one single RPO arose.

The main aim of the document is to serve as a more structured reflection tool on how to build an internal 'implementation team'. Furthermore, three main levels of internal actors were identified: top management, RI officers/administrators, and researchers. Their cooperation is described as imperative for the achievement of the goals of the pilot testing, and more generally – of the successful implementation of a RIPP.

The Stakeholder mapping, an internal, working document for the RPO pilot institutions is added as Appendix V to this Deliverable.

3.3.2.3 Feedback and adjustment procedure

Both the Self-assessment matrix and the Stakeholder mapping document were created as supporting, internal materials and (self)reflection tools to facilitate the pilot institutions

especially in their initial, preparatory work. Nevertheless, these documents also provided interesting insights, by underlining internal dependencies between actions during the implementation phase.

The Self-assessment matrix facilitated the transmission from the general topics, defined by the consortium, into the specific institutional and organisational framework. It offered a novel approach to classifying and interpreting the existing policies and procedures within pilot institutions, by grouping the existing documents around the nine selected topics for the RPOs and six respectively for the RFOs. The proposed SOPs4RI thematic framework, even if often not completely compatible with the documents and procedures in place, was generally assessed positively, mostly for providing a less *ad hoc* and more long-term and strategic approach to the main RI-related actions and processes.

The Stakeholder mapping document aimed at facilitating internal communication and cooperation of diverse institutional actors around RI-related tasks and responsibilities. Designed as one of the initial, preliminary tools, it was assessed as a valuable resource for a later stage of the implementation process by the pilots, because the identification of all relevant stakeholders, especially in larger and more complex RPOs, proved to be a challenging and time-consuming task, requiring additional support from the higher and even top-level management. The pilot testing activities, engaging internal 'implementation teams' within single institution, were re-designed accordingly, to give the pilots time and resources needed to create bigger, institutional stakeholders' teams.

3.3.3 Additional developments: Action Plan matrix & Inspirational stories

3.3.3.1 Action Plan matrix

Translating the selected topics into a RIPP proved to be a complex exercise, involving multiple stakeholders, especially in the RPO settings. Representatives of the Ghent University, in order to operationalise the templates and tools developed by the SOPs4RI consortium and during the pilot testing, created a detailed Action Plan matrix, taking into consideration their specific needs and work done to date within the institution.

The Action Plan matrix divides the RIPP topics into concrete actions and more detailed tasks. It attributes responsibilities to staff members, units or departments, estimates duration of each action, and identifies milestones. It offers also a 3-stages scale for progress monitoring: 'on track', 'alert', 'delayed'.

This additional tool, developed by the Ghent University piloting team, was assessed by all representatives of RPOs as an excellent, practice-oriented complementary document.

Moreover, the document contributed to closing the gap between the first, basic assessment of documents and procedures in place (the Self-Assessment matrix) and engaging with the Implementation Guideline and the RIPP template.

The Action Plan matrix developed by the Ghent University pilot team is added as Appendix VI to this Deliverable.

3.3.3.2 Inspirational stories

Following up on the desire for more guidance and exemplary material, especially for organisations with lower readiness levels regarding RI changes, we established a set of 'inspirational stories'. These stories consist of either written or video interviews with representatives from the pilot organisations, documenting the experiences with their RIPP journey, guided by the SOPs4RI team and documents. The stories are uploaded to the SOPs4RI webpage and serve as exemplary material for future organisations aiming to commence their journey towards developing and implementing a RIPP.

Reflecting on the process of working on a RIPP, the organisations answered the following questions:

a. To what extent did your organisation have elements of a RIPP in place when you started engaging with the SOPs4RI toolbox?
b. How did the SOPs4RI toolbox help you to establish a RIPP and/or build a more developed culture of RI?
c. What kind of difficulties did you encounter on your journey towards a stronger RI culture and how did you overcome them?
d. What advice would you give to other organisations that aim to start their journey towards a stronger RI culture?

These stories should help other organisations, newly engaging with the SOPs4RI tools and documents, to understand what the process of building a RIPP can look like, what challenges they might encounter and how others solved and addressed these issues. The stories are rather informal and have a personal character to allow viewers or readers to identify with the inspirational stories and the organisations behind them.

4 Monitoring and Assessment

4.1 Aims and objectives

In the early stages of the WP7, several documents were created to assist RPOs and RFOs in drafting and implementing a RIPP, most notably the RIPP templates, Implementation Guideline, the Self-assessment tool, and a Stakeholder matrix. These documents and tools were provided to the pilot organisations during the piloting period. In the final stages of the pilot period, we aimed to get systematic and structured feedback from the participating organisations regarding the usage and perceptions of the documents. In particular, we were interested to receive the participants' feedback in order to more successfully develop our project outputs and tailor them towards users' needs and preferences. We therefore set up a feedback process to examine whether (i) the pilot organisations had used our documents and tools (i.e. the Self-assessment matrix, the Implementation Guidelines, the RIPP template, SOPs and Guidelines, resources from the toolbox), (ii) if so, how they experienced this usage, and (iii) if not, what the reasons were for not using them and how we could improve the documents and tools to increase the likelihood of their usage.

4.2 Methods

In order to solicit systematic and structured feedback from the pilot organisations regarding our main project deliverables, we employed a two-tier feedback process:

1. First, we sent out a brief online survey to all pilot organisations requesting their input regarding the RIPP template, Implementation Guideline, as well as the SOPs4RI created guidelines (created in WP4). The survey questions are added as Appendix VIII to this report. The annex contains the survey for RFOs. RPOs received a similar survey, with the same questions tailored to the guidelines and templates for RPOs.
   For the three sets of documents (RIPP template, Implementation Guideline, and SOPs4RI created guidelines), we asked the pilot participants about the extent to which they used the documents when drafting or implementing their RIPP, the ease of using the documents, the helpfulness and applicability of the documents, the level of flexibility perceived in using the documents, and any other general feedback. For all questions, respondents were asked to indicate their response on a simple Likert scale, allowing for elaboration in an open comment field.

2. Second, we invited all organisations to a brief call to allow to elaborate on the responses from the survey. During the interviews, we discussed the most noteworthy survey responses and probed the pilot representatives to the reasons for their answers as well as specific suggestions on how to improve the project output documents. In particular, for the three documents mentioned in the survey, the pilot representatives were asked whether they had used the documents, if yes, how they used them and how they perceived this usage, and if no, how the documents could be improved to increase the likelihood of their usage. In addition, general feedback that could help improve any of the documents was solicited.

Both the survey and the follow-up conversations also included some questions regarding available and required resources within the pilot organisations to establish and implement a RIPP. These aspects will be discussed separately in deliverable D7.3 “Cost-Benefit Analysis”.

4.3 Findings and feedback

Ten pilot organisations completed the survey – four RFOs and six RPOs. Subsequently, a total of eight follow-up Zoom calls were conducted – three RFOs and five RPOs. The follow-up conversations lasted between twenty and thirty minutes, were held via Zoom and written notes were taken during the conversations. In this report we will focus on the feedback obtain regarding the RIPP template and Implementation Guideline. The feedback concerning the SOPs4RI created guidelines will be discussed in the reporting accompanying deliverable D4.7 “Final toolbox with SOPs and guidelines (version 5.0)”.

The survey and follow-up conversations generally conveyed a very positive attitude towards the RIPP template, the Implementation Guideline and the SOPs4RI toolbox in its totality (see Table 6). The RIPP Template and Implementation Guideline were lauded for their readability, structured format and easy-usage. In general, almost all pilot organisations indicated that they either (intensively) used the RIPP template and Guideline or were expecting to use them in the future. We highlight four aspects that tended to reoccur among the respondents’ feedback. These aspects are discussed in more details in the following sub-sections (4.3.1. to 4.3.4.).

Project output	Quotes from the survey responses	Respondent from
Implementation guideline	*The guideline is very systematic and clear in terms of concrete steps that have to be considered. It was followed in its entirety to guide the process and was very helpful in the process.*	RFO
	(…) the diagnostic was done during the content tours, and the creation of the team and implementation of actions will be done from now.	RPO
	(…) it's a good document to get you thinking, defining the scope of issues to address so I think it fits purpose (…)	RPO
	It helpfully defines the entire framework (…)	RPO
RIPP template	*The template helps in keeping track of which documents or processes to assess and what the findings were.*	RPO
	Provides ideas, a structure to think and act, what is the state of the art and what needs to be improved.	RPO
	The RIPP template has a great readability: it raises multiple ideas but, in a structure, and [gives] concrete suggestions for the institution.	RPO
	Helpful for funders to know how the situation can be improved.	RFO
	Best aspect [of the RIPP template] is to provide an overview of the current situation and how to improve it.	RFO
Self-assessment matrix	*Yes, the Self-assessment matrix was a very good starting point to have an overview of all that we have already and what is missing.*	RFO
	(…) self-assessment is absolutely necessary for bigger institutions that already have a lot of infrastructure. The matrix helpfully assists in performing the self-assessment.	RPO

Table 6: Quotes from survey responses

4.3.1 Use cases

The respondents indicated multiple use cases of the documents developed by the WP7 partners and of the SOPs4RI online toolbox in general. Even though most of the pilot organisations used the documents, they did so for different purposes. Several of the organisations used the RIPP template and the Implementation Guideline as a kind of checklist that helped to structure their efforts in working towards a stronger RI culture. This means that, in the future, they plan to use the documents relatively loosely, not necessarily following all steps but rather using them as inspirational sources of what to take into account when addressing RI.

A second way of using the documents was by embracing them as a trigger for internal discussions about RI. Rather than starting a structured process to develop or implement a RIPP, these organisations used the SOPs4RI toolbox and guiding documents as an impetus to discuss RI issues within their organisation. Initially being used as agenda-setting tools, the organisations envisioned to start the more elaborate process of developing a RIPP in later stages.

Thirdly, and closely aligned to what we initially envisioned, several organisations fairly strictly adhered to the process and topics suggested in the RIPP template and the Implementation Guideline. These organisations were in the midst of implementing and drafting a RIPP and aligned their processes closely to our suggestions in the guiding documents.

Another use case, one that we did not anticipate, was the use of the SOPs4RI toolbox and guiding documents to create a mandate for change. Several of the pilot organisation representatives indicated that they did not feel to have sufficient mandate within their organisation to initiate the potentially far-reaching changes associated with the development and implementation of a fully-fledged RIPP. Therefore, they used the SOPs4RI toolbox and guiding documents as well as the fact that they were created by a consortium of European experts through an elaborate and well thought-through process, to obtain support from colleagues and other organisation members. The documents and the 'SOPs4RI brand' here acted as a way of legitimising the initiation of a change process.

4.3.2 Differences in readiness levels

A second reoccurring theme in the feedback survey and conversations was the variation in organisational readiness levels when it comes to developing and implementing a RIPP. Whereas some organisations are already well advanced on their RI journeys, others were only about to start. In addition, some organisations had many more resources available to develop and implement a RIPP than others. This caused a strong variation in needs regarding guidance from the SOPs4RI team and documents. Among others, organisations with lower readiness levels expressed the desire to have more exemplary cases or material that could show them how a RIPP could look and how certain elements from the implementation process could be executed. In addition, they indicated that, even though the elaborateness of the guiding documents might be beneficial in the long run, it tended to be quite overwhelming at first use.

4.3.3 Tension between flexibility and specificity

Related to the variation of readiness levels, organisations also expressed diverse opinions and desires with regard to the specificity of the guiding documents. Some of the organisations with higher readiness levels, or those having progressed substantially in the process of developing a RIPP, indicated that they liked the documents, but might have benefited from documents that were even more detailed in sketching out the specificities of how to implement certain RIPP elements. In contrast, several of the organisations with lower readiness levels, particularly those only just commencing the process of drafting a RIPP felt that the documents were already very specific and perhaps even too detailed to allow for flexible usage among different contexts and organisational settings.

4.3.4 Tension between elaborateness and user-friendliness

The tension between flexibility and specificity somewhat resembles a fourth aspect that tended to reoccur among respondents' feedback: the tension between elaborate documents and short, easy to use documents. Again, respondents from diverse contexts and organisational settings tended to have distinct preferences with regard to this spectrum, mostly dependent on the intended use cases. Pilot organisations indicating to have used our documents to ignite discussion or as checklists, tended to favour shorter documents that present a clear overview without expanding on too many details. In contrast, organisations that aimed to use the documents as close guidance to actually

developing and implementing a full RIPP tended to be more in favour of elaborate, detailed documents that convey much information. However, respondents with either of these preferences indicated that they understood the opposite preference as well and they believed that the documents are structured in such a way that they accommodate for multiple use cases.

5 Conclusions

The pilot studies significantly enriched the empirical programme of the SOPs4RI project, as tools and resources got a more practical exposure and were further contextualized within specific organisational cultures, and broader – within the existing research system. The key stakeholders provided us with highly relevant feedback on the efficiency and effectiveness of the SOPs, guidelines and documents created by the consortium, as well as the structure and functionality of the online SOPs4RI toolbox.

Similarly, the pilot institutions have also identified considerable benefits from taking part in the project. Engaging in a novel, more structured approach to fostering a stronger RI culture, namely creating a RIPP and designing its implementation within each organisation, offered a framework for internal cooperation(s) and a stronger rationale for managerial support. The steps co-created with the SOPs4RI partners (i.e., mapping of existing institutional policies, adapting the tools and resources from the project, pilot testing guidelines and SOPs, establishing internal stakeholders' team/group, reflection of the costs and benefits of the implementation) facilitated an active exchange and fostered mutual learning practices. This, in turn, initialised a self-assessment of the structures and policies in place and an identification of further needs for the development of an institutional RIPP. The two-fold dynamics: joint discussions within the project and internal work in the institutional piloting groups, generated a shared perception of implementation strategies needed and roles and responsibilities of key actors involved.

The pilot studies advocated for an organisational change where quality of research plays the most crucial role. The work of the SOPs4RI project partners met acceptance and creative adaptations because the leading values we referred to (*reliability, honesty, respect and accountability*, ALLEA, 2017) were already central to the organisations we cooperated with. These key values are however embedded in specific disciplinary standards, institutional and national culture(s), administrative and legal norms and the overall research environment. The findings from the pilot testing phase have emphasized once more the importance of these systemic factors and overreaching frameworks for strengthening and promoting responsible research and the culture of RI.

5.1 Cross-cutting themes and recurring conclusions

The SOPs4RI project aimed at reducing existing fragmentation and diversification of RI procedures and regulations, by offering empirically-informed tools, guidelines and

resources, to support both RPOs and RFOs in fostering responsible research practices and countering research misconduct.

Already in the first stages of the empirical validation process, the impact of research culture on RI-related practices and policies was addressed (see Deliverable D3.3"Report on the results of explorative interviews", section 3.2.1). Several contextual factors were mentioned, with the most prominent being the disciplinary, institutional and national differences. The disciplinary divergencies were further explored and analysed in Deliverable D5.2"Report on the Results of the Focus Group Interviews". The results from the focus groups pointed not only towards the importance of a discipline-sensitive approach, but also to the need for assessing specific national frameworks. In the next stage, national differences and their significance for researchers and key stakeholders were investigated within the IRIS survey, part of Deliverable 6.2.

The pilot tests confirmed the main conclusions and recommendations from the previous phases of the project's empirical programme, especially the need for a discipline-specific and institution-oriented approach, that allows flexibility and adaptability of RI-related tools and procedures, without generating additional bureaucratic burden. Furthermore, the pilot studies emphasized the ambiguity of the existing organisational and national research cultures – as factors that can both support and limit responsible research practice.

Moreover, the focus on developing and implementing a RIPP in a real-world setting added a new perspective. It revealed the existing power relations underlying the institutional translation of the central idea of RI. As a complex process of quality-related organisational change, the institutional RIPP-implementation strategies called for a mobilisation of different managerial levels, often engaging the top-level management. While bottom-up initiatives were welcomed and encouraged, they were not assessed as the most effective in introducing new strategies and processes for a more responsible research practice within an institution. A broad stakeholders' agreement on the fundamental principles of RI was identified as a necessary prerequisite. However, the success of the implementation and its sustainability was often determined by the top managements' and policy makers' commitment to introducing and supporting these processes.

5.2 Pilot studies in future projects

Performing the pilot studies within our project taught us valuable lessons about the potential benefits and challenges of such endeavours. We would like to share some of them here to inform future projects.

5.2.1 The values

First and foremost, the pilot studies have proven to be a very fruitful format to create engagement within a broad community. We were pleasantly surprised by the continued dedication of the pilot institutions and their representatives. In addition, the great and growing interest of organisations, to the extent of many of them wanting to join our pilot studies beyond the initially envisioned group of organisations, highlighted the broad appeal of structured, guided and collaborative work towards the implementation of RI cultures. In this way, the pilot studies demonstrated to be an effective way of both igniting and maintaining engagement within the stakeholder community, as well as a way of strengthening this community by facilitating collaboration and interaction between organisations, both within and outside of the project consortium. We are confident that this will have long-lasting impact, well beyond the duration of the SOPs4RI project.

Second, by providing a platform for open discussion and by having shared sessions with the pilot organisations, rather than only one-on-one, individual meetings, the pilot studies enabled experiences and perspectives from diverse actors to meet, be exchanged and fruitfully synergise. This element was particularly helpful in our setting, where organisations from diverse RI-readiness levels were able to help us and each other. Even though such collaborative spaces required additional efforts and considerations from the side of the project team (see also section 5.2.2 for reflections on this), we feel the pilot studies would not have been able to deliver their full potential without them.

Third, the pilot studies have proven extremely valuable in finalising several key project outputs, most notably the SOPs, guidelines and toolbox created within our project. Both regarding content as well as format and structure, the pilot studies exposed some blind spots and introduced some additional considerations that had not surfaced within the earlier project cycles. Hence, despite the extensive empirical programme that preceded the pilot studies, already engaging stakeholders from a wide range of backgrounds, several lessons could, perhaps unsurprisingly, only be learned when our project tools were put into practice. Doing this in a relatively controlled and structured setting, allowed us to optimally benefit from the pilot organisations' local and tacit knowledge.

5.2.2 Potential challenges

Facilitating multidirectional exchanges (SOPs4RI partners: the core piloting team – consortium experts – Advisory Board members with the representatives of the pilots – key stakeholders involved within each institution and between institutions involved) in diverse formats and groups, tailored to organizational needs and practices, proved to be more resource intense as planned in the Protocol. The participatory and co-creational approach demanded a very flexible and responsive planning, involving adaptation of the activities planned, re-scheduling and re-designing actions, development of new steps. Furthermore, taking into consideration that the pilot institutions have undertaken all these tasks voluntarily, as additional activities to their professional arrangements, the SOPs4RI piloting team has adjusted completely the work to their availability.

The success of the co-creative and collaborative elements of our pilot studies crucially depended on the existence of a safe space in which every representative felt the opportunity to speak up and share his or her thoughts. This was particularly important given the diversity in cultural backgrounds and experiences with RI. From the start, it was clear that some organisations and their representatives, were more comfortable with discussing RI related topics, addressing potential vulnerabilities in their current integrity policies as well as commenting on other organisations' practices and policies. We have tried to mitigate this potential barrier to fruitful collaboration by engaging pilots in different groups and enabling individual cooperation with the SOPs4RI partners (within the core piloting group and beyond, according to the expertise and guidance needed) and by facilitating bi-and multilateral exchange between the institutions. From our perspective, especially this mutual learning aspect, helped in securing an open, inclusive and peer cooperation and strengthened the sense of a 'learned community of practice', as both frontrunners and beginners identified challenges and obstacles to RI within their research environments and possible scenarios how to overcome them.

5.3 A way forward – our vision

The piloting phase of the SOPs4RI had the ambition to encourage pilot institutions to continue and steer this positive change, even after the completion of our work in the project.

The first step in this process was taken when representatives of pilots presented their experiences and co-led the workshop on developing institutional RIPPs during the World Conference of Research Integrity on the 29th of May in Cape Town, South Africa (7th World Conference on Research Integrity, Abstract book, https://www.wcri2022.org/wp-

content/uploads/2022/05/WCRI-Abstract_Book_V2.pdf, 2022). The interactions with global partners, interested in the SOPs4RI approach, put the pilot institutions at the forefront of the movement towards a more responsible research culture within the international scientific community.

Besides offering insights into non-European strategies for strengthening RI at institutional level, the co-creation activities during the workshop addressed fundamental issues of equality (in terms of funding, resources, infrastructure), fairness (correlations and dependencies between global regions, in particular North and South) and the ongoing harmonisation efforts (differences and inequalities in standardisation processes). These discussions contributed to the ongoing initiative of promoting RI through addressing fairness, equity, and diversity (Horn et al., 2022).

After the pilot testing work and the extended international activities, we can conclude, that only a shared vision and a consensus on key values and components of a responsible practice of research could counter the existing disciplinary, national and resource and infrastructure-related fragmentation, divergency and inequality worldwide. Recognising the overreaching goals of research and agreeing on fundamental principles would support a universal understanding of responsible research. However, this movement should actively acknowledge and tackle systemic and cultural factors and challenges, in order to enable more global and sustainable mechanisms of change.

6 Acknowledgments

We would like to thank the representatives of the pilot institutions for their outstanding contribution, enthusiastic engagement, creativity, openness and honestly throughout the whole pilot testing phase[4]. We were truly honoured to have the possibility to interact with this vibrant and most knowledgeable group. Their input exceeded our expectations as it provided us with a much broader framework and a global, practice-oriented context for our work.

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Anja Gilis, Director of Nonclinical compliance DPDS, Janssen Pharmaceutical Companies of Johnson and Johnson

Carla Carbonell Cortés, Department of Research and Innovation, Corporate Directorate for Research and Health, "la Caixa" Foundation

Falk Reckling, Head of Department "Strategy - Policy, Evaluation, Analysis", Austrian Science Fund FWF

Gema Revuelta, Professor, Director, Studies Center on Science, Communication and Society, Universitat Pompeu Fabra

Irena Martinović Klarić, Executive Director, Croatian Science Foundation HRZZ

Jasmine Tan, Senior Manager, Singapore University of Technology and Design

Jolanda Habraken, Senior coordinator human-related research / secretary ethical review board / general affairs, TU Eindhoven

Laura Bandura, Assistant Professor, Jagellonian University

[4] Only representatives who gave their consent are listed above.

Lucienne Blessing, Professor in Engineering Product Development Pillar and Co-director of the SUTD-MIT International Design Centre, Singapore University of Technology and Design

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Nina Hedlund, Research Council Norway

Regina López Aumatell, Maria de Maeztu Strategic Programme Manager, Department of Experimental and Health Sciences UPF

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Stefanie Van der Burght, Research Integrity Advisor, Ghent University

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Wolfgang Polt, Director of Policies, Institute for Economic and Innovation Research, Joanneum Research

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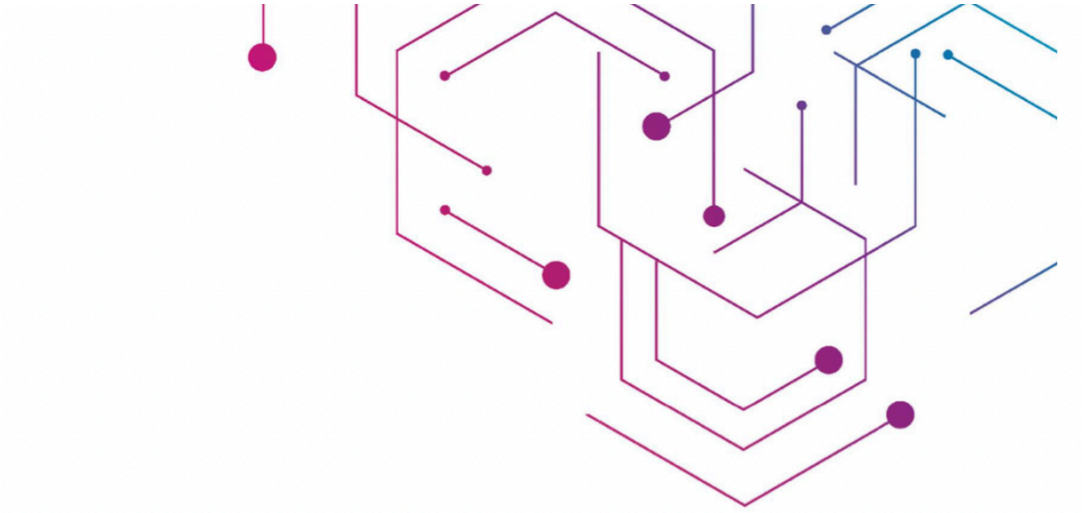
8 Appendices

- Appendix I – RIPP Template for RPOs
- Appendix II – RIPP Template for RFOs
- Appendix III – Implementation Guideline
- Appendix IV – Self-assessment matrix
- Appendix V – Stakeholder mapping
- Appendix VI – Action Plan matrix
- Appendix VII – Pilot institutions (gender and country distribution)
- Appendix VIII – Google form – survey

8.1 Appendix I – RIPP Template for RPOs



TEMPLATE FOR WRITING A RESEARCH INTEGRITY PROMOTION PLAN FOR RESEARCH PERFORMING ORGANISATIONS

1

Preamble

This document provides a template for a Research Integrity Promotion Plan (RIPP) for _____ (Insert institution name). It outlines the various elements that will be included in our institution's RIPP and aims to provide support in structuring the writing process. This RIPP-template is designed to be used in close consultation with the SOPs4RI Implementation Guidelines, which can be found here. The template lists the six priority areas for developing a research integrity culture, as identified in the SOPs4RI project. For each area it gives an overview of the elements that will be discussed in this RIPP, giving a brief description of the expected RIPP content. An overview and description of the nine areas can be found here. Additional areas can be added to this, for instance building on the topics described in the European Code of Conduct for Research Integrity. As noted in the Implementation Guidelines, some of the areas presented may be of bigger or smaller relevance to your local context. Please use this template flexibly, tailoring it to your organisation's needs. The template and implementation guidelines are designed to be applicable both to organisations that already have integrity policies in place and to organisations that are about to start on their integrity journey. In the former case, some parts of the template or implementation guidelines may be redundant.

Nine areas for improving integrity

SUPPORT

1. Research environment

Example: how to address hyper competition, publication pressure, detrimental power imbalances, conflicts; fair, transparent and responsible policies for assessing, appointing and promoting researchers; diversity and inclusion related issues.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

2. Supervision and Mentoring

Example: how to create clear guidelines for PhD supervision; how to set up skills training and mentoring, for both junior and senior staff.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

3. Research Integrity Training

Example: how to establish training and confidential counselling for all researchers and support staff.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
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- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

ORGANISE

4. Research Ethics Structures

Example: how to establish review procedures that accommodate different types of research and disciplines; how to establish dedicated and adequately trained support units.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

5. Dealing with Breaches of Research Integrity

Example: how to establish procedures that protect both whistle-blowers and those accused of misconduct.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

6. Data Management

Example: how to provide training, incentives and infrastructure to curate and share data according to FAIR principles.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

COMMUNICATE

7. Research Collaboration

Example: how to establish sound rules and transparent regulations for effective and transparent collaborations with international and/or non-academic partners, including industry.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

8. Declaration of Interests

Example: how to enable researchers to provide transparent declarations of interests and ensure that conflicts of interests are handled adequately.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

9. Publication and Communication

Example: how to support research staff to respect guidelines for authorship and ensure openness and clarity in public engagement.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

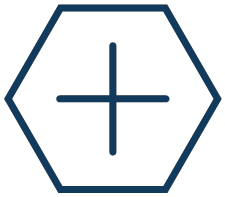
Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*



ADDITIONAL AREAS

Please add any other areas of your organisations' policy and regulatory framework that you consider would support research integrity.

10.

8.2 Appendix II – RIPP Template for RFOs

TEMPLATE FOR WRITING A
RESEARCH INTEGRITY PROMOTION PLAN
FOR RESEARCH FUNDING
ORGANISATIONS

Preamble

This document provides a template for a Research Integrity Promotion Plan (RIPP) for _____ (Insert institution name). It outlines the various elements that will be included in our institution's RIPP and aims to provide support in structuring the writing process. This RIPP-template is designed to be used in close consultation with the SOPs4RI Implementation Guidelines, which can be found here. The template lists the six priority areas for developing a research integrity culture, as identified in the SOPs4RI project. For each area it gives an overview of the elements that will be discussed in this RIPP, giving a brief description of the expected RIPP content. An overview and description of the six areas can be found here. Additional areas can be added to this, for instance building on the topics described in the European Code of Conduct for Research Integrity. As noted in the Implementation Guidelines, some of the areas presented may be of bigger or smaller relevance to your local context. Please use this template flexibly, tailoring it to your organisation's needs. The template and implementation guidelines are designed to be applicable both to organisations that already have integrity policies in place and to organisations that are about to start on their integrity journey. In the former case, some parts of the template or implementation guidelines may be redundant.

Six areas for improving integrity

INTERNAL PROCEDURES

1. Criteria and Processes for Assessing Grant Applications

Example: how to establish transparent and fair procedures for assessment, in line with methodological, ethical and research integrity standards.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

2. Declaration of Interests

Example: how to establish transparent and fair procedures for assessment, in line with methodological, ethical and research integrity standards.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

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Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

3. Monitoring Funded Grants

Example: how to establish policies and processes for transparently and responsibly monitoring funded grants, among others related to good publication and dissemination practices, open science principles, and project progress.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

4. Internal Breaches of Research Integrity

Example: how to establish procedures to deal with breaches of research integrity by funder staff or associates, including panel members and peer reviewers; how to establish a safe whistle-blowing channel.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

EXTERNAL EXPECTATIONS

5. Compliance with research integrity standards by applicants

Example: how to monitor and facilitate compliance with applicable research integrity standards by applicants; procedures and policies about how to deal with breaches of RI in funded projects.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

6. Expectations for Research Performing Organisations

Example: how to facilitate research performing organisations in developing a RIPP; how to describe the expectations of the funder regarding such a document.

Current state of affairs

Describe how this topic is currently being addressed, including the policies and procedures already in place and the extent to which they seem effective.

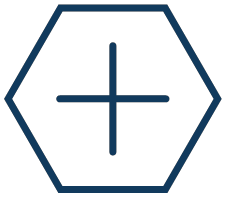
Areas in need of improvement

Describe which aspects related to this topic require further attention. Try to be as specific as possible, among others by identifying the organisational units involved as well as the cause or reason that triggered the requirement for further improvements.

Future plan

Describe how your organisation will address the aspects in need of further attention. Using the list below, specify in detail what the plan will look like, including what it aims to achieve (goal), what specific actions will be taken (action plan), who will be responsible for and involved in this endeavour (responsibilities and participants), specific milestones and deadlines (timeline), indicators or criteria used for evaluating the effectiveness of the change process (indicators and criteria), and tools from the SOPs4RI toolbox that might support the change process (potentially helpful tools).

- *Goal*
- *Action plan*
- *Responsibilities and Participants*
- *Timeline and milestones*
- *Indicators and criteria for evaluation*
- *Potentially helpful tools*

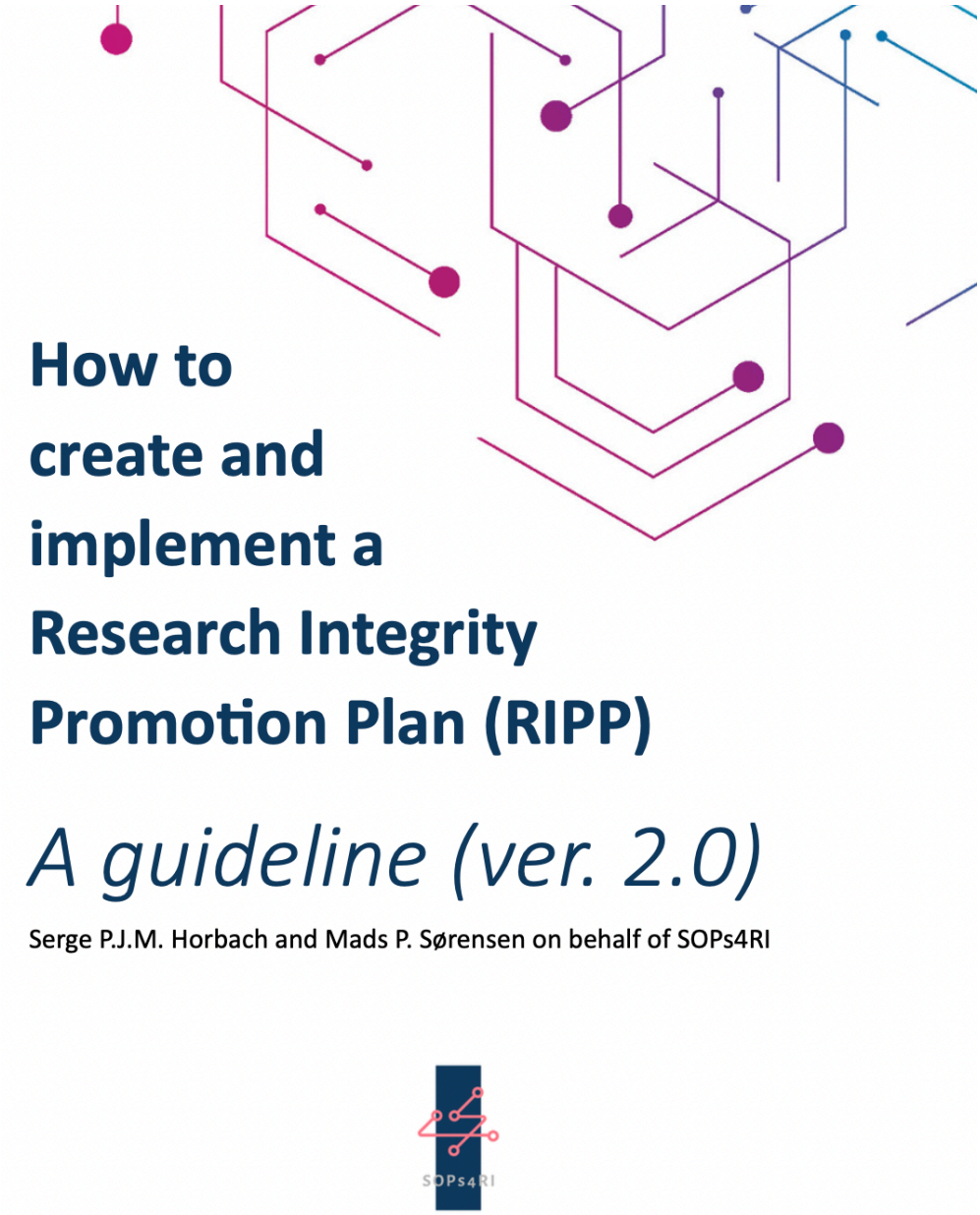


ADDITIONAL AREAS

Please add any other areas of your organisations' policy and regulatory framework that you consider would support research integrity.

7.

8.3 Appendix III – Implementation Guideline



Preamble

In SOPs4RI, we believe that all research performing organisations (RPOs) as well as research funding organisations (RFOs) need to have a plan for how to transfer the fundamental principles of the European Code of Conduct to actual responsible conduct of research in everyday work. We call this plan a RIPP – a Research Integrity Promotion Plan. A RIPP should outline the concrete steps that the organisation will take to promote research integrity. The RIPP should address several research integrity topics and outline policies for how these topics will be handled. We have described the topics to be addressed in a RIPP in two documents that can be downloaded from our webpage (here for RPOs, and here for RFOs). Our web page also contains a toolbox with concrete examples of guidelines for each of the topics that should be addressed. This document gives practical guidance on how to use the toolbox to design and implement a RIPP, tailored to the local context of a research or funding organisation.

Introduction

To assist in designing a RIPP and implementing concrete actions that will foster a culture of research integrity within a research or funding organisation, the model depicted in Figure 1 can be used. The model consists of three phases: Preparation, Execution and Monitoring. Each of these subsequently involves tasks to be carried out in multiple steps. Importantly, the model proposes a cyclical format of creating, maintaining and revising an integrity culture. As input to the first cycle, an organisation may use the list of topics to be addressed in a RIPP (9 for RPOs and 6 for RFOs). The idea behind this model is that throughout the first cycle, a RIPP will be created and implemented. This RIPP will then constitute the input to the next cycle. Below, we discuss each step of the model, guided by an illustrative example from a fictive university, called the Global Integrity College (GIC). Note that this example merely serves as an illustration: in practice an organisation might diverge from it, depending on the local context and needs of the organisation. For the sake of brevity and clarity, the example focusses on a single topic to be addressed in a RIPP, but organisations may wish to address multiple topics in one model cycle, hence creating the need for several steps to be carried out multiple times in parallel.

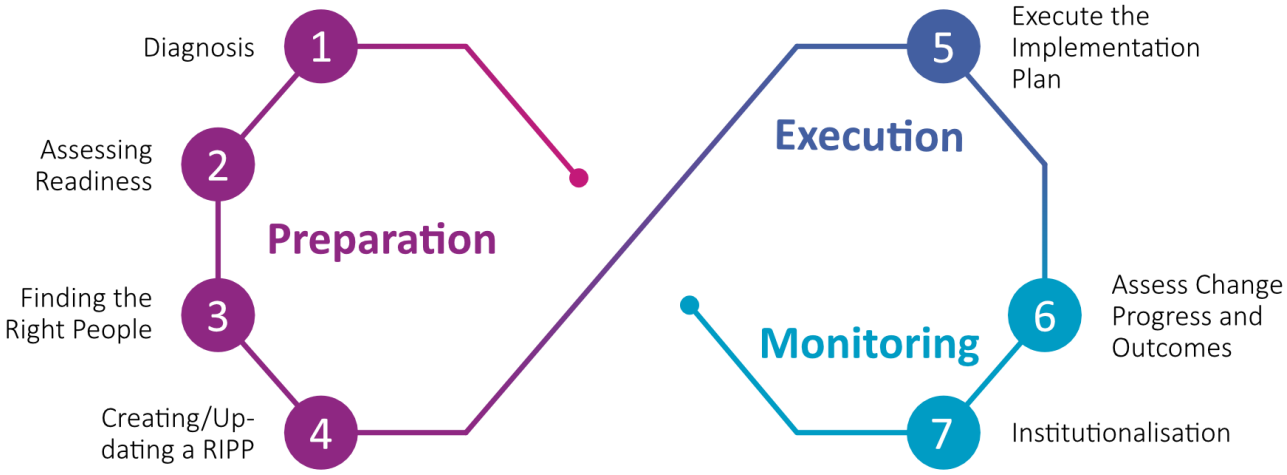
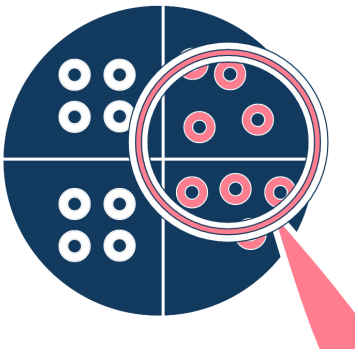


Figure 1. The implementation model

Preparation

Diagnosis 1



In this first stage, an organisation gathers information to assist in the diagnosis of what change is needed. It asks itself questions like: Which of the RIPP topics are relevant to our organisation? Which topics have already been appropriately addressed in current policies and procedures? Which require more attention? What would our organisation look like if all this was implemented? The answer to the latter question serves as an invitation to come up with an aspirational marker on the horizon, a vision to work towards.

***Example**:* GIC's vice chancellor asks a senior policy advisor to make an inventory of their research integrity policies, based on the list of 9 RIPP topics. They conclude that 6 topics currently are appropriately addressed, 2 are not particularly relevant to local context of the organisation, and one topic is in particular need of improvement. Currently, there is no research integrity training at GIC and hence the vice chancellor and the senior management team decide to focus on RI training.

How would you address this issue?

2

Assessing Readiness

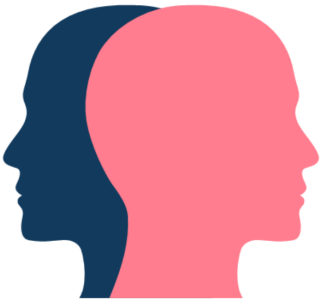
The next step requires an organisation to assess its readiness for change. Readiness refers to the capacity of the organisation and its members to take on the demands that effective change requires. This includes, among others, senior leadership's capability to guide change, the availability of sufficient resources, and the preparedness for change among the organisation's members. This step requires answering questions such as: Where, i.e. what organisational unit, would be the best place to start the change process? Which parts of the organisation have been facing the biggest problems with RI or are most prepared to take the next step? Where do we have the resources available?

***Example**:* GIC's senior management team decides that, because of a track record of several issues with RI in the medical faculty and the explicit willingness of several faculty's senior staff members to address this, the medical faculty will be the first unit within the organisation to establish novel RI training procedures.

How would you address this issue?

Finding the Right People

3



In this step, an organisation identifies the right people to promote and execute the process, forming a *change coalition*. It asks itself: Who can serve as change agents and role models? How can we create a safe change environment with room for voice, mistakes, and learning? Important aspects to take into account comprise the potential need for specific training or preparation for the identified people; inclusion of all relevant types of staff: e.g. junior and senior researchers, mid-level management, and people centrally placed in the organisation's social network and with the right characteristics: trustworthy, supportive, and honest.

***Example**:* After consultation with several people within the medical faculty, GIC's research integrity team decides to form a change coalition, including: the medical faculty's vice dean of education, the IT support staff, representatives from PhD students and post docs, three of the lab leaders, a student-counsellor, a member of the research ethics committee, and a colleague from the educational office.

How would you address this issue?

4

Creating/Updating a RIPP

In the last preparatory step, the change coalition writes the actual RIPP, or the relevant part of it. In this, they describe the topics that will be addressed, in what way they will be addressed, and by whom. It is crucial to be specific and if possible, to provide links to relevant documents such as codes of conduct and guidelines. This comprises at least six key elements:

(i) *Goals*: Specifying individual, unit and organisational change related goals;

(ii) *Employee participation*: Involving all relevant staff-groups and faculty to create legitimacy for the envisioned change. This requires the identification of stakeholders that should be involved and the agreement on a shared vision for the process and outcome of the change.

(iii) *Organisational set up*: Describing the organisational set up for implementing the envisioned change;

(iv) *Using SOPs4RI toolbox or other relevant databases*: Finding the right tools in the toolbox that match these goals;

(v) Specifying actions to be taken by specific people; and

(vi) A set of indicators or targets that can be used in evaluating the effectiveness of the change process.

A template for such a RIPP can be found **here**.

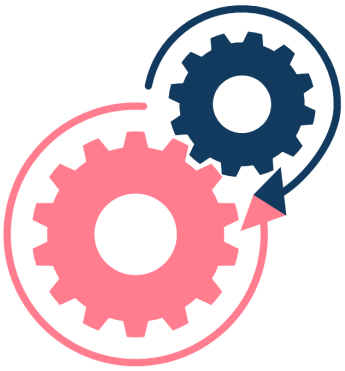
Example: The GIC research integrity team puts together a shared goal on what the training programme will look like: Every PhD-student will get a 2-day introductory course on RI and a 2-days follow-up course in their third year. A new mandatory course for senior researchers will be developed and implemented. It will adapt the University College London (UCL) Research Integrity Training Framework tool from the toolbox, particularly the mandatory learning module for all senior staff. The team identifies all relevant stakeholders and assigns responsibilities for setting up the course and inviting all participants. It decides that participation rate, participants' perception of the trainings' effectiveness, and their engagement with the course, will be used as monitoring indicators. All of this is written down in GIC's RIPP under the topic of *Research Integrity Training.*

How would you address this issue?

Execution

Execute the Implementation Plan

5



In the execution stage, the change plan is rolled out. Before doing so, it is essential to make sure that all relevant stakeholders are properly informed and well aware of what is expected of them. In case the intended change involves a major restructuring of (some) stakeholders' daily workflow, we suggest you consider a gradual change process. A gradual process can include several pilot tests, experiments, and local initiatives, which together make complex change easier to implement. At this stage, it is also crucial to allow change recipients to provide feedback and make local adjustments to broader change plans. After evaluating this local feedback, and finishing potential pilots, the change coalition should agree on the permanent course of action, which is presented as an updated version of the relevant RIPP section to senior management.

***Example**:* The change coalition decides to create a pilot for some of the medical faculty's research groups. After providing a course to all senior members of these groups and collecting their experiences and feedback, the course's format is slightly changed to fit everybody's needs. The course is subsequently offered to all senior staff members within the faculty in the remainder of the academic year.

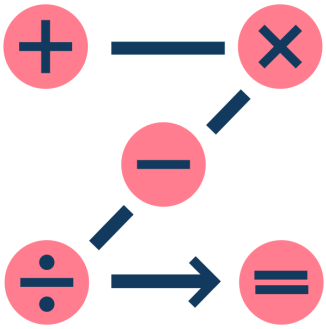
How would you address this issue?

Monitoring

6

Assess Change Progress and Outcomes

Periodic assessment based on the predetermined set of indicators is required to verify whether the planned change is producing anticipated outcomes and whether any unintended side-effects are occurring. Also, an evaluation of the required resources is conducted. This stage gathers elaborate feedback on consequences of the change, including potential improvements, based on input from all relevant stakeholders.



***Example**:* Based on interviews with the course participants, the policies are refined, the course is further adjusted to align with different settings and local needs. Multiple variants of the course are created to allow for flexibility in offering the course. This includes a generic course, offered to all researchers, and several discipline specific courses, tailored to the customs and practices within several research communities.

How would you address this issue?

Institutionalisation 7

In this final stage of the cycle, it is important to institutionalise the novel procedures in the organisation. Based on the assessment of the change coalition, the RIPP is revisited, resources and responsibilities are allocated for long-term implementation, and the change coalition's relevant experiences from their organisational unit are implemented into the procedures and policies of the entire organisation. Institutionalisation aims to integrate the changes into the organisation's larger systems, including its culture and management systems.

***Example**:* Based on the positive experiences from the medical faculty, GIC's senior management team decides to make discipline specific training courses for senior researchers as a one day mandatory course. It allocates resources to allow future local committees, akin to the change coalition established in stage 3, to take disciplinary differences into account, plan and execute the course within their organisational unit. It also decides to revisit the state of affairs and need for research integrity training after three years. All of this is written in the GIC's RIPP for Research integrity training and uploaded on the organisation's webpage.

How would you address this issue?

Repeat

Above, the first cycle of the process towards a RIPP has been described. However, this process must be repeated at regular intervals. Based on the monitoring phase of one cycle, a new diagnosis of the next cycle can be readily performed. As mentioned earlier, the RIPP designed in the previous cycle should constitute the base input for subsequent cycles. Repetition of cycles must be done at regular intervals; we suggest at least every three or four years. To make sure not to create additional or redundant administrative workload, we suggest to couple the cycles to existing evaluation cycles already taking place regularly, e.g. external audits of research or educational performance. Integrating the updating and evaluation of the RIPP with existing policies of evaluation, might both reduce administrative burden and allow research integrity to become an integral aspect of the organisations' policies and workflow.

References

Stouten, J., Rousseau, D. M., & De Cremer, D. (2018). Successful Organizational Change: Integrating the Management Practice and Scholarly Literatures. Academy of Management Annals, 12, 752-788. https://doi.org/10.5465/annals.2016.0095

8.4 Appendix IV – Self-assessment matrix

Self-assessment matrix RPOs

Organisation Name:
Contact Person:

Topics	If your institution has any relevant documents, please insert link to or title of document evaluate the document with the dropdown menu					Internal documents and policies	If you have any further comments or suggestions regarding the respective topics, please share them below
Research Environment	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Supervision and Mentoring	Good / Sufficient / Room for improvement	ease evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Research Integrity Training	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Research Ethics Structures	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Data Practices and Management	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Research Collaboration	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Publication and Communication	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Declaration of Interests	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
Dealing with Breaches of Research Integrity	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		

Self-assessment matrix RFOs

Organisation Name:
Contact Person:

Topics	If your institution has any relevant documents, please insert link to or title of document evaluate the document with the dropdown menu					Internal documents and policies	If you have any further comments or suggestions regarding the respective topics, please share them below
1. Criteria and processes for assessing grant applications	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
2. Declaration of interests	Good / Sufficient / Room for improvement	ease evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
3. Monitoring funded grants	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
4. Dealing with internal breaches of research integrity	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
5. Expectations for Research Performing Organisations	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		
6. Compliance with RI standards by applicants	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document	Please evaluate document		

8.5 Appendix V – Stakeholder mapping

INTERNAL AND EXTERNAL STAKEHOLDER MAPPING FOR IMPLEMENTING GUIDELINES FOR RESEARCH INTEGRITY (RI) AT RESEARCH PERFORMING ORGANISATIONS (RPO'S)

DISCLAIMER

This document is addressed to RPO pilot institutions in the SOPs4RI project. It is an internal, working document for the pilot institutions. Should you have any input/comment to this document, please feel free to contact Borana, Teodora, Mathieu (contact details at the bottom of this document).

MAIN AIM OF THIS DOCUMENT

This document includes reflection questions for the pilot institutions in the **SOPs4RI project** to map what, how and who to involve to improve Research Integrity practices in the respective institutions. It also includes a mapping exercise about main actors to involve to trigger organisational change.

PILOT INSTITUTIONS FROM RPOS

The following six institutions are piloting in the SOPs4RI project as RPOs[1] : Ghent University, Jagiellonian University, Janssen Pharmaceutica N.V., University Pompeu Fabra/Barcelona Biomedical Research Park and Singapore University of Technology and Design.

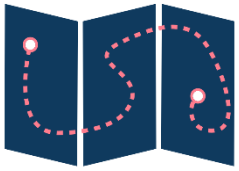
BACKGROUND INFORMATION

The SOPs4RI project will offer expertise in the form of guidelines and standard operating procedures to improve Research Integrity practices at RPOs and Research Funding organisations (RFOs). Essentially, this will be offered in the form of an online, freely accessible and easy-to-use **Toolbox**, creating a unique overview of the scope of research integrity. The Toolbox aims at organisational, and potentially cultural change for an overall raising of quality and standards in research Integrity. This requires explicit support from

[1] RFO pilot institutions are: Caixa Foundation, Novo Nordisk, Research Council Norway, Austrian Science Fund, Croatian Science Foundation

senior management and an overall implementation in all parts of the organisation (see table 1 and picture 1 below).

The Toolbox has been developed to help institutions strengthen their research integrity culture by enabling them to make their own Research Integrity Promotion Plans (RIPPs). A RIPP describes on a general level how the RPO promotes research integrity and refers to the concrete methods that the organisation employs or is developing to foster research integrity – (more information about RIPPS here).



MAPPING EXERCISE

Please use table 1 and its reflection questions to map what, how and who to involve in your organisations to improve Research Integrity practices in your institution.

What? Context is very important and will determine the applicability of the questions below for your institution. There is no 'one size fits all' in RPO organisational change. It is up to RPO's to decide what goals they want to achieve in correspondence with organisational characteristics.

How? Start with what is there already; existing frameworks, policies in place, tools being referred to or used, etc. Map these and look for overlap, gaps and ways to improve.

Who? Find the 'right man/woman' for the job. Start for example from attendants or members with a vote at high level meetings such as Board of Directors, Research Board, executive board or committee, etc. Depending on the "content", you need to involve different people in your organisation, e.g. the coordinator of the Doctoral Schools unit for issues related to RI training, supervision and mentoring; the publication services and library when dealing with publication and authorship issues, etc. As this sometimes implies reaching out to people outside of your own unit or department, be sure to inform the hierarchical line in advance, to get the necessary support for implementation.

When you have concluded this mapping, you will have a platform to inform and create support for future changes in the RI topic. You will also have a starting point to evaluate the level of awareness and willingness for change in your organisation.

How to read Table 1: internal actors in your organisation are highlighted in green. Actors that can be both internal and external are in blue. Purely external actors are in orange. A simplified version of the relevant actors to be involved in the overall process is provided in picture 1 (below).

Table 1 Stakeholder mapping for RPOs – Reflection questions

Main actors - Organisational level	Reflection questions to trigger organisational adaptation
1. 'Regular' decision makers in Institutional Strategic Framework	I. What internal regulations are in place in your institution that should be followed? - Organisational Strategy - Mission Statement - Implementation plan - Etc…. II. Who are the drivers and key decision makers? III. Who are the different actors that have a voting right (faculty members, technicians, student unions, RPO worker's unions, individual students, …) IV. What is the timeline for the strategic framework? When will there be a new strategy, an evaluation of the strategy or when does the strategy allow for new inputs? V. How can Research Integrity improvements contribute to the realisation of the strategy?
2. 'Other' decision making bodies or plans of relevance	I. Which other organisational bodies or structures can drive change? II. Which other plans or actors exist that are of relevance to research integrity? III. Who are the drivers and key decision makers? IV. What is the timeline to be respected? V. How can Research Integrity contribute to the goals of these bodies, plans and actors and vice versa?

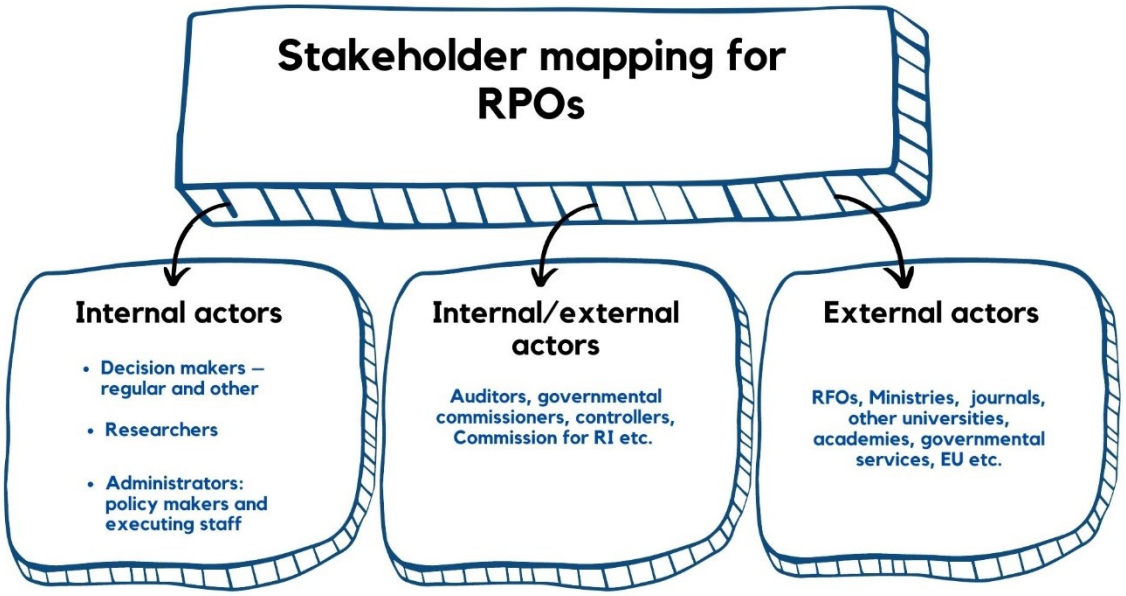
3. Researchers	I. How to adequately inform and stimulate researchers in your organisation to properly engage and get their participation for implementing change?[2]
4. Research Administrators: policy makers and executing staff	I. Which parts of the administration are of relevance in the implementation of change as decided by decision making bodies? o Make sure to map both central and decentral units when relevant. II. Make a distinction here between policy makers[3] and executing staff (who are actually implementing in the field). In many cases, administrators not only implement but also make the policy, create the awareness, convince people in boards and management that the institution needs certain policies or that will improve from certain initiatives. In some cases, administrators also hold the responsibility for implementation and follow up on the field as well. III. Who will be important in this change? o E.g. If your organisation is investing in an IT-platform and is centralising process and procedures, it is very important to engage with the administrators of that system to see how RI changes might influence the system. o Relevant profiles from non-research staff can be: ethics & integrity advisors, ombuds, managers business development, school coordinators, career development advisors, doctoral school officers, personnel department officers, IT staff…
5. Internal/external actors	I. Which other internal/external actors are relevant? E.g. units not directly connected to university/company or part of the university/company organisation chart but who have some kind of overwiew. These can be auditors, governmental commissioners, controllers, Commission for RI…. II. What is the level of these actors: linked to the organisation, national, government, company, … ?

[2] We make a difference here between researchers and those researchers who have position or mandate as decision maker or hold an office in the university. Engaging with the decision makers and leadership is covered under 1 and 2 above. Under this section you should map researchers as researchers and not as decision makers.

[3] Please note that we speak here about 'policy makers' which differs from 'decision makers' covered above under 1 and 2.

6. External actors	I. What external actors are crucial for organisational change and/or providing funding, e.g. RFOs, Ministries, journals, other universities, academies, governmental services, EU etc.? II. What is the level of these actors: linked to the organisation, national, government, company, … ?

Picture 1 Stakeholder mapping for RPOs – Main actors



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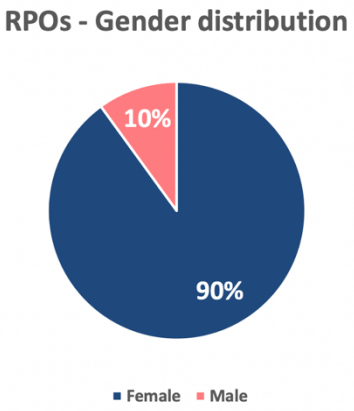
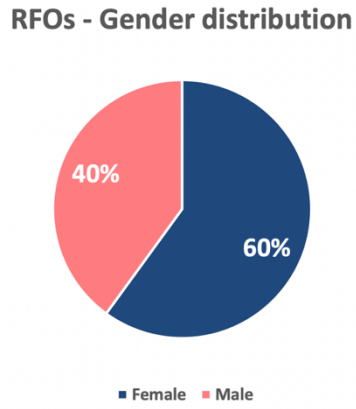
8.6 Appendix VI – Action Plan matrix

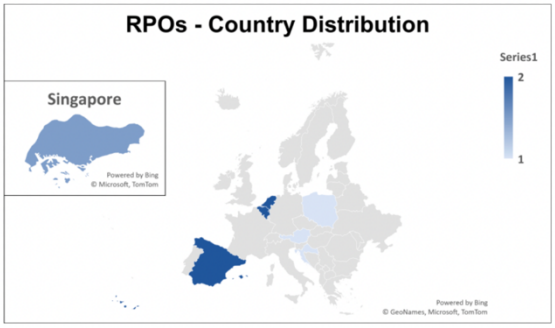
Authors: Jasmien Van Daele, Nele Bracke & Stefanie Van der Burght – Ghent University

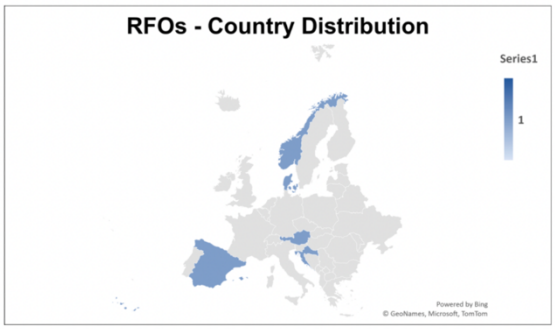
9 RIPP topics	Number action	Title action	Responsible for action (department + name person responsible)	Timing (as submitted by 15/03/2021)	Indicators (separate line per indicator)	Date mid-term evaluation	Progress status On track Alert Delayed	Process (% complete) per action and per indicato	Achieved milestones, results, ... in relation to each of the indicators included in the RIPP plan version March 2021	Possible obstacles, impediments, changes in the context/conditions that could affect the action (as a whole or in parts)
Research Environment										
	1									
Supervision and mentoring										
	1									
Research integrity training										
	1									
Research Ethics structures										
	1									
Data practices and management										
	1									
Research collaboration										
	1									
Publication and communication										
	1									
Declaration of interests										
	1									
Dealing with breaches of RI										

8.7 Appendix VII – Pilot institutions (gender and country distribution)









8.8 Appendix VIII – Google form – survey

SOPs4RI RIPP Template, Guidelines and Resources Feedback Form

Voeg hier je tekst in.

*Required

1. Name *

2. Institute *

3. E-mail *

RIPP template

The following section solicits feedback on the RIPP template, which can be found here: https://drive.google.com/file/d/1KgWS8apa1mpEXwS7j2LC7KnOG_rTTZc7/view?usp=sharing

4. To what extent did you use the RIPP template?

Mark only one oval.

	1	2	3	4	
I did not use it at all	◯	◯	◯	◯	I followed it completely, step-by-step

5. In case you answered with a 1 to the previous question, could you explain why you did not use the template? In this case, you can skip the rest of this section.

6. How helpful was the RIPP template in drafting your own RIPP?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

7. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the template could be improved in this respect? Also, if you feel the previous question does not apply to your context, please indicate that here.

8. How easy was it to use the RIPP template in drafting your own RIPP?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

9. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the template could be improved in this respect? Also, if you feel the previous question does not apply to your context, please indicate that here.

10. How closely did you follow the guiding questions in the RIPP template when you drafted your own RIPP?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

11. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the template could be improved in this respect? Also, if you feel the previous question does not apply to your context, please indicate that here.

12. Do you feel the RIPP template was specific enough or would you rather have had it more general / flexible?

Tick all that apply.

- [ ] It should have been a lot more detailed / specific
- [ ] It should have been a bit more detailed / specific
- [ ] It was exactly fine
- [ ] It should have been a bit more general / flexible
- [ ] It should have been a lot more general / flexible

13. Do you have any other suggestions on how to improve the RIPP template?

Implementation guideline

The following section solicits feedback on the implementation guideline, which can be found here: https://drive.google.com/file/d/1zoA5qOF8f-EgwjY2GFDL-1inGKIeC-Ve/view?usp=sharing

14. To what extent did you use the Implementation guideline?

Mark only one oval.

	1	2	3	4	
I did not use it at all	◯	◯	◯	◯	I followed it completely, step-by-step

15. In case you answered with a 1 to the previous question, could you explain why you did not use the guideline? In this case, you can skip the rest of this section.

16. How helpful was the implementation guideline in drafting a plan to implement your RIPP?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

17. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the RIPP could be improved in this respect?

18. How helpful was the implementation guideline in the actually executing the implementation process of your RIPP?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

19. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the guideline could be improved in this respect?

20. How easy was it to use the implementation guideline?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

21. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the guideline could be improved in this respect?

22. How closely did you follow the guiding questions in the implementation guideline?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

23. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the guideline could be improved in this respect?

24. How applicable was the implementation guideline to the context of your institute or organisation?

Mark only one oval.

	1	2	3	4	
Not at all	◯	◯	◯	◯	A great deal

25. If you scored the previous question with a 1 or a 2, could you provide one or two suggestions on how the guideline could be improved in this respect?

26. Do you feel the implementation guideline was specific enough or would you rather have had it more general / flexible?

Tick all that apply.

- [ ] It should have been a lot more detailed / specific
- [ ] It should have been a bit more detailed / specific
- [ ] It was exactly fine
- [ ] It should have been a bit more general / flexible
- [ ] It should have been a lot more general / flexible

27. Do you have any other suggestions on how to improve the implementation guideline?

Self-assessment matrix

As part of our toolkit, we also provided a self-assessment matrix, which can be found here: https://docs.google.com/spreadsheets/d/1zOqQ03hryNRptmQ0n7o2HfcLLMOYW9-Y/edit?usp=sharing&ouid=109134124945418398037&rtpof=true&sd=true

The next two questions relate to this document.

28. Did you use this document while preparing your RIPP:

Mark only one oval.

- ◯ Yes
- ◯ No

29. If you did, could you briefly describe whether and how they were useful.

SOPs4RI created guidelines

The following section solicits feedback on the specific guidelines built as part of the SOPs4RI project. These guidelines include:

- Defining and preventing unjustified interferences from funders, political and commercial actors
- Monitoring funded projects
- Selection and evaluation of proposals

Please find the guidelines via: https://osf.io/e2bsj/ (open 'Guidelines' >> 'RFO')

30. To what extent did you use the guidelines?

Tick all that apply.

	Not at all	A little	A good deal	A great deal
Defining and preventing unjustified interferences from funders, political and commercial actors	☐	☐	☐	☐
Monitoring funded projects	☐	☐	☐	☐
Selection and evaluation of proposals	☐	☐	☐	☐

31. In case you used some of the guidelines, which of them did you consider to be most useful?

32. In case you did not use any of the guidelines, could you suggest any changes that would increase the likelihood of you using them?

Resources

In this final section, we want to ask you a few questions relating to the level of resources currently committed to supporting research integrity. Throughout, we will understand resources as the number of people (in FTE) within your organisation directly working with or on research integrity related issues, e.g. in drafting integrity policies, handling cases of research misconduct, or providing research integrity training.

33. In your organisation what is the level of resources currently committed to supporting research integrity? Please estimate in full-time equivalents

_____

34. Has the level of resources committed to research integrity changed over the last three years? If Yes, has it increased or decreased, and by how many FTEs?

_____

_____

_____

_____

_____

35. How well-developed do you consider research integrity policies and procedures at your organisation to be?

Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Just starting on the RI journey	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Having a fully functional Research Integrity F

36. How much additional resource (again in FTE) do you think would be required to get your institution to 10 on the scale in the previous question? First, in terms of the person months for the one-off development costs and second, the recurrent costs of maintaining top quality RI provision.

_____

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SOPs4RI

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