



D8.2: Evaluation Plan

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Acronyms

AP	Action Plan
FGDs	Focus Group Discussions
GRRIP	Grounding Responsible Research and Innovation Practices
M&E	Monitoring and Evaluation
M&M	Marine and Maritime
ML	Mutual Learning
QH	Quadruple Helix
RRI	Responsible Research and Innovation
RPO	Research Performing Organization
RFO	Research Funding Organization
STI	Science, Technology and Innovation
WP	Work Package
RSSR	Recommendation on Science and Scientific Researchers





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1. Introduction

The main aim of the GRRIP project is to embed the RRI dimensions in 4 research performing organizations (RPO) and 1 dual-function RPO and research funding organization (RFO) (total 5 RPO&RFO) in the marine and maritime sector to enable institutional and cultural changes in these organizations. The project centers on six RRI dimensions: ethics, gender equality, open access, science education, public engagement, and governance. Through the entire project, GRRIP project partners and the 5 RPOs& RFOs will develop, implement self-tailored RRI Action Plans (AP) containing interventions related to the six RRI dimensions, and will seek and attempt to incorporate feedback from Quadruple Helix (QH) representatives during the planning and implementation phases of the interventions within each RPO&RFO. In order to facilitate mutual learning and determine the effectiveness and progress of the RRI AP interventions, it is necessary to establish indicators and carry out periodic monitoring, reflection, and evaluation. The objective of this document is to provide the methodological approach to evaluation of RRI interventions within five RPO&RFOs both during and potentially post project completion. Together with deliverable D8.1: *Plan on GRRIP Monitoring Processes and Indicators*, this document provides an overview of the impacts that RRI interventions are expected to bring, and presents the process and tools of Monitoring and Evaluation (M&E) for the RPO&RFOs. It also provides guidance for the alignment with other GRRIP activities, such as QH engagement, Mutual Learning (ML) workshops, AP Implementation.

1.1. GRRIP Monitoring and Evaluation¹

Monitoring and evaluation are two interdependent but different concepts. GRRIP monitoring is about regular systematic collection and analysis of information from the RPOs and RFO to track the progress of implementation of interventions against pre-set targets and objectives (details about monitoring can be found in the document D8.1). Monitoring gives information on where a project is at any given time (or over time) relative to respective targets, outputs and outcomes. With data on specific indicators (as can be seen in Appendix B of D8.1), monitoring activities will provide records of activities and results, and signals problems that may hamper the effectiveness and efficiency of the interventions. However, monitoring of progress of

¹ Reference to resources from <http://ppd.cipe.org/tools/monitoring-and-evaluations/monitoring-and-evaluation-for-business-environment-reform-a-handbook-for-practitioners/>



implementing interventions in the five RPO&RFOs will only present what has been delivered, but it is not sufficient to answer some complicated questions, such as why a particular problem is there, or why a particular result has occurred or failed to occur.

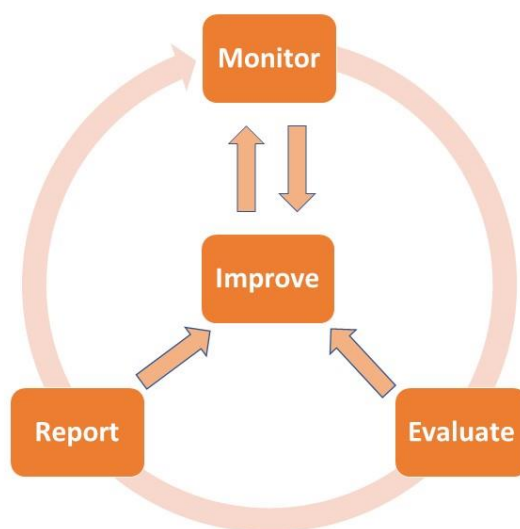


Figure 1 The Interdependent Relationship between Monitoring and Evaluation

The evaluation is about assessing the success of implementing RRI interventions by case study sites. It answers the question of what has happened as a result. It involves analyzing reasons for intended results and unintended results, assessing specific casual relationships for a particular result, examining implementation process, highlighting significant accomplishments, and providing lessons and recommendations for improvement. Evaluation helps to assess or estimate the value, worth or impact of interventions. It checks the relevance, effectiveness, efficiency and sustainability of an intervention, and provides evidence for why the targets are or are not being achieved. The results of evaluation at different stages of the project will be compiled in a public report D8.3 at the end of the project.

Two major evaluations will be conducted by Erasmus Rotterdam University (EUR) at the mid-point of implementation of interventions and towards the end of GRRIP project. The principles underlying the evaluation will be systematic, objective, timely and context sensitive. Like monitoring, evaluation is part of project management and an important management tool. Evaluation complements monitoring by providing an independent and in-depth assessment of

what worked and what did not work, and the reasons for the success and failure. Meetings and mutual learning workshops will be organized to support GRRIP case study partners learn lessons from evaluation in a reflective, collaborative environment. With evaluation plan and framework developed for assessing the success of implementation of interventions at site level in the GRRIP project, we aim to produce cross-fertilisation and transdisciplinary insights into RRI institutional and cultural changes.

1.2. Overview of Evaluation Process

Figure 2 displays the overview of the evaluation process for GRRIP project. As can be seen from the figure, the evaluation happens at a minimum of four key project progress stages: 1) Audit, 2) Developing Action Plans (APs), 3) Implementing APs, and 4) Project completion. At stage 3 and stage 4, we will also evaluate QH engagement and mutual learning platforms. The data for evaluation will be collected using surveys, interviews, and GRRIP monitoring system. Using learnings from the two evaluations, partner case study sites can conduct evaluation of RRI institutionalizing progress beyond the project.

At each stage, the Evaluation Plan partners will reflect on available evaluation results from project monitoring at mutual learning workshops or similar reflective deliberation opportunities (e.g., at one-to-one reflection or interviews with WG leaders from the 5 RPOs and RFOs.). Results of this deliberation will feed back into future action planning and implementation phases.

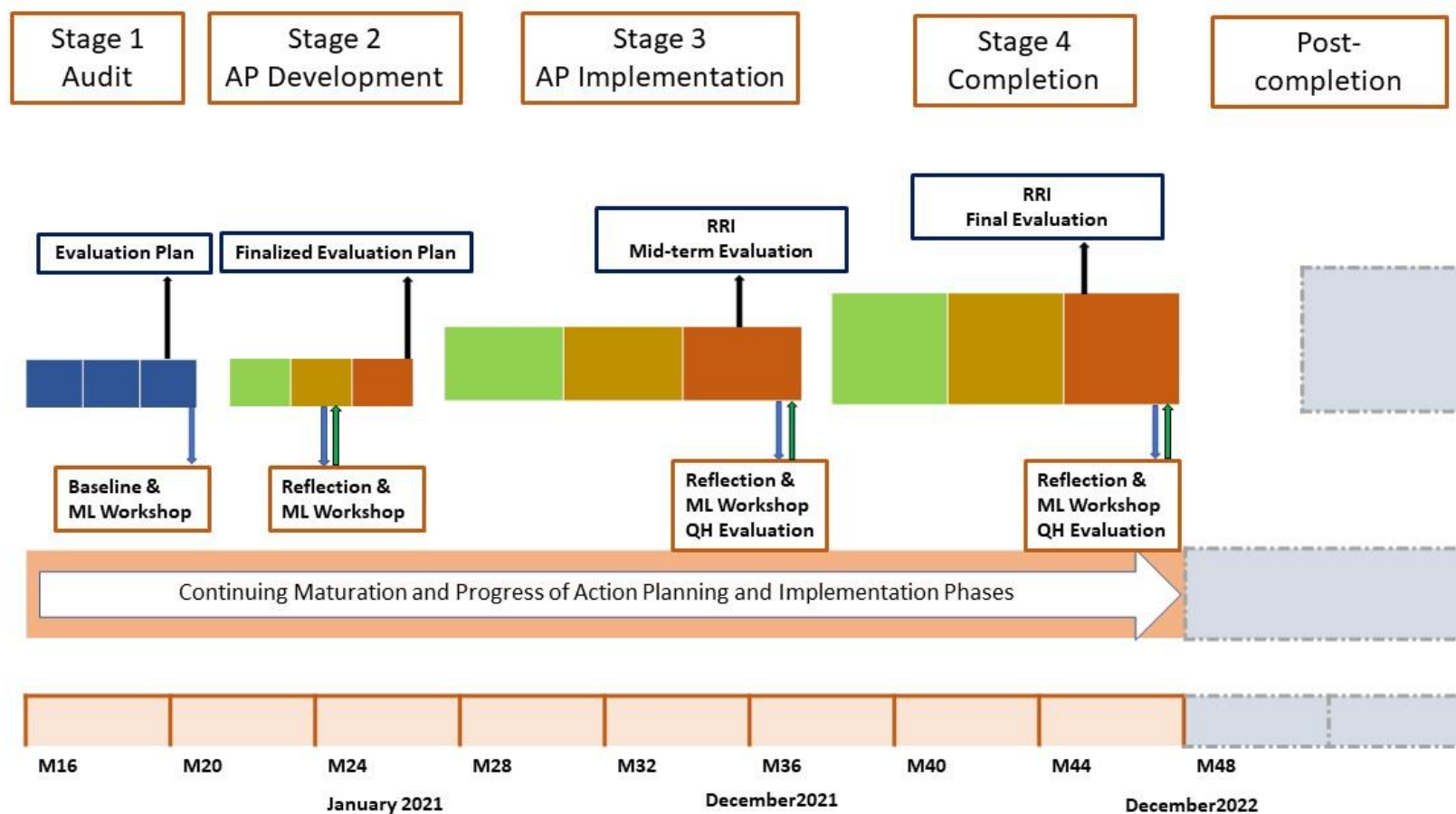


Figure 2 Overview of Evaluation Plan



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 820283

1.3. The Benefits of Monitoring and Evaluation in the GRRIP project

In order to achieve the GRRIP objectives, various interventions will be planned and implemented during the project by each RPO&RFO. No doubt, we wish all the interventions will be successful and fruitful, and all the resources we have used or planned are reasonably allocated without chances of misuse or waste. With Monitoring and Evaluation system, we will be able to keep track of the implementation progress of the RRI related interventions continuously through the systematic collection and analysis of information on the implementation of the RRI interventions.

There are multiple benefits that can be obtained from the Monitoring and Evaluation of implementation of RRI related interventions. With Monitoring and Evaluation, it can be shown whether the desired changes are happening in the project, whether the resources are effectively being used and sufficient, and improve the designed interventions based on the evaluation results. Because the RPOs and RFOs will actively engage Quadruple helix stakeholders (QH), including (1) public authorities (Policy officers or makers, governmental organizations, (2) industry (SME or companies), (3) academia (Higher Education/RPO/RFO), and (4) Community (Public/civil society, NGOs, CSOs, other societal actors) during each stage of the project, with GRRIP Monitoring and Evaluation, we will be able to communicate more easily with QH with visualized evidence of the progress in action plan implementation (conveying the M&E results within the organization can contribute to make the interventions more sustainable and beyond project duration).

1.4. GRRIP Monitoring and Evaluation Agenda

For the GRRIP project, GRRIP WP6, WP7 & WP8 will co-create a monitoring system for the interventions with each RPO&RFO. The WP8 leader from EUR will be responsible for the evaluating the APs of RRI interventions undertaken by each RPO&RFO. Basically, together with GRRIP WPs 5, 6, 7 and 8, the RPO&RFO will develop their own Action Plans and monitor their RRI interventions at different stages of the project. More details about the monitoring can be found in the customized action plans of each RPO&RFO² and in D8.1. With the consent of each RPO&RFO, part of the monitoring data will be used for the evaluation purpose.

² For more information on Action planning and implementation phases, see the WP6 Deliverable 6.1 GRRIP Action Plans for the Five M&M RPOs&RFO.



The agenda for the evaluation by WP8 leader will follow the evaluation plan shown in Figure 2. First, the evaluation plan will be finalized based on the feedback from site leads of the RPO&RFOs after the audit stage and the AP stage. Then EUR will run the first comprehensive RRI evaluation around December 2021, during the AP implementation stage (mid-term evaluation) and the second one in October 2022 when the project approaches completion (final evaluation). After each evaluation, the QH members of each partner site on the evaluation results will be updated, reflect together on the intervention processes, and provide recommendations for better interventions during meetings with QH or mutual learning workshops. The QH engagement and mutual learning platforms for each site will also be evaluated. The evaluation plan and evaluation scope can be adjusted if necessary, according to the development of RRI interventions implementation. The results of evaluation at different stages of the project will be shared with partner sites in a timely manner and compiled in a public report D8.3 at the end of the project.

2. Literature Review on RRI Monitoring and Evaluation

In this section the results of a literature review conducted by EUR in the summer of 2019 is presented to understand existing approaches to monitoring and evaluation (M&E) of RRI process or its separate dimensions / keys. Starting point was the working definition of RRI adopted by the GRRIP project. Although there are multiple definitions available, we concluded that they share a common ground. RRI implies that research performing organisations and societal actors (citizens, policy makers, companies, non-governmental organisations) work together during the entire research process to better align its outcomes with the values, needs, concerns, and expectations of society. The aim is to make research more inclusive by involving more voices, experiences and perspectives from society. By making RRI an inherent component of innovative research, we aim to foster public engagement and to enable access and uptake to scientific results. In addition, two RRI dimensions can be distinguished. RRI aims to foster science for society (product-oriented RRI, e.g., social desirability), but also science with society (‘process-oriented RRI, e.g., inclusiveness.).

2.1. Literature Search Methods

This review was based on a) a pack of RRI literature distributed at the GRRIP project kick-off meeting; b) further web searches based on this literature pack; and c) a Scopus search of the



literature using the string (TITLE-ABS-KEY ("responsible research and innovation" OR "responsible research & innovation")) AND (TITLE-ABS-KEY monitoring OR evaluating OR evaluation)). Date range: 2013-2019.

2.2. Topics of Interest

For each source reviewed, the following pieces of information were collected:

- Bibliographic record (authors, project group, title etc.)
- Document type (conceptual, journal source, EU publication, conference proceedings)
- Conceptual understanding of RRI
- Theories and models for RRI and/or for RRI monitoring (noting that some papers did not frame or monitor RRI comprehensively e.g., some focused on one RRI key such as Gender Equality)
- Levels at which to monitor RRI impacts (and how this influences monitoring)
- Indicators which follow or depart from prominent RRI conceptual understandings
- Any indicators of success with regard to monitoring (M) & evaluation (E).

2.3. Findings by Topic

We reviewed n=14 literature sources as a result of searches which covered mention of M and / or E and RRI (e.g., NUCLEUS, MoRRI, RRI Indicators, RRI Practice, JERRI). The sources reviewed are listed in Table 1. N=9 sources were EU Commission publications or other literature related to other EU funded projects- (grey literature.) N=2 were conference proceedings and the other n=3 were peer-reviewed publications.



Table 1 *Sources Reviewed*

Review ID	Authors	Project Name, publication, or meeting reports	Title	Year	Sources from:
1	Jeroen van den Hoven;Klaus Jacob; Members: Linda Nielsen, Françoise Roure, Laima Rudze, Jack Stilgoe	n/a	Options for Strengthening Responsible Research and Innovation: Report of the Expert Group on the State of Art in Europe on Responsible Research and Innovation	2013	https://www.researchgate.net/publication/251189833_Options_for_Strengthening_Responsible_Research_and_Innovation_-_Report_of_the_Expert_Group_on_the_State_of_Art_in_Europe_on_Responsible_Research_and_Innovation
2	Jacqueline Broerse	NUCLEUS	Responsible Research and Innovation: old wine in new bottles? Nucleus Annual Conference 5 October 2017	2017	http://www.nucleus-project.eu/wp-content/uploads/2016/08/2_Keynote1_RRI-old-wine-in-new-bottles_Jaqueline-Broerse.pdf
3	Tine Ravn, Mathias Nielsen, Niels Mejlgaard	MoRRI	Metrics and indicators of Responsible Research and Innovation Progress report D3.2	2015	https://www.researchgate.net/publication/311650995_Metrics_and_indicators_of_Responsible_Research_and_Innovation_Progress_report_D32_Monitoring_the_Evolution_and_Benefits_of_Resp



Review ID	Authors	Project Name, publication, or meeting reports	Title	Year	Sources from:
					onsible_Research_and_Innovation_MoRRI
4	Roger Strand; Jack Spaapen; Martin W Bauer, Ela Hogan, Gema Revuelta, Sigrid Stagl, Lino Paula, Ângela Guimarães Pereira	RRI Indicators	Indicators for promoting and monitoring Responsible Research and Innovation: Report from the Expert Group on Policy Indicators for Responsible Research and Innovation	2015	https://www.researchgate.net/publication/279512508_Indicators_for_Promoting_and_monitoring_responsible_research_and_innovation
5	Clare Shelley-Egan (project co-coordinator)	RRI-Practice consortium	Responsible Research and Innovation in Practice: Guidance document on RRI actions and indicators related to each RRI aspect (Unpublished, only for internal use)	2017	https://www.rri-practice.eu/
6	Ellen-Marie Forsberg, Clare Shelley-Egan, Miltos Ladikas, Richard Owen	RRI-Practice consortium	Implementing Responsible Research and Innovation in Research Funding and Research Conducting Organisations—What Have We Learned so Far?	2018	In Governance and sustainability of responsible research and innovation processes (pp. 3-11). Springer, Cham.
7	Caitriona Mordan, Menelaos Sotiriou	NUCLEUS	IMPLEMENTATION AND EVALUATION + EMBEDDED NUCLEUS CASE STUDIES	2018	http://www.nucleus-project.eu/reports/
8	Jennifer Dahmen-Adkins and Helen Peterson	GenderTime	Monitoring handbook of the GenderTime project	2017	https://www.researchgate.net/publication/314151440_Monitoring



Review ID	Authors	Project Name, publication, or meeting reports	Title	Year	Sources from:
					_Handbook_of_the_GenderTime_project
9	Jessica Wyndham, Robert Albro, Joshua Ettinger, Kathryn Smith, Maya Sabatello, and Mark Frankel	AAAS	Social Responsibilities: A Preliminary Inquiry into the Perspectives of Scientists, Engineers and Health Professionals” (Report prepared under the auspices of the AAAS Science and Human Rights Coalition and AAAS Scientific Responsibility, Human Rights and Law Program), March 2015	2015	https://www.researchgate.net/publication/274080954_Wyndham_J_et_al_Social_Responsibilities_A_Preliminary_Inquiry_into_the_Perspectives_of_Scientists_Engineers_and_Health_Professionals_Report_prepared_under_the_auspices_of_the_AAAS_Science_and_Human_Ri
10	Andrea Porcari, Daniela Pimponi, Elisabetta Borsella, Elvio Mantovani	PRISMA	PRISMA RRI-CSR Roadmap	2019	https://www.rri-prisma.eu/wp-content/uploads/2019/05/PRISMA-RRI-CSR-ROADMAP-final-draft.pdf
11	Elisabeth Frankus, Alexander Lang, Milena Wuketich	JERRI	Joining Efforts for Responsible Research and Innovation (JERRI): Work Package 8 Monitoring. Deliverable D8.1: Monitoring and evaluation concept	2016	https://www.jerri-project.eu/jerri-wAssets/docs/deliverables/wp-8/JERRI_Deliverable_D8_2_Evaluation_Report_I.pdf



Review ID	Authors	Project Name, publication, or meeting reports	Title	Year	Sources from:
12	Cathrine Egeland, Ellen-Marie Forsberg & Tatiana Maximova-Mentzoni	Publication	RRI: implementation as learning	2019	Journal of Responsible Innovation, 6:3, 375-380, DOI: 10.1080/23299460.2019.1603570
13	Julia Espinosa, María Bustelo and María Velasco	GENOVATE	Evaluating Gender Structural Change. Guidelines for Evaluating gender Equality Action Plans	2016	https://www.researchgate.net/publication/326226367_Evaluating_Gender_Structural_Change_Guidelines_for_Evaluating_Gender_Equality_Action_Plans_2016
14	Maria Bustelo	Publication	Evaluation from a Gender+ Perspective as a Key Element for (Re)gendering the Policymaking Process	2017	Journal of Women, Politics & Policy, 38:1, 84-101, DOI: 10.1080/1554477X.2016.1198211



The majority of literature sources reviewed did not distinguish between recommendations for monitoring indicators suitable for RPOs vs RFOs. However, two projects (RRI Indicators and RRI-Practice) separated recommendations into RPO- and RFO-specific recommendations.

2.3.1. Conceptual Understandings of RRI

ID 2 (Broerse, 2017) emphasises that RRI is an **inclusive** approach to research and innovation (R&I), to ensure that societal actors work together during the whole research and innovation process. It aims to better align both the process and outcomes of R&I with the values, needs, and expectations of European society³ However, RRI may have multiple conceptualisations where authors either elaborate on the early definitions of RRI or align themselves with particular definitions.

For example, some sources refer to **transparency** and an iterative process with society for research and innovation. For example, ID 4 (Strand et al., 2015) align themselves with Rene von Schomberg's definition of RRI: "a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (von Schomberg, 2011⁴)" ... and adds that "This means that the group sees RRI from a network perspective, consisting of stakeholders jointly working on a set of principles guided by the RRI keys." (p5 Executive Summary). ID 7 (Mordan and Sotiriou, 2018) also speaks of 'open communication' for healthy relationships in RRI between science and society, as well as 'respect for values, expectations and goals'. This is termed a 'shared responsibility' approach to research.

In ID6 (Forsberg, Shelley-Egan, Ladikas, and Owen 2018) the authors suggest that RRI is a science policy framework **aligning** technological innovation with broader social values, supporting 'institutional decisions concerning the goals and trajectories of research and innovation under conditions of uncertainty, ambiguity and ignorance'. ID 12 (Egeland, Forsberg, & Maximova-Mentzoni, 2019) examine the concept of RRI **as learning**. This, argue the authors, challenges assumptions about RRI as a programme that could or should be

³ Information on the EU definition of RRI can be found via <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>

⁴ Von Schomberg, Rene (2011) Towards Responsible Research and Innovation in the Information and Communication Technologies and Security Technologies Fields (November 13, 2011). Available at: <https://philpapers.org/archive/vontrr.pdf>.

implemented as a specific tool, method or recipe in organizations conducting or funding research and innovation.

ID 9 (Wyndham et al., 2015) discusses a set of considerations in a non-EU policy context of North America, but which are related to RRI's tenets. They examined the content and scope of social responsibilities in science, the authors claim that 'scientific responsibility is the other side of the same coin as scientific freedom' p5. This is based on the right to benefit from scientific progress which is distinguished from the freedom 'indispensable for scientific research'. In this way **scientific and social responsibility (science freedoms vs science's societal benefit) is kept apart** in the conception (in contrast to European RRI conceptions).

Some sources give a description of RRI frameworks (**AIRR dimensions or 6-keys**) which appears to be in lieu of a starting RRI definition or concept. For example, ID1 (van den Hoven et al., 2013) uses and further describes AIRR as

- *'Anticipatory: Anticipation asks researchers and innovators to include new perspectives in the research and innovation process and to think through various possibilities to be able to design socially robust agendas for risk research and risk management.*
- *Inclusive: Inclusiveness asks researchers and innovators to involve diverse stakeholders (such as users, NGOs, etc.) in the process to broaden and diversify the sources of expertise and perspectives.*
- *Reflexive: Reflexivity asks researchers and innovators to think about their own ethical, political or social assumptions to enable them to consider their own roles and responsibilities in research and innovation as well as in public dialogue. Reflexivity should raise awareness for the importance of framing issues, problems and the suggested solutions.*
- *Responsiveness: If research and innovation claim to be responsible, if it has the capacity to change its direction or shape when it becomes apparent that the current developments do not match societal needs or are ethically contested. Hence, responsiveness refers to the flexibility and capacity to change research and innovation processes according to public values.'* P57-8

Similarly, ID10 (Porcari, Pimponi, Borsella, and Mantovani, 2019) alludes to AIRR via the description of M&E as responsiveness, an integration of monitoring, learning and adaptive mechanisms. Though not explicitly described, it is likely from the sets of indicators that follow



that ID 3 (Ravn, Nielsen, and Mejlgaard, 2015) is basing its reflections on the 6-key conception. Similarly, ID 5 (Shelley-Egan et al., 2017) and ID10 (Porcari et al., 2019) use AIRR as their starting conception of RRI based on previous publications from similar authorship or project groups.

Three sources did not give a definition or conceptual understanding of RRI. This was either because they related to one of the keys (ID8, Dahmen-Adkins and Peterson, 2017) or were more formally about evaluation of engendering structural change (ID 13, Espinosa, Bustelo and Velasco, 2016, and ID14, Bustelo, 2017).

2.3.2. Theories and Models for RRI Monitoring and Evaluation (M&E)

This section focuses on sources which had a well-defined model (sometimes underpinned by theory) for M&E in RRI. ID1 (van den Hoven et al., 2013) uses a **theory of change model** for RRI (M&E): **problems, actions, outcomes and impacts**. Impacts are said to have a normative, substantive or instrumental dimension in RRI. Normative refers to anchoring ‘research and innovation in European values’ p23. Substantive refers to better decision-making via improvements in ethics and societal alignment leading to a ‘smart, sustainable and inclusive’ economy. Instrumental refers to making R&I funding more effective ‘leading to more problem-oriented outcomes’ p23. This may mean implementing RRI using a theory of change model requires identification of problems and needs, and so helps the fund distribution match the need more effectively. The authors believe that RRI resists quantifiable outcomes since actions may be process-oriented (p49-50). Similarly, impacts may be ‘second order’, meaning less tangible, softer impacts such as trust in the institution of R&I. It is claimed it is a challenge to assess such impacts described as ‘changes in people’s thinking and behaviour’.

ID3 (Ravn, Nielsen, and Mejlgaard, 2015) also uses a theory of change and an **intervention logic** model. This is based on the following explanatory idea:

*... complex policy problems are characterised by a series of issues or problems that need to be addressed, a set of inputs which are applied to a series of activities, which generate outputs which in turn lead to outcomes or the resolution of the problems. This logic informs and relates to a ‘theory of change’, i.e. an assumption or hypothesis of why an intervention will succeed in producing desired outcomes and impact(s)’
[underline added] p11*



This leads to four elements of the intervention logic model: 1 **contextual or external factors** that could influence the intervention either positively or negatively; 2 **input indicators** refer to actions taken to promote RRI; 3 **output indicators** measuring immediate results of inputs; and 4 **outcome indicators** for assessing the ‘long-term achievements and perceived benefits of the RRI work’⁵. So too ID 11 (Frankus, Lang, and Wuketich, 2016) focuses on intervention logic, describing use of formative and summative evaluation.

ID4 (Strand et al., 2015) is inspired by the intervention logic model to an extent, focusing on ‘R & I processes; their outcomes; and how such processes and outcomes are perceived (perception)’⁵. This, they claim, focuses monitoring and indicators onto RRI governance and policy. Yet within this perceptions are also important, and they emphasize the importance of examining how **networks of interactions** are impactful (rather than simply a one way, linear process of action -> to output -> outcome). Thus, **interface and interplay of stakeholders** are for them highly relevant factors to evaluate. IDs 5 and 6 (Shelley-Egan et al., 2017 and Forsberg, et al., 2018) aim to adopt a ‘**reflective, learning approach**’ to RRI M&E. They think in terms of organisational drivers, barriers, actions, and indicators of RRI. In particular ID6 describes the use of **institutional theory** and a ‘**systems approach**’ to monitoring. Such an approach is divided into rational, natural or open systems monitoring. Rational includes analysis of formal documents or structures; natural includes more informal measures such as interviews with employees at different levels in the organisations; and open includes looking at the organisation in its environment using, for example, media analysis, and interviews with top management. Similarly, ID12 (Egeland et al., 2019) focuses on RRI as learning, noting that assessment of ‘deeper learning and culture change [in relevant organisations] is yet to be determined and is probably also a question of time’ p4. Finally, ID13 (Espinosa, Bustelo and Velasco, 2016) sees the point of M&E as ensuring ‘transparency and collective learning’, also increasing a ‘culture of accountability’ (p4).

RRI monitoring frameworks are sometimes linked directly to the overall RRI framework used with, for example, sources drawing indicators directly from each of the 6-keys. This is the case with ID3 (Ravn et al., 2015). Similarly, ID4 (Strand et al., 2015) structures indicators by the 6-keys and adds sustainability and social justice/inclusion keys. Also, ID7 ((Mordan, and Sotiriou, 2018)) notes the close integration between implementation and M&E.

⁵ ID7 (Mordan, and Sotiriou, 2018) also uses a theory of change in other project unpublished outputs: personal correspondence from C Mordan and P Haworth.

2.3.3. Levels at Which to Monitor RRI Impacts

Many sources note there are different levels of RRI implementation and impact, and that monitoring should be geared to such levels. ID1 (van den Hoven et al., 2013) uses the **national** level for its monitoring initiatives but claims this is adaptable to the organisational level. ID3 (Ravn, Nielsen, and Mejlgaard, 2015) purports to distinguish between the following multiple ‘level[s] of analysis or degree[s] of aggregation’: **global, national, regional, institutional, programmatic and individual** p11. However, most indicators arising speak to the national level measure. For example, indicator GE1 measures the share of RPOs with gender equality plans. Also, PE1, models of public involvement in S&T decision-making, examines the degree of formalisation of structures and mechanisms, at the national level, for the involvement of citizens in decisions about science and technology.

Alternatively, ID 11 (Frankus, Lang, Wuketich, 2016), in addition to regarding the intervention logic model as having ‘**levels of input, process, output and outcome**, also adds the ‘**overall project level**’ as compared to the **level of individual intervention**. This more micro-level focus is continued by ID1 (van den Hoven et al., 2013) which monitors at the **entity, team and individual** level.

Finally, ID5 (Shelley-Egan et al., 2017) has a further different conception of level: they monitor at the **level of structure (policy), culture (behaviour) and interchange (with external organisations or public)**. This approach is somewhat echoed by ID13 (Espinosa, Bustelo and Velasco, 2016) which suggests analysing change in three areas: **ideas, structures and mechanisms, and people** (p12-13).

2.3.4. Sets of Indicators Arising from Different ‘Levels’

ID1 (van den Hoven et al., 2013) lists general *loci* which can be used to develop specific M&E frameworks on p51-2 but even so these remain at the national (policy) level and do not give rise to specific sets of M&E indicators. This makes ID1(van den Hoven et al., 2013) more useful for governments to set their own RRI policy agendas rather than for individual RRI projects looking to import indicator sets. Similarly, ID3 (Ravn, Nielsen, and Mejlgaard, 2015) develops a list of 36 indicators for assessing national RRI performance using the six key RRI framework. Fourteen indicators may be applied to secondary data and the rest require primary data collection. Use of secondary data is helpful for projects wishing to contribute to datasets of RRI maturity at the national or country level. Yet such data are less useful for a project like



GRRIP where change in specific organisations (with their own specific metrics and baseline measurements) is measured. This focus on measuring RRI activity at the national level may make at least a third of indicators unsuitable for RPO/FO-specific monitoring⁶.

ID4 (Strand et al., 2015) values measurement and indicators at the bottom-up level. Measuring perceptions and the interactions of key actors is therefore as important as more typical process and output measures. The source’s authors also emphasize the value of softer data: ‘it should be on information that is helpful in collaborative modes of governance, developing trust, best practices and mutual institutional change’ p8. Alone among the sources reviewed, ID4 (Strand et al., 2015) considers indicators of social justice (SJ) such as: % funding calls requiring impact statements on SJ; % institutions with procedures for researchers to consider SJ impacts; and % institutions with mechanisms to help researchers recruit from socially or economically disadvantaged groups (the last of these seems to be about recruitment to human-subjects research). Yet the source authors consider social justice expensive to monitor:

‘The indicators listed above require substantial resources to be monitored and can be meaningfully monitored only within fields where the link between research and social justice is found to be evident or at least relevant (several scientific fields may be excluded here).’ P40

2.3.5. Indicators Following or Departing from Prominent Conceptual Understandings of RRI

Although this literature review will not describe nor evaluate each indicator (or set of indicators) from each source reviewed, it notes how some sets of indicators follow conceptual understandings of RRI which are prominent in the policy discourse about RRI. In contrast, other sets of indicators refer to less prominent, more novel, aspects of the RRI discourse.

⁶ The indicators which seem not to be useful or adaptable to GRRIP are:

- GE4 Dissimilarity index
- GE6 Glass ceiling index
- GE8 Share of female heads of research performance organizations
- GE9 Share of gender-balanced recruitment committees at RPOs
- PE1 Models of public involvement in S&T decision making
- PE8 Public engagement elements as evaluative criteria in research proposal evaluations
- OA5 Funder Mandates
- GOV3 Share of RPO&RFOs promoting RRI [in 2018 this indicator changed to be RRI-related governance mechanisms within research funding and performing organizations – composite index], see below GOV3N
- GOV3N RRI-related governance mechanisms within research funding and performing organizations – composite index



Some sources follow prominent conceptual RRI understandings to arrive at their indicators. For example, IDs 1 (van den Hoven et al., 2013), 3 (Ravn, Nielsen, and Mejlgaard, 2015) and 4 (Strand et al., 2015) reflect the prominence of the 6-key RRI concept, organising sets of indicators into the five or six domains of governance, public engagement, gender equality and diversity (GE(D)), Science Education and Science Literacy (SESL), Open Access or Open Science (OA/OS) and Research Ethics & Research Integrity (RE/RI.) In doing this they are promoting a principalist or content-based view of how to make RRI change happen and monitor that change. Alternatively, IDs 1 (van den Hoven et al., 2013), 2 (Broerse,2017), 4 (Strand et al., 2015), 5 (Shelley-Egan et al., 2017) and 10 (Porcari, Pimponi, Borsella, and Mantovani, 2019), and possibly also IDs 2 (Broerse,2017) and 7 (Mordan, and Sotiriou, 2018) reflect the prominence of the AIRR dimensions of: 1) inclusion and diversity; 2) openness and transparency; 3) anticipation and reflexivity and 4) responsiveness and adaptation. In doing this, they are arguing for more process-oriented and relational (reflective, responsive) approach to change and its monitoring.

Other sources depart from or build on these prominent RRI understandings, also suggesting expansions to M&E approaches and indicators. For example, ID1 (van den Hoven et al., 2013) expands on the 6-key concept to also include ‘**dignity, privacy and justice, security, sustainability**’ (p30). This is echoed by ID4 (Strand et al., 2015) which adds **sustainability** and **social justice/inclusion** to the 6-key conception. In ID2 (Broerse, 2017) there is also mention of the importance of monitoring the **environmental sustainability** of innovations.

2.3.6. Indicators of ‘Success’

No source discloses its explicit targets for successful RRI change (perhaps connected to this, many sources prefer to focus on the generalisability and adaptability of their approaches to different contexts and RRI projects). However, some sources talk about different types of success or what overall success looks like.

ID5 (Shelley-Egan et al., 2017) offers reflections on different ideas of success:

Often success is simply the repeated, periodic achievement of some levels of operational goal (e.g. zero defects, 10/10 customer satisfaction, etc.), and sometimes success is defined in terms of making progress toward strategic goals.



ID 11 (Frankus, Lang, and Wuketich, 2016) indicates that success is the ‘**deep institutionalisation** of RRI’. Success (p9) seems to depend on quality of JERRI inputs to the project e.g. interviews have to be of high methodological quality. It is also related to whether the project does what its description of work says it will do, as well as the RRI-related ‘success’ of this. This suggests the JERRI consortium itself is to act in an RRI-compliant fashion as well as implementing RRI institutional change in its target organisations.

ID13 (Espinosa, Bustelo and Velasco, 2016) links success to an **increased culture of accountability** and proper delimitation of areas which are to undergo change. This suggests proper ‘delimitation’ or definition of areas for change is as important for success as the definition of success itself. In other words, it is important to be clear and proportionate about what is changing so that success may be measured accurately.

2.3.7. Indicators Specific to Evaluating RFOs

Some of ID3’s (Ravn, Nielsen, and Mejlgaard, 2015) indicators specify measurement of RRI dimensions in funding institutions. These are: E3 where organisations are asked whether they have integrated any type of ethics assessment/review in their funding decisions; OA5 which signals whether or not national funders or funding agencies are disposed to open access publishing; PE7, the embedment of public engagement activities in the funding structure of key public research funding agencies, and GOV2-3, RRI-related governance structures and mechanisms within research funding and performing organisations. However, as indicated above in 2.3.4, these indicators may suffer from too much focus at the national level to be useful in GRRIP (though adaptation may be possible.)

ID4 (Strand et al., 2015) also has ideas for economic sustainability indicators, but again these do not seem of the right ‘level’ for RFO monitoring e.g., mapping and monitoring of stock-flow interactions (where stocks are resources and flows are their consumption).

ID5 (Shelley-Egan et al., 2017)⁷ provides different tables for how to adapt change implementation and monitoring to the different characteristics of RPOs versus RFOs. In doing this, the source seems to want to distinguish the approach per type of organisation. Even so, it is difficult to see how there are substantive differences with the approach to be taken. For

⁷ Because this document is not published yet, we decided not to include these tables here.

GRRIP, it may be more relevant to assess the specific characteristics of the organisation in question, rather than attempting to draw distinctions between organisation types.

2.4. Discussion and Conclusions of Literature Review on RRI M&E

This was not a systematic review of the RRI M&E literature. Nevertheless, the findings above have shown the **diversity of conceptual understandings** of RRI. RRI is to be (variously) inclusive, foster transparency, align R&I with social values (with greater or lesser support for freedoms of scientists being impacted by social responsibility), or foster learning. While these understandings do not directly counter prominent RRI frameworks such as the 6-key conception, they do argue for a progression of RRI past a purely principalist or standards-based idea. This not only suggests change actions should be more ambitious than just the 5 or 6 key RRI policy agendas, but also suggests M&E should be more flexible and aspirational in its development and indicators. Thinking also of the role of the Quadruple Helix in GRRIP⁸, the understandings above support the inclusion of all stakeholder groups: academia, industry, government and civil society in R&I processes. This increases the scope of RRI's function to be dynamic and relational with all relevant societal actors, not just the targets of individual 'keys' such as the public, young people in science, or women.

In GRRIP, Responsible Research and Innovation (RRI) implies that RPOs & RFOs embed the tenets of gender equality and ethics in research processes and methods, that these organisations include societal actors (communities, policy makers, companies, non-governmental organisations, etc.) during the entire research process in order to better align its outcomes with the values, needs, concerns and expectations of society, and that they ensure scientific conduct and research integrity as the basis of all R&I activities. Research becomes more inclusive by involving more voices, experiences, and perspectives from society, however, to do so RPOs and RFOs need to establish systems which enables the wider public to understand the scientific process both by increasing STEM (science, technology, engineering and mathematics) education and making scientific outputs, i.e., papers and publications freely available. RRI is not about dissemination.

Six key dimensions have been defined for RRI: ethics, gender equality, open access, science education, public engagement, and governance. The goal of the GRRIP project is to support the five RPOs & RFO in marine and maritime sector in adopting RRI. Engagement of

⁸ See also D3.2 for focus on the role of the QH in RRI projects and literature.



wider society is envisioned through the quadruple helix approach (QH). Besides academia (1) and industry (2), the QH approach also sees the public sector (3) and citizens/end-users (4) as active participants in (rather than as passive recipients of) research and its outcomes, and as drivers of inclusive innovation. QH engagement is voluntary, open and active dialogue which includes sharing information, listening and responding to expectations and concerns, including stakeholders in research agenda-setting and decision-making, establishing realistic expectations concerning research outcomes and exploring ways to strengthen the societal relevance of research.

Models of change and evaluation in the sources reviewed above support the use of theory of change and intervention logic to evaluate the effect of RRI implementation projects like GRRIP. However, within these models there should be flexibility in the granularity of the monitoring approach. For example, even though GRRIP will assess and be responsive to site-specific context at baseline (audit) M&E, it is unlikely that specific context indicators (in the manner of ID 3 (Ravn, Nielsen, and Mejlgard, 2015)) will be necessary to describe and evaluate the change over the project. This is because GRRIP is operating at a smaller scale of implementation (at the level of national organisations or entities, rather than multinationals or states) and so the M&E framework will be adjusted to reflect the context / and will be made context sensitive. Nevertheless, the findings above emphasize the importance of monitoring context as it refers to less tangible outcomes such as organisational culture and change perceptions. For this reason, GRRIP's monitoring instruments will be designed to measure change perception (subjective change, cultural and behavioural change) as well as objective change. Furthermore, given GRRIP's focus on the QH, it is appropriate for its M&E programme to find ways of showing the impact of 'softer' relational and learning aspects of RRI such as networks of interactions and interface with QH stakeholders. This suggests that focus be on reflection and discussion instruments (of which Mutual Learning via discussion in workshops is a key example).

In using this literature review to help design an M&E approach, the sources **using 'micro' levels of enquiry** (such as change at the institutional, interventional, and individual level) are perhaps more suitable examples for how to monitor change at the organisational level in GRRIP. It is also worth noting that 'level' can both reflect scale and type of monitoring, the latter conveyed by sources such as ID 5 (Shelley-Egan et al., 2017) and their levels of structure (policy), culture (behaviour) and interchange (with external organisations or public). Again, it



seems that GRRIP M&E, with its QH component, could usefully organise its approach along such lines, assessing structure (e.g., organisational plans), culture (behavioural, subjective aspects) and interchange (relational QH impacts).

Findings from the sources above **build on conceptual understandings of RRI to include new areas for M&E**. Among these, sustainability is an additional focus for M&E in at least three sources (ID1 (van den Hoven et al., 2013), 2 (Broerse, 2017) and 4 (Strand et al., 2015)) with sustainability conceptualised differently, ranging from economic, through social to the environmental sustainability of RRI. More generally, sustainability may be thought of as the longevity of RRI interventions, and whether change takes hold at a deeper institutional level. In its M&E approach, GRRIP will be mindful that RRI change will accompany broader strategic goals in the marine and maritime (M&M) organisations concerned. It therefore makes sense for M&E to be planned both during GRRIP and after its formal conclusion as a project. Such ‘legacy monitoring’ approaches are to be developed as part of AP development and could usefully consider how to hand over simple, effective M&E processes to sites themselves, allowing them to continue with in-site monitoring and maintenance of change *post* GRRIP. **Social justice or justice** is also an additional focus for some sources. Although these are broad concepts, proper delimitation to include at least some indicators which monitor the societal acceptability of GRRIP’s change actions at sites is possible, and is consistent with demonstrating improved legitimacy of sites and their activities with their stakeholder groups (see GRRIP proposal, Objective 2).

Although some sources purport to **differentiate between M&E for RPOs and RFOs**, it is not possible to discern significant differences which might recommend a different approach for GRRIP’s dual function RFO and RPO, IUML, at this stage in the project. Nevertheless, since all sites will undergo a process of AP and M&E customisation, it may be possible for GRRIP WP Leaders to compare differences post hoc, thereby recommending changes for other future RRI implementation projects which include RFOs.

Finally, despite no concrete indication from the sources reviewed on what **successful RRI change** looks like, it is probable this is a matter of a coherent AP and M&E process: being clear on what change is expected also determines what success looks like from which appropriate measures follow accordingly. Thus, in GRRIP success will be determined both by RRI norms and best practice, and by measurable and achievable interventions put in place at the Action Planning and Implementation stages.



3. Assessment Criteria and Indicators for Evaluation in the GRRIP Project

The assessment criteria and indicators for evaluating the embedding of RRI dimensions in organizations are built on the work done in previous work packages. Specifically, the maturity levels established in WP5 was relied on Inputs from the RRING (Responsible Research and Innovation Networked Globally, funded by the EC's Horizon 2020 Research and Innovation Programme) project, such as RRI indicators and rating criteria (as can be seen in Annex 1) listed in RRING D4.1 (p.126-127) will be taken into account as well for the development of the assessment criteria and indicators.

3.1. Audit Results and Baselines of RRI Status in the Case Study Sites

In D5.2 of GRRIP, qualitative and quantitative data were collected and analyzed to understand the existing RRI practices in the five RPOs and RFOs. A top-down survey was designed to gather information from the site leads of the five RPO&RFOs about the governance, the policies, the internal processes for managing issues related to each RRI key. The data was relatively objective, for example, policy documents sourced during the audit phase from the case study sites. In addition, bottom-up surveys were designed to collect information of RPO&RFOs' staff and stakeholders' perceptions of RRI institutionalization in these organizations and their own viewpoints of RRI values and practices. Besides, interviews were conducted with employees of each RPO&RFO to identify the barriers and possible resolutions of RRI implementation and exploring how RRI could contribute to realizing the goals of the organizations.

According to D5.2, top-down maturity level (TML) based on top-down survey data and Perception Maturity Level (PML) based on bottom-up survey data were established for each RPO&RFO ranging from 0 to 5. Positive configurations of clear RRI policies made explicit in documents available online, well documented internal procedures for each specific RRI key, and established boards and committees for managing issues related to the specific RRI key contributed to the highest TML, whereas high recognition level of RRI importance and RRI institutionalization of staff and stakeholders from each RPO&RFO contributed to the PML of a particular RPO&RFO. The consensus between staff and stakeholders of each RPO&RFO played important role in the interpretation of PML. High consensus in positive confirmations



(correlation factors) of RRI importance and RRI institutionalization between staff and stakeholders added values to the calculations of PML.

Judging from the RRI maturity level established for each site based on the audit results, gender equality and diversity is a key issue that deserves attention for interventions in Marine and Maritime sector. Although several RPO&RFOs have built supportive organizational structure from a top-down approach for promoting gender equality and inclusion, the importance of an inclusive culture is not fully recognized by employees and low consensus was reached with the viewpoints of stakeholders for this RRI dimension. In contrast, ethic is a RRI key that has been well implemented in almost all the RPO&RFOs. Regarding other RRI keys, there are mutual learning opportunities for the sites.

3.2. Action Plans for GRRIP Interventions

Site leads discussed with WP5 regarding the audit findings and overall accepted the RRI maturity levels established based on the audit results for the RPO&RFOs. Six goals for institutional and cultural changes related to RRI dimensions were established from the research phase of GRRIP as well as recommendations from other RRI projects and literature which provided a frame of reference as GRRIP enters the practical stages of the project.

The GRRIP Institutional and Cultural Interventions are grouped under six goals:

- To build institutional leadership and support
- To embed RRI in the institutional Governance Framework
- To develop institutional knowledge, skills and awareness of RRI
- To establish structures to facilitate sustainable engagement with societal stakeholders
- To embed RRI in the STI Systems/Funding Proposals
- To embed ongoing Reflection and Analysis into the Implementation Process

The interventions cover all 6 keys of RRI in an integrated manner. 72 specific interventions ⁹(as can be seen in Table 2, D.6.1 and Appendix A of D8.1) were established under these six goals covering policies, practices, processes and initiatives to embed the dimensions of RRI in the governance and daily practices of the institution as well as ways to systematically engage and collaborate with stakeholders in a meaningful way. Based on the work on Action Plans done by the five site RPO&RFOs with support from GRRIP WP6, a

⁹ The list of interventions was developed by WP6, led by Elmina Homapour, and WP7, led by Caitriona Mordan.



number of interventions were selected for trial by each RPO&RFO. The selected interventions are listed below for each site.

3.2.1. Intervention Overview of IUML-ECN

RRI Key	Area/Goals	Intervention Name and Description	No.	
1 GENDER EQUALITY	2.Embed RRI in the Institutional Governance Framework (policies & practices & structures)	Develop written policies on gender equality	1	
2 PUBLIC ENGAGEMENT	2.Embed RRI in the Institutional Governance Framework (policies & practices & structures)	Develop written policies for Public Engagement	2	
	5.Embed RRI in STI Systems and Funding Proposals	Embed Public Engagement activities in the funding structure for research funding calls	3	
3 SCIENCE EDUCATION	1.Embed RRI in the Institutional Governance Framework (policies & practices & structures)	Develop policies/strategy to promote science education	4	
6 Governance	1.Build Institutional Leadership and Support	Complete GRRIP Self-Assessment Tool to determine RRI Baseline Level	5	
		Identify and ensure representation on the GRRIP Working Group from key institutional functions and departments as well as top, middle management and researchers for implementing RRI (HR, Finance etc.)	6	
		Set-up regular progress meeting with the Working Group	7	
		Ensure the RRI Working Group is balanced and have access and authority to deliver the Action Plan	8	
		Get pledges/formal commitment from institutional leadership outlining commitment to the implementation of all RRI dimensions (Ethics, Public Engagement, Gender, Open Access, Science Education) in policies, structures, processes in the institution	9	
		Design flexible and tailored actions plans with short, medium and long-term (post-project) objectives/initiatives.	10	
		Identify and appoint RRI Champions across the institution to support RRI implementation	11	
		The nature and culture of the institution and national STI context must be taken into account to assess the institution and design effective and tailor-made RRI plans, which can in turn inspire national RRI policy	12	
		5. Embed RRI in STI Systems and Funding Proposals	Include “societal impact” as a criterion of research programmes	13
			Examine RRI Dimensions in current M&M funding programs	14
			Identify gaps in funding grant policies where RRI is absent and could be embedded funding grants	15
			Engage in a benchmarking and engagement process, learning from funders who have incorporated RRI into the research funding calls	16
	Develop processes and methodologies on how to best embed RRI dimensions into research funding calls		17	
	6.Reflect and Analyse the RRI Implementation Process	Set up a system to monitor and track how RRI practices have shaped the institutional structures and culture from a holistic perspective	18	

3.2.2. Intervention Overview of MaREI-UCC

RRI Key	Area/Goals	Intervention Name and Description	No.
1 Gender Equality	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Facilitate trainings/webinars/ workshops/awareness raising sessions on Gender Equality and awareness	1
	2: Embed RRI in the Institutional Governance Framework (policies, practices & structures)	Initiate the application process of Athena Swan Charter for ERI – UCC	2
2 Public Engagement	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Facilitate trainings/webinars/workshops/ awareness raising sessions on Public Engagement (PE)	3
	4: Establish Structures to facilitate Sustainable Engagement with Societal Stakeholders	Establish mechanism(s) to track collaborations that demonstrate triple helix and / or quadruple helix models of research and innovation	4
		Organise QH engagement workshop (s) to set the research agenda in marine and maritime sector	5
		Include consideration of periodic stakeholder engagement cycles as part of the Action Plan	6
3 Science Education	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Facilitate trainings/ webinars/workshops/awareness raising sessions on Media Outreach and Science Education	7
4 Open Access	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Facilitate trainings/webinars/workshops/ awareness raising sessions in Open Access & Research Data Sharing Training	8
	2: Embed RRI in the Institutional Governance Framework (policies, practices & structures)	Set-up a tracking mechanism to establish number of publications in hybrid journals or fully Open Access journals	91
5 Ethics	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Facilitate trainings/webinars/workshops/ awareness raising sessions on ethics and research integrity	10



RRI Key	Area/Goals	Intervention Name and Description	No.
	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Facilitate trainings/webinars/workshops/ awareness raising sessions on Diversity & Inclusion Awareness	11
	2: Embed RRI in the Institutional Governance Framework (policies, practices & structures)	Set up a leadership group to address researcher well-being and career enhancement opportunities	12
6 Governance	1: Build Institutional Leadership and Support	Determine RRI Baseline Level	13
		Identifying the correct people from all the key institutional functions and departments as well as top, middle management and researchers for implementing RRI (HR, Finance etc.) to form the GRRIP Working Group (WG). The aim should be to have a gender balanced WG	14
		Set-up regular progress meeting with the Working Group	15
		GRRIP WG has the responsibility to deliver the Action Plan	16
		Get pledges/formal commitment from institutional leadership outlining commitment to the implementation of all RRI dimensions (Ethics, Public Engagement, Gender, Open Access, Science Education) in policies, structures, processes in the institution	17
		Develop, refine, and complete action plans for embedding RRI dimensions in the institution	18
		Identify and gain interest from RRI Champions across the institution to start discussions on RRI	19
		Set-up a reporting structure with senior leadership to share RRI progress at pre-defined intervals	20
		Develop an Institutional RRI Policy/Strategy	21
		Set-up an RRI unit with a staff member or members explicitly responsible for embedding RRI dimensions in relevant project proposals, for supporting and influencing, and keeping track of RRI related institutional activities	22

RRI Key	Area/Goals	Intervention Name and Description	No.
		Understand the barriers and challenges that staff (researchers as well as senior leadership) face or opportunities they have in engaging with RRI dimensions using interviews, focus groups, deliberative sessions	23
	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Establish systems to collect and analyse information on trainings completed on RRI dimensions	24
		Facilitate trainings/webinars/workshops/ awareness raising sessions of doctoral scholars, post docs, and researchers on RRI	25
	4: Establish Structures to facilitate Sustainable Engagement with Societal Stakeholders	Set-up mechanisms to collect data on public outreach activities of staff	26
	6.Embed ongoing Reflection and Analysis into the RRI Implementation Process	Engage in a series of mutual learning activities with other GRRIP sites	27



3.2.3. Intervention Overview of PLOCAN

RRI Key	Area/Goals	Intervention Name and Description	No.
1 Gender Equality	1: Build Institutional Leadership and Support	Ensure the RRI Working Group is balanced and have access and authority to deliver the Action Plan	1
	2: Embed RRI in the Institutional Governance Framework (policies, practices & structures)	Develop written policy for gender equality	2
		Develop a Gender Equality Plan	3
		Introduce structures and policies to embed gender balance in institutional R&I decision making	4
	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Gender Equality Awareness	5
		Collect, track and analyse information on trainings completed on RRI dimensions (focus on GE)	6
2 Public Engagement	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Public Engagement Training	7
		Collect, track and analyse information on trainings completed on RRI dimensions	8
		Develop tools/focus group/deliberative sessions to understand the challenges staff face in engaging with RRI dimensions (focus on PE).	9
		Participate in the communications campaign raising awareness about the project, RRI and the relevance of institutionalising it (e.g. Websites, social media, newsletters) and will be working in cooperation with WP2.	10
	4: Establish Structures to facilitate Sustainable Engagement with Societal Stakeholders	Provide GRRIP stakeholders with relevant information/tools on the project, the site RRI baseline maturity level, goals so they can actively contribute to institutionalising RRI (in cooperation with WP2, WP5, WP6, WP7 and WP8).	11
		Leverage existing collaborations and extend strategic stakeholder networks with different societal actors	12
3 Science Education	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Science Education	13
		Collect, track and analyse information on trainings completed on RRI dimensions (focus on SE)	14
4 Open Access	2: Embed RRI in the Institutional Governance Framework (policies, practices & structures)	Develop a written Open Access policies and/or protocols.	15
		Set-up a tracking mechanism to establish number of publications in hybrid journals or fully Open Access journals.	16



RRI Key	Area/Goals	Intervention Name and Description	No.	
	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Open Access Training & Research Data Sharing	17	
		Collect, track and analyse information on trainings completed on RRI dimensions (focus on OA)	18	
5 Ethics	3: Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Ethics & Research Integrity Training	19	
		Collect, track and analyse information on trainings completed on RRI dimensions (focus on Ethics)	20	
6 Governance	1: Build Institutional Leadership and Support	Complete GRRIP Self-Assessment Tool to determine RRI Baseline Level	21	
		Identify and ensure representation on the GRRIP Working Group from key institutional functions and departments as well as top, middle management and researchers for implementing RRI (HR, Finance etc)	22	
		Set-up regular progress meeting with the Working Group	23	
		Get pledges/formal commitment from institutional leadership outlining commitment to the implementation of all RRI dimensions (Ethics, Public Engagement, Gender, Open Access, Science Education) in policies, structures, processes in the institution.	24	
		Complete Action Plan	25	
		Identify and appoint RRI Champions across the institution to support RRI Implementation	26	
		Set-up a reporting structure with senior leadership to share progress at pre-defined intervals, demonstrating the usefulness to management to enable RRI to take root within the organisation	27	
		Set-up a RRI unit with a staff member or members explicitly responsible to embed Gender Equality, Public Engagement, Open Access, Science Education	28	
		4: Establish Structures to facilitate Sustainable Engagement with Societal Stakeholders	Track the number of research and innovation collaborations that demonstrate stakeholder inclusion.	29
			Create Intellectual property rights/agreements to protect researchers/stakeholder collaboration	30

3.2.4. Intervention Overview of SWANSEA UNIVERSITY

RRI Key	Area/Goals	Intervention Name and Description	No.
1 Gender Equality	2.Embed RRI in the Institutional Governance Framework (policies & practices & structures)	Take steps to overcoming the unbalanced distribution of researchers per gender in the different grades and salaries	1
		Establish Athena SWAN team	2
	3.Develop Institutional Knowledge & Skills and Awareness of RRI (initiatives& competencies)	Run a training support series which includes Diversity & Inclusion Awareness Training	3
2 Public Engagement	1.Build Institutional Leadership and Support	Identify Public Engagement Champions across the institution to support RRI Implementation	4
	4.Establish Structures to facilitate Sustainable Engagement with Societal Stakeholders	Develop more efficient way of researchers interacting with industry	5
		Contribute to or collect evidence of the stakeholder engagement event/ database	6
	5.Embed RRI in STI Systems and Funding Proposals	Initiate citizen/participatory science thinking	6
		Join membership of the European Citizen Science Association (ECSA)	7
	3.Develop Institutional Knowledge & Skills and Awareness of RRI (initiatives& competencies)	Raise Public Engagement Awareness by professionalising the role	8
Training support series, which includes Public Engagement Training		9	
4 Open Access	1.Build Institutional Leadership and Support	Better manage information about collaborations on research and innovation with external stakeholders	11
	3.Develop Institutional Knowledge & Skills and Awareness of RRI (initiatives& competencies)	Improve training support for Open Access and Research Data Sharing	12
5 Ethics	2.Embed RRI in the Institutional Governance Framework (policies & practices & structures)	Establish a research ethics committee/research integrity office	13
	3.Develop Institutional Knowledge & Skills and Awareness of RRI (initiatives& competencies)	Run a training support series, which includes Ethics & Research Integrity Training	14
6 Governance	1.Build Institutional Leadership and Support	Complete GRRIP Self-Assessment Tool to determine RRI Baseline Level	15
		Identify and ensure representation on the GRRIP Working Group from key institutional functions and departments as well as top, middle management and researchers for implementing RRI (HR, Finance, etc.).	16
	2.Embed RRI in the Institutional Governance Framework (policies & practices & structures)	Completed GRRIP Action Plan	17
		Identify and appoint RRI Champions across the institution to support RRI Implementation	18
	3.Develop Institutional Knowledge & Skills and Awareness of RRI (initiatives& competencies)	Embed RRI training on Participatory Research in educational structures, e.g., in PhD schools or summer school	19
	6.Reflect and Analyse the RRI Implementation Process	Engage in a series of mutual learning activities with other GRRIP sites	20
	5.Embed RRI in STI Systems and Funding Proposals	Support the integration of RRI in funding calls	21

3.2.5. Intervention Overview of WavEC

RRI Key	Area/Goals	Intervention Name and Description	No.
1. Gender & Diversity & Inclusion	1. Build Institutional Leadership and Support	Ensure the RRI Working Group is balanced and have access and authority to deliver the Action Plan	1
	2. Embed RRI in the Institutional Governance Framework (policies, practices & structures)	Develop a Gender Equality Plan	2
	3. Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Gender Equality Awareness	3
		Run a training support series which includes Diversity & Inclusion Awareness Training	4
2. Public Engagement	3. Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Public Engagement Training	5
		Create/Participate in a communications campaign raising awareness about the project, RRI and the relevance of institutionalising in cooperation with WP2	6
	4. Establish Structures to facilitate Sustainable Engagement with Societal Stakeholders	Track the number of research and innovation collaborations that demonstrate stakeholder inclusion	7
		Join membership of the European Citizen Science Association (ECSA)	8
3 Science Education	2. Embed RRI in the Institutional Governance Framework (policies, practices & structures)	Develop policies/strategy to promote science education	9
	3. Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Science Education	10
4 Open Access	3. Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Open Access Training & Research Data Sharing	11
5 Ethics	3. Develop Institutional Knowledge, Skills and Awareness of RRI (initiatives, competencies)	Run a training support series, which includes Ethics & Research Integrity Training	12
6 Governance	1. Build Institutional Leadership and Support	Complete GRRIP Self-Assessment Tool to determine RRI Baseline Level	13
		Identify and ensure representation on the GRRIP Working Group from key institutional functions and departments as well as top, middle management and researchers for implementing RRI (HR, Finance etc).	14
		Set-up regular progress meeting with the Working Group	15
		Get pledges/formal commitment from institutional leadership outlining commitment to the implementation of all RRI dimensions (Ethics, Public Engagement, Gender, Open Access, Science Education) in policies, structures, processes in the institution	16
		Design flexible and tailored actions plans with short, medium and long-term (post-project) objectives/initiatives	17
		Identify and appoint RRI Champions across the institution to support RRI Implementation	18
		Assess the local culture of the institution and national STI context	19



RRI Key	Area/Goals	Intervention Name and Description	No.
		Set-up a reporting structure with senior leadership to share progress at pre-defined intervals, demonstrating the usefulness to management to enable RRI to take root within the organisation	20
		Develop an Institutional RRI Policy/Strategy outlining the rationale for embedding RRI as an integrated approach into the institution & communicating the vision and the key objectives of the unit and is worded to suit the culture of the institution and the national STI context	21
		Set-up an RRI unit with a staff member or members explicitly responsible to embed Gender Equality, Public Engagement, Open Access, Science Education	22
	4. Establish Structures to facilitate Sustainable Engagement with Societal Stakeholders	Track the number of research and innovation collaborations that demonstrate stakeholder inclusion	23
		Include pre-defined stakeholder engagement cycles in Action Plan	24
	6. Embed ongoing Reflection and Analysis into the RRI Implementation Process	Set up a system to monitor and track how RRI practices have shaped the institutional structures and culture from a holistic perspective	25

3.3. GRRIP Monitoring and Evaluation Indicators

According to the GRRIP project proposal, APs were to be designed and implemented for each RPO&RFO informed by the recommendations of the audit (Deliverable D5.2). The interventions in the APs will be planned for institutional and cultural changes covering policies, processes, and key roles. GRRIP WP leaders supported the RPO&RFOs in developing a specific list of interventions. Indicators were created by the RPO&RFOs to help measure the progress of implementation of RRI interventions and understand the impacts of the RRI interventions both during and post project completion.

Indicators help in measuring whether a change is happening. There are different types of indicators: input indicators (amount of budget, number of personnel) and activity indicators (e.g., number of people trained, number of trainings), which primarily relate to inputs and activities. Indicators for measuring results of the project, including outputs, outcomes, and impacts is also needed. For GRRIP, indicators covering societal, democratic, economic and scientific impacts of the institutional and cultural changes is expected to be established. Robust indicators are context-specific, should be manageable and should work in practice. GRRIP project proposed to follow the well-known SMART and SPICED criteria for developing the indicators to track the progress of the interventions at RPOs & RFO, though the later guideline is more about the approach of developing and using indicators to understand whether the objectives are being met. More details about the site-specific monitoring indicators (example

or proposed indicators can be found in D8.1. The indicators for assessing impacts can be found in the section below.

3.4. Impact Assessment in the GRRIP Project

Through monitoring and evaluation activities, evidence of societal, democratic, economic and scientific processes and practices established with the aim of bringing about institutional changes is expected to be provided. Specifically, results should contribute to a greater involvement of all stakeholders in R&I, and a better and more sustainable engagement with citizens and society as a whole. Besides, the expected number of institutional changes, including their quality and sustainability in partner organisations, will be taken into account in evaluation. It is expected that the topic will support a significant number of impactful and sustainable institutional changes in partner organisations.

3.4.1. GRRIP Impact Indicators

The proposed impact indicators (examples) are listed in table 2 below. It is acknowledged that the resource (duration and financial) constraints in projects influence the monitoring and evaluation of impacts, and generally for cultural change projects, the causality is difficult to establish within a short-time frame. Also, developing the right indicators is widely understood to be the most difficult and time-consuming aspect in developing a framework for evaluation of impacts. Keeping these into consideration, the suggested indicators for each of the expected impacts detailed above which can be measured within project period are listed below. It should be noted that as the project progresses some of the indicators might need to be revisited.

Table 2 Example Indicators Proposed for Impact Assessment

Dimensions	Example Indicators
RRI Action Plans (Related to six RRI keys and six RRI goals)	Number of RRI APs prepared by 5 RPO&RFOs
	Number of RRI APs completed by 5 RPO&RFOs
	Quality rate of RRI APs completed by 5 RPO&RFOs
	Sustainability rate of RRI APs completed by 5 RPO&RFOs
	Researchers' perceived support (constraints) from organizations in practicing RRI during research and innovation processes
	Researchers' practicing RRI during research and innovation processes
Mutual Learning	Mutual learning platforms established by 5 RPO&RFOs
	Number of mutual learning workshops participated by 5 RPO&RFOs and engagements with QH
QH engagement	QH platforms established by 5 RPO&RFOs
	Number of events for stakeholder engagement
	Stakeholders' responses on quality of involvement
	Number of collaborative projects with stakeholders

3.4.2. Evaluation Criteria for GRRIP Interventions

Interventions are expected to be designed to achieve intended results and impacts. The results chain shown in Figure 3 illustrate the relationships between interventions and impacts.

According to the Development Assistance Committee (DAC) of the OECD, five evaluation criteria¹⁰ should be considered in a comprehensive evaluation: relevance, efficiency, effectiveness, impact, and sustainability. However, Markiewicz and Patrick (2016)¹¹ argued persuasively that appropriateness suits better than relevance. The RRI-related interventions should address the needs from the RPO&RFOs, achieve desired outcomes or objectives set by the RPO&RFOs together with the Work Package leaders, use available resources wisely and well with effective monitoring systems for measuring the inputs and outputs, thereby producing intended impacts and that RRI related activities are sustained after the completion of GRRIP project.

¹⁰ Source from https://www.oecd.org/dac/evaluation/seco_guidelines.pdf

¹¹ Markiewicz A, Patrick I. (2016) Developing monitoring and evaluation frameworks. Sage Publications.



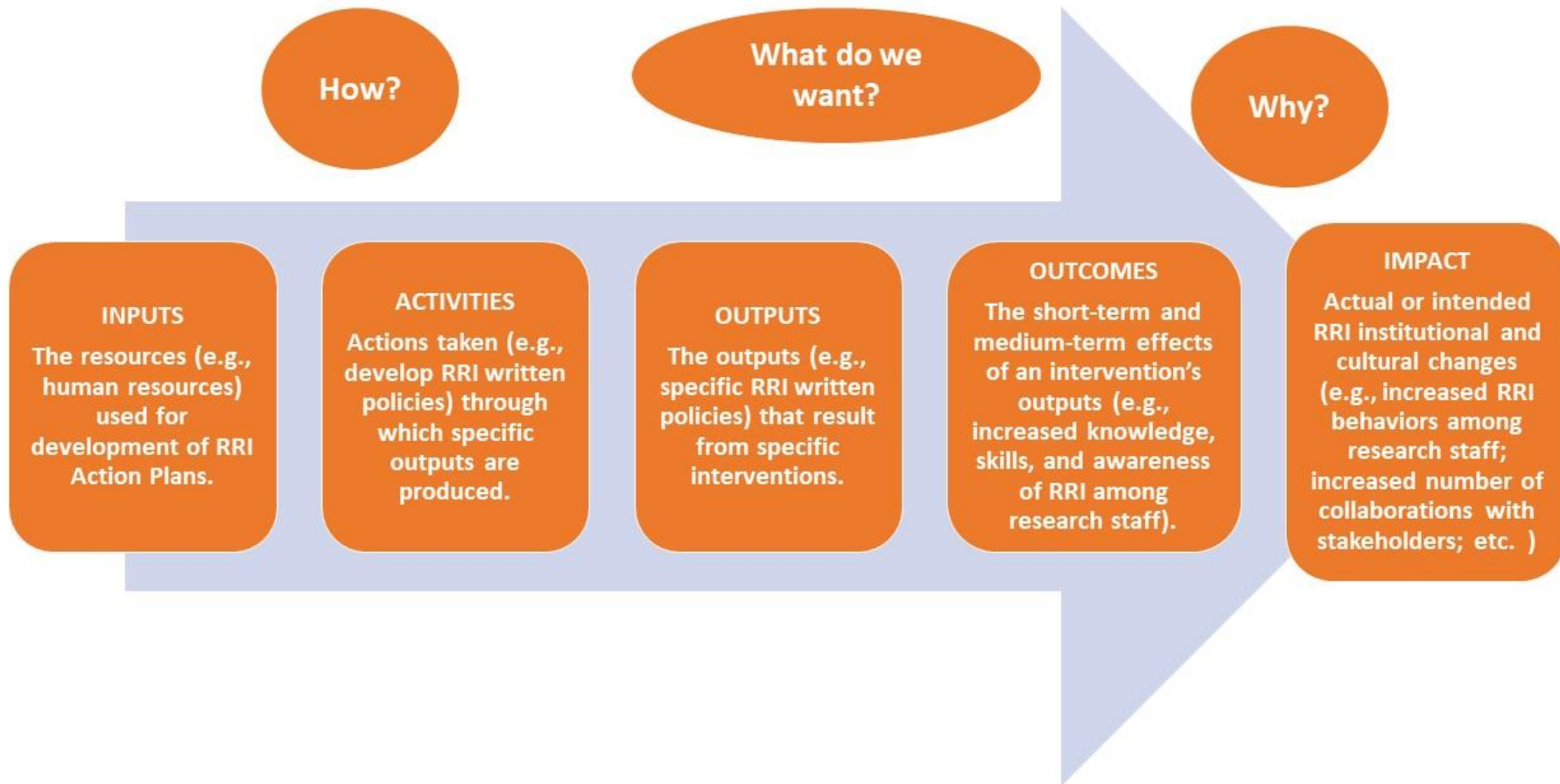


Figure 3 The Results Chain in the GRRIP project



3.4.3. Evaluating Specific RRI-related Interventions

By following the five evaluation criteria, we will evaluate each intervention mainly based on the monitoring data. An example of an intervention sheet is shown in Table 3 and an example of intervention monitoring and evaluation with means of verification is shown in Table 4. Means of verification are predetermined and the percentage of completion will be calculated based on the output of the number of accomplished milestones divided by the total number of milestones of a certain intervention. Besides, each completed intervention will be rated for its quality (poor, acceptable, and outstanding) based on its relevance or appropriateness to GRRIP objectives, recommendations in the audit report, efficiency, quality of evidence of verification, and for its sustainability (poor, acceptable, and outstanding) based on its sustainability plan. The descriptions of different levels of quality rate and sustainability rate for each intervention are listed in Table 5.

Table 3 An Example Intervention Sheet¹²

Intervention code and title	6.1. Identify and appoint RRI Champions across the institution to support RRI Implementation
Goal: Build Institutional Leadership and Support Key: Governance	
Problem and response:	
Problem or context: e.g. Demonstrating what RRI is and how it is implemented is cited as a frequent challenge. It is hard to drive change alone and try to find some allies in the organization, who understand the value of engagement, and are happy to speak up for it. Hence, there is a need to increase the circle of influence, by appointing RRI champions.	
Response and goal: e.g., The goal of this intervention is to increase the network of RRI change-agents or allies across the institution in catalysing, supporting and promoting RRI implementation. To foster a culture of RRI and pave way for institutional change, developing systems and procedures to identify and appoint RRI champions, or RRI change-agents within the institution. These allies (RRI champions) can be from across the institutional functions and include people from various levels. For instance, professional services staff, academics, researcher development staff, partner organisations, early career researchers etc	
Stakeholder engagement:	
Ownership: Members of the working group or relevant research institutes/faculties.	
Who is involved: Individuals appointed as RRI champions internally or could be externally among the stakeholders.	
Coordination mechanisms: Working group set up regular (quarterly or semi-annually) meetings and strategic communications with RRI champions and relevant stakeholders.	

¹² This example was provided by Elmina Homapour (WP6 lead) to sites and is also covered in D6.1 and D8.1.



Details of the implementation:

<p>Preparation (optional): Working group to meet, discuss and co-create the description of RRI-champions scheme.</p>
<p>Implementation: To engage with senior management and gain their agreement/buy-in to advertise the role of RRI champions. Shortlisting and preparing a cross-sectional list of individuals who can act as RRI Champions across the RRI pillars. Discuss the role with RRI champions and identify opportunities/platforms that RRI champions can use to advocate and raise awareness of RRI efforts within the institution to support the implementation of RRI.</p>
<p>Follow up (optional): Working group set up regular meetings and communication with RRI champions. This can be through surveys and monitoring to capture the extent of their engagement and outcomes related to institutional changes.</p>

Indicators:

Indicator Description	Milestones	Target thresholds
List of individuals who can act as RRI Champions to support RRI implementation.	Milestone 1: 1/5/2021	Target: Working group to meet, discuss and co-create the description of RRI champions scheme.
	Milestone 2: 1/9/2021	Target: To engage with senior management and gain their agreement/buy-in to advertise the role of RRI champions.
	Milestone 3: 1/10/2021	Target: Shortlisting and preparing a cross-sectional list of individuals who can act as RRI Champions across the RRI pillars.
'Champions' are approached to discuss how they can engage and support the implementation of an RRI dimension	Milestone 4: 1/11/2021	Target: Discuss the role with RRI champions and identify opportunities/platforms that RRI champions can use to advocate and raise awareness of RRI efforts within the institution to support the implementation of RRI.
	Milestone 5: 1/5/2022 Ongoing post monitoring	Target: Working group set up regular meetings and communication with RRI champions. This can be through surveys and monitoring to capture the extent of their engagement and outcomes related to institutional changes.

Barriers, risk and mitigation strategy:

The RRI champion might change, due to change in their contract duration, workload, environmental barriers such as Covid-19, personal circumstances, a shift in priorities for their intuitions to deal with the short-term fall out from Covid-19. To have a continuous feedback loop with the RRI Champions to anticipate the risk.

Sustainability plan:

Setting up regular meetings, and communications with RRI champions.

Details of how the Champion scheme is set up and how it will operate and the insights to the impact of the efforts to date.

Trial plan (delete if the intervention will not be trialed):

The trial starts at 1/04/2021. Members of the working group or relevant research institutes/faculties. And Individuals appointed as RRI champions internally or could be externally among the stakeholders will be involved.



Table 4 An Example Intervention Monitoring and Evaluation with Means of Verification

Intervention code and title	6.1. Identify and appoint RRI Champions across the institution to support RRI Implementation					
Indicators	Baseline	Expected Results	Means of Verification	Status	Quality Rate	Sustainability Rate
List of individuals who can act as RRI Champions to support RRI implementation	No RRI Champions	Milestones are achieved successfully	List of cross-sectional RRI champions	% of Completion	Poor Acceptable Outstanding	Poor Acceptable Outstanding
RRI Champions are approached to discuss how they can engage and support the implementation of an RRI dimension	No Actual Involvement of RRI Champions	Milestones are achieved successfully	Meeting notes or other written documents about how RRI Champions can engage and support the implementation of an RRI dimension		Poor Acceptable Outstanding	Poor Acceptable Outstanding

Table 5 Descriptions of Different Levels of Quality Rate and Sustainability Rate for Each Intervention

Levels	Quality Rate	Sustainability Rate
Poor	Action plan is not appropriate for overall GRRIP objectives, the recommendations from the audit report, and for the case study site; No evidence of verification.	Action plan discontinue (and no justification provided for discontinuing) at a certain point before completion and there are no further actions.
Acceptable	Action plan is appropriate for overall GRRIP objectives; There is sufficient amount of evidence of verification.	There are no further actions after the completion of the action plan because of acceptable reasons.
Outstanding	Action plan is designed to achieve GRRIP objectives; There is convincing evidence of verification.	There are further actions clearly designed after the completion of the action plan.



3.4.4. Evaluating Impacts of GRRIP Interventions

For impact assessment appropriate impact indicators for the selected interventions for each partner site to make the impact assessment tailored to the action plans of each site needs to be developed, while aligning to the broad set of impact indicators for all the partner sites, some of which were also reported in GRRIP D5.2: Audit report, to assess and compare their overall progress and impacts during and after GRRIP project.

3.4.4.1. Research Designs for Impact Assessment

Table 6 Research Design and Data Analysis Approach for GRRIP Impact Assessment

Level of Measurement of the Variables	Comparing Posttest Scores to a Threshold Score (e.g., Mean of the pretest scores)
Interval	One-sample t test
Dichotomous	Binomial test

Pre–post design without a control group to assess the impacts of the interventions will be used. Similar assessment measures, i.e., few selected questions, used at the Audit stage will be given to participants of the partner sites after they have experienced or implemented the RRI interventions. As shown in Table 6, by comparing the posttest scores to a threshold score established by the audit data, we can have statistical evidence to determine if there are any changes that could be attributed to GRRIP interventions. If possible, we will also compare the posttest scores to a threshold score established by the RRING project, for example, the percentage of positive confirmation in taking steps in promoting gender equality in the last 12 months reported by researchers and innovators in RRING WP3 survey study (The percentage was 54.8% for the Europe and North American Region, as can be seen on p.74-75, RRNG D4.1). As shown in Table 5, depending on the level of measurement of the variables, different types of statistical tests will be used. If the variable is measured by Likert scales, then t test will be used. If the variable is proportional, such as the percentage of female researchers, then binomial test will be used. Because it takes time to make impacts after implementing interventions, the impacts of the interventions with statistics can be done by partner sites post project. Necessary guidelines will be developed and capacity built of case study sites.

Besides quantitative analysis, we will also analyze the interview data, observational data, and other qualitative data from the monitoring system to describe the journeys of RRI related interventions for the five case studies. Key issues of the RRI related interventions of

each partner site will be identified, and key lessons obtained during the project will provide insights for other similar RRI projects.

4. Evaluation Tools

Both quantitative and qualitative evaluation approach (both will be adopted, and a variety of assessment tools will be administered (surveys, semi-structured interviews, observations, etc.) over the implementation phase, to best assess the level and depth of RRI embedment in each institution. Table 7 lists the tools that are planned to be used for GRRIP evaluation. These tools will be used for both researchers and employees and external QH representatives.

Table 7 GRRIP Evaluation Tools for Data Collection

Tool/ Instrument	Descriptions	Relevant materials
Sample surveys (Primary tool)	E.g., Quality of involvement survey for monitoring and evaluating QH engagement will be used to assess the quality of involvement with QH. The survey will be programmed and distributed by Qualtrics. It will allow for collection of information from a large group of stakeholders quickly at low costs.	Survey questions Report of survey findings
Group interviews/ focus groups (Optional tool)	Based on the insights from the survey findings, or observations of the GRRIP events, group interviews will be organised to collect largely qualitative data through structured discussions among small groups of stakeholders (6-10 participants) and staff for around one hour via Zoom or Teams.	Focus group discussion (FGD) guidelines and interview questions Report of FGDs
Individual interviews (Primary tool)	Based on the insights from the survey findings, or observations of the GRRIP events, semi-structured individual interviews with key stakeholders for about half an hour via Zoom or Teams to allow in-depth exploration of ideas that emerge from survey findings or observations will be organised.	Interview guidelines and interview questions Report of interviews
Inputs from GRRIP monitoring system (Primary tool)	Each site will establish their own indicator dashboard to monitor their progress in their interventions. The monitoring is done WP6 leaders, which will be shared with WP8 leaders to act as additional inputs into the evaluation data.	Action plan GANTT chart Indicator dashboard Quarterly work updates and monitoring report

4.1. Surveys for Measuring RRI Maturity Level

There are three surveys for different groups for measuring RRI maturity level for the sites. RPO&RFOs survey ¹³ is a top-down and objective survey for the RPO&RFOs. Researcher

¹³ The RPO&RFOs survey, which was created by Eric Jensen and Kate Sahan, can be accessed via the link below:

survey ¹⁴ is a bottom-up and subjective survey of the RPO&RFOs staff. The stakeholder/QH survey ¹⁵ is a bottom-up and subjective survey for the QH cohort of each RPO&RFOs. This survey asked the QH to comment on the sites' developments in RRI from their perspectives. It is an opportunity to apply an external (i.e. outside the RPO&RFOs) lens on organizational and cultural change from the bottom-up perspective.

These three surveys were applied during the GRRIP Audit stage. These surveys will be modified based on the Audit findings and feedback from the reflection meetings and mutual learning workshops. The modified surveys will be used for the mid-term and final evaluations. All the four broad stakeholder categories of the QH will be surveyed for each RPO&RFOs.

4.2. Quality of Involvement Survey for QH Engagement

The GRRIP QH cohorts for each of the RPO&RFOs has been identified under guidance of WP4 and WP7. There will be evaluation of the quality of involvement of GRRIP's QH cohorts. This is to evaluate QH's views of engagement activities done by case study sites. This evaluation of the QH also speaks to the requirements in WP4 of the GRRIP project to monitor and evaluate how the QH feel about their own involvement in the project and its benefits to them and their organizations. In addition, some questions from the stakeholder/QH survey used for the audit, will be added to the quality of involvement. All questions of the *Quality of*

https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgrrip-rpo.qualiaanalytics.org%2Fsurvey%2Ftest%3Ftest-survey%3D1%26overwrite-action%3Dinitial_survey%26lang%3Den%23show&data=02%7C01%7Ctan%40esphil.eur.nl%7Cdc26e8827a0b40956e9d08d8501c4564%7C715902d6f63e4b8d929b4bb170bad492%7C0%7C0%7C637347430386949359&data=2heR%2FdJ4g9DOUJAZ6CMnBM3vkvqvwAW4tnQdLCFv0Qc%3D&reserved=0

¹⁴ The Researcher survey, which was created by Eric Jensen and Kate Sahan, can be accessed via the link below:

<https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgrrip-researcher.qualiaanalytics.org%2Fenroll%3Ftest-survey%3D1%26overwrite-action%3Denrollment%26lang%3Den%23show&data=02%7C01%7Ctan%40esphil.eur.nl%7Cdc26e8827a0b40956e9d08d8501c4564%7C715902d6f63e4b8d929b4bb170bad492%7C0%7C0%7C637347430386949359&data=3R%2BCybf3zlv4Y8z4G11%2FAOqrGFmgcj1cwknDHoUH118%3D&reserved=0>

¹⁵ The Stakeholder survey, which was created by Eric Jensen and Kate Sahan, can be accessed via the link below:

<https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgrrip-stakeholder.qualiaanalytics.org%2Fsurvey%2Ftest%3Ftest-survey%3D1%26ove&data=02%7C01%7Ctan%40esphil.eur.nl%7Cdc26e8827a0b40956e9d08d8501c4564%7C715902d6f63e4b8d929b4bb170bad492%7C0%7C0%7C637347430386949359&data=xtky8GjVYP84uE1sjph32O7FFXcHsZlhfEq%2FES4TvDM%3D&reserved=0>



Involvement Survey for QH Engagement can be found in Annex 2¹⁶. This additional part will ask the QH to comment on the sites' developments in RRI from their perspectives. The reflection with or feedback from QH engagement will be included in the mid-term and final evaluations.

4.3. Group Interviews/Individual Interviews

Besides surveys, interpretive approaches such as interviews and focus group discussions will also be adopted to enrich and contextualize the experience of staff and QH in being involved in the GRRIP project. Semi-structured interviews (either individually or as focus group) with implementors and responsible persons will be conducted to understand why a particular intervention is a success or could not be completed as per the targets set. Due to COVID-19, the interviews will be conducted via telephone or online meeting tools, such as Teams and Zoom (preference is for online tools). The interview guide developed in WP5 will be used. During mid-term and final evaluations, representative QH stakeholder group (4-8 interviews) for each RPO&RFOs will be interviewed. Six to ten staff members from each RPO&RFOs, including researchers, support staff, and staff at management level, will be interviewed as well.

4.4. Inputs from the Monitoring System

According to the APs, each site will establish their own indicator dashboard to monitor their progress in their interventions. The RPO&RFOs are expected to share this dashboard with the GRRIP WP7 & WP8 leaders as additional inputs of evaluation data. GRRIP Monitoring reports finished by WP7 will be shared quarterly with WP8. Achievements reported in the monitoring report will be rated in terms of quality (poor, sufficient, outstanding) and sustainability (poor, sufficient, outstanding).

5. Evaluation Approach

5.1. Formative and Summative Evaluation

Four evaluation cycles were proposed in the GRRIP project, with the first three cycles being informative and the final one summative. At Stage 1, RRI baseline and baseline indicators for the RPO&RFOs are established based on the audit results. The baseline of each RPO&RFOs

¹⁶ This survey is a significantly adapted version of the Participatory Process Evaluation Survey created by the ICoRSA team led by Eric Jensen. The modification was done in a consultative way, and the process was led by Xiaoyue Tan with inputs from Indrani Mahapatra, Ruth M. Callaway, and Ana Brito e Melo.



provides the basis against which change can be measured. It provides a framework for monitoring and evaluation, quantitative benchmarking of RRI dimensions and the starting points on facts, processes, and attitudes of each RPO&RFOs for the GRRIP interventions. GRRIP WP6 & WP7 supported the RPO&RFOs in selecting the interventions.

During Stages 2 and 3, evaluation will be formative (also known as process evaluation). At Stage 4, evaluation will be summative. This approach is inspired by the NUCLEUS project¹⁷ (in particular NUCLEUS Deliverable 7.3 Monitoring Report 2017). In summary, summative evaluation looks at what has changed over the project, while formative looks at how changes are occurring during the project. Summative evaluation will occur from a comparison of audit data with a repeat data collection at project completion. This will assess the various activities at the RPO&RFOs for grounding RRI. Formative evaluation contributes and responds to the way in which AP development and implementation phases mature and progress in the project.

The evaluation at Stage 3 corresponds to the mid-term evaluation, while the evaluation at Stage 4 corresponds to the final evaluation. The work plan for these two major evaluations is listed in Table 8.

The Stages 3 and 4 evaluation process will be discussed with the RPO&RFOs and the scope and objectives will be co-developed. In the Stage 4 evaluation, feedback will also be sought for the effectiveness of the instruments used to conduct the evaluation to enable preparing an evaluation toolkit for assessing RRI institutionalization in RPO&RFOs in the M&M sector. Inputs, activities and outputs will be evaluated in Stages 3 and 4 by checking, for example, whether sufficient resources were allocated for the RRI interventions, whether roles and responsibilities defined were fulfilled, whether milestones were achieved (see Tables 4 and 5), whether there were any changes due to the interventions (or what changes happened).

¹⁷ <http://www.nucleus-project.eu/>



Table 8 *Work Plan for Two Major Evaluations*

Evaluation	Time period	Activities	Major responsibility
Mid-term	May 2021-July 2021	Inputs from GRRIP monitoring (Dashboard and monitoring notes)	WP7 & partner sites
	August 2021-October 2021	Inputs from GRRIP monitoring (Dashboard and monitoring notes); Preparation of survey questions, interview guidelines and interview questions	WP7 & partner sites WP8
	November 2021-January 2022	Inputs from GRRIP monitoring (Dashboard and monitoring notes); Planning and implementation of mid-term evaluation	WP7 & partner sites WP8, WP7, & partner sites
	Jan. 2022	Mid-term evaluation report	WP8
Final	February 2022-April 2022	Inputs from GRRIP monitoring (Dashboard and monitoring notes)	WP7 & partner sites
	May 2022-July 2022	Inputs from GRRIP monitoring (Dashboard and monitoring notes)	WP7 & partner sites
	August 2022-October 2022	Inputs from GRRIP monitoring (Dashboard and monitoring notes) Preparation of survey questions, interview guidelines and interview questions	WP7 & partner sites WP8
	October 2022	Planning and implementation of Final evaluation	WP8, WP7, & partner sites
	Nov. 2022-Dec. 2022	Inputs from GRRIP monitoring (Dashboard and monitoring notes) Final evaluation report	WP7 & partner sites WP8

5.1.1. Preliminary Tool for GRRIP Maturity Level Evaluation

The importance of monitoring context is emphasized as GRRIP’s monitoring instruments are designed to measure change perception (subjective change, cultural and behavioral change) as well as objective change. Furthermore, given GRRIP’s focus on the QH, it is appropriate for its M&E programme to find ways of showing the impact of ‘softer’ relational and learning aspects of RRI such as networks of interactions and interface of stakeholders. This may suggest (resources permitting) that monitoring using more traditional instruments such as surveys will be complemented with reflection and discussion instruments (of which Mutual Learning via discussion in workshops is a key example).

Based on literature review on RRI practice, outputs from other RRI projects, and reflection on the audit results from GRRIP experts, the RPO&RFOs (and feedback from QH), descriptions for different RRI developmental stages have been developed to assess RRI related institutional and cultural changes: embryonic, developing, enabled, consistent,



integrated and advanced (from low to high). The descriptions about RRI development stages (will evolve) at different levels on three aspects of the institutional and cultural changes: the construction of supportive organizational structures for RRI culture, staff's RRI cultural awareness and behavioural tendencies and RRI related dialogue with stakeholders and wider society. Based on the audit results, the baseline for each partner site was set. This can be used by organizations implementing RRI practices to self-assess their RRI development stage and develop measures to move further in integrating RRI dimensions into their organizations. Table 9 details the three aspects of the institutional and cultural changes. This is a preliminary tool for RRI maturity level assessment and the development stage descriptions will be reviewed and revised during the AP development and implementation stages and will get finalized towards the end of the project. The tool is planned to be used to assess the RRI implementation progress in the Stage 4 evaluation. The finalized output can be used as a benchmarking tool for assessing RRI status across RPOs/RFO.



Table 9 Preliminary Tool for RRI Maturity Level Assessment/ Evaluation

RRI Developmental Stages		Descriptions		
		The construction of supportive organizational structure for RRI culture	RRI culture, staff awareness and behavior (fostering an internal culture which promotes and facilitates RRI)	RRI related dialogue with stakeholders and wider society (e.g. companies, schools, media, NGOs, civil society)
1	Embryonic	Institutional support for RRI pillars is patchy or non-existent, although some activities are underway.	Incidental involvement in communication with broader audiences	Some interaction with society, but notably with governmental organization and companies as co-funders of research
2	Developing	Some support has been put in place, but in a relatively unsystematic and non-strategic fashion.	Few staff members follow RRI guidelines for their work.	There are few (mostly adhoc) activities with stakeholders/QH and wider society (beyond funding acquisition and partnerships with companies). There is no mention of RRI dialogue with stakeholders/ QH in organizational strategy documents.
3	Enabled	The institution is taking steps to develop more systematic and strategic support.	A group of staff members follow RRI guidelines for their work and initiate RRI dialogues with colleagues.	There are some regular, well-organized activities with stakeholders/QH and wider society. Staff members become involved in a mutual learning process fostering stakeholder ² s engagement. Relationship with stakeholders/QH is need-based. There is sporadic/random mention of RRI in organizational strategy and mission, but institutional leadership has adopted the RRI concept and is aware of its importance.
4	Consistent	The institution has put in place strategic and operational support for the particular RRI pillar.	Majority of staff members involved in research and innovation adhere to RRI guidelines in their work and it is possible to have regular RRI dialogues within the organization.	There are regular, well organized, activities with stakeholders/QH and wider society. Relationship with stakeholders/QH is need-based.
5	Integrated	The institution has put in place strategic and operational support for the particular RRI pillar.	Almost all staff members value RRI principles and adopt RRI guidelines as an inherent part of their work, collaboratively putting concepts into practice	RRI dialogue related activities with stakeholders and wider public is integrated into the organizational mission and strategy. Organizations have good relationship with various types of stakeholders (e.g., media, educational organizations, NGOs, etc. besides companies).
6	Advanced	The institution has put in place strategic and	Organizations are benefiting from adopting RRI practices. Staff	RRI dialogue related activities with stakeholders and wider public is integrated into the organizational



		operational support for the particular RRI pillar.	members are developing new ways of implementing RRI, and exerting positive influence on peer research performing organizations.	mission and strategy. There are frequent and regular activities with stakeholders and wider society. Organizations have strong relationship with various types of stakeholders as a mutual learning endeavor, using the QH platform not merely for communication but for interaction, inclusion and anticipation.
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5.2. Evaluation Reflection, QH Engagement, and Mutual Learning Workshops

The findings from the evaluation will be shared during meetings, Mutual Learning (ML) workshops, and interactions through online platforms with the RPO&RFOs and their QH stakeholders. Particularly, ML has been suggested as a way to implement RRI by recovering a “forgotten experience of reflection” which requires ‘a deliberative ambiance, a process of mutual learning, a consciously organized process of deliberative and distributed reflection.’¹⁸ In GRRIP, ML is a deliberative process for formative reflection and evaluation, which makes use of partners’ and collaborators’ distributed expertise and results in meaningful learning to help shape future project action planning and implementation. Through cycles of effective engagement with all parties (time schedules for these activities are presented in Table 10), it is desired to build support for and accelerate acceptance (e.g., by organization’s staff) and contribute to the sustainability of RRI interventions. The illustration of evaluation cycle and its iteration at four key GRRIP project completion stages is shown in Figure 4.

¹⁸ Zwart, H., Brennkmeijer, J., Eduard, P., Krabbenborg, L., Laursen, S., Revuelta, G., & Toonders, W. (2017). Reflection as a Deliberative and Distributed Practice: Assessing Neuro-Enhancement Technologies via Mutual Learning Exercises (MLEs). *Nanoethics*, 11(2), 127–138. doi:10.1007/s11569-017-0287-4



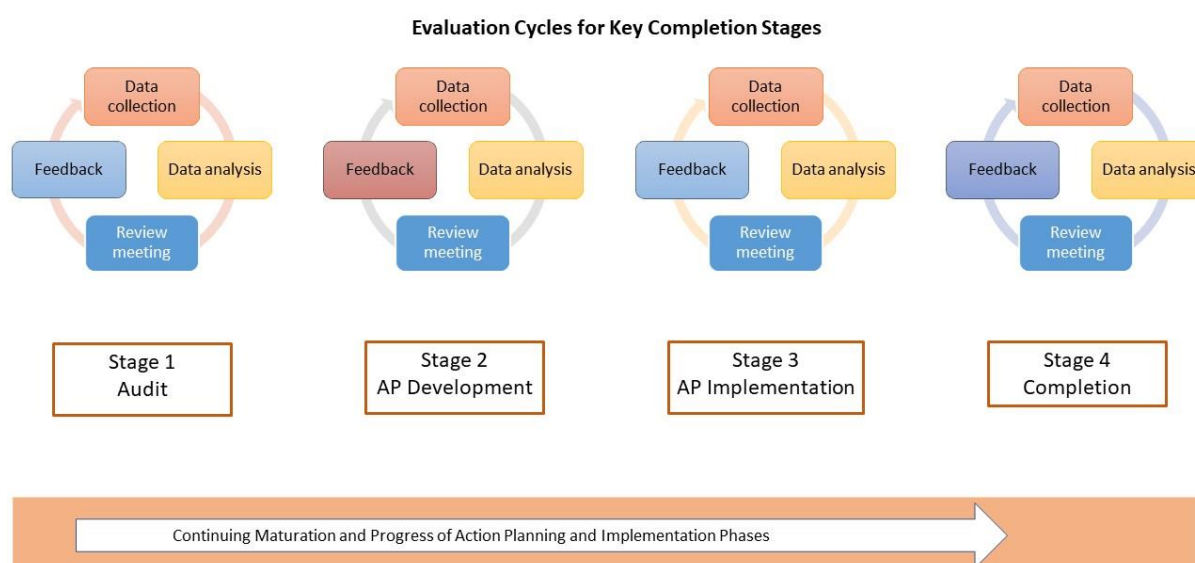


Figure 4 Evaluation Cycle and Its Iteration at Four Key GRRIP Project Completion Stages

Table 10 Time Schedules for Reflection, QH Engagement and Mutual Learning Workshops

Time period	Activities	Major responsibility
October 2020 (7 th , 16 th , and 28 th)	ML workshops for Audit results	WP5 & WP8
21 st January 2021	ML workshop for Aps	WP6 & WP8
March – August 2021	QH engagement and reflection on Aps	WP4, WP6 & WP8
Mid-February 2022	ML workshop at implementation stage	WP7, WP8
Mid-December 2022	ML workshops to reflect on evaluation results (with involvement of QH)	WP7 & WP8

5.3. GRRIP Evaluation Challenges and Risk Management

There are challenges and risk factors we need to consider in advance. Particularly, all five partner sites are very different institutions in terms of organization sizes, operating markets, etc., which will also influence the understandings of RRI and RRI implementation. GRRIP will learn from other RRI projects, such as RRING, NUCLEUS, MORRI, etc. GRRIP evaluation plan will evolve during the project as well based on the successful experiences and lessons learned.

Meanwhile, time is needed to track impacts from such institutional change projects. RPO&RFOs can sustain their RRI interventions and continue monitoring and self-evaluation at regular intervals.

Other risks concern time constraints, financial constraints, and administrative burden. The GRRIP project is delayed in terms of schedules for tasks related to QH engagement. Limited budget for participation in all the project activities and high work-load on finishing GRRIP assignments have been given as a feedback by few representatives of the case study sites. GRRIP is also a project that is highly interdependent on involvement of all partners, and administration efforts by partners are not negligible. These risks raise challenges for the project coordinator and all the GRRIP partners. Efficient and effective team-work and communication and designing instruments (surveys, questionnaires, M&E framework, etc.) which are practical and time-wise economical can fix some of the challenges ahead.

The last non-negligible risk is the pandemic situation the world is facing. In the current pandemic context, many activities have to be done online, which may restrict the work effectiveness and quality of work involvement.



6. Annexes

Annex 1. RRI Indicators and Rating Criteria from RRING Project

RRI dimensions	Indicators	Rating criteria
Public engagement (PE)	Types of stakeholders	4-5 types would be excellent; Top 5 choices in the survey: government bodies, municipalities and regulatory authorities, scientific community, industry and business, civil society organizations, citizens or the general public.
	Information tools for PE	Good: 2-3 types; Top 4: 1) Training and workshops, 2) Conferences, symposiums, talks and exhibitions, 3) Research publications and policy reports, and 4) Media.
	Clear policy and organizational norms for PE	Policy for PE; Organizational norms for PE
	Recognition of benefits of PE	This may include interrelated aspects such as: understanding attitudes, developing trust, increasing awareness (both internal and external), developing credibility and legitimacy, achieving behaviour change (e.g., sustainability), improving R&I outcomes.
	Building support networks and strategic alliances	Number of support networks and strategic alliances
	Remove constraints	Increase financial resources
Open science (OS)	Open access level	Data accessibility; Research results accessibility
	Clear policy and organizational norms for OS	Policy and organizational norms for OS
	Risk management	Anticipatory policy concerning responsible data management, IP rights, patents, sensitive data, supporting staff in addressing challenges involved in open-access journals.
	Recognition of benefits of OS	Accessibility of research results, increasing societal impact of research, improved visibility, allowing corrective measures (open peer review and feed-back), strengthening trust in science.
	Remove constraints	Supporting staff in dealing with APC, journal quality assessment, academic recognition for OA quality journals, smart metrics (indicators for societal impact); internal acknowledgement and reward for engagement



Gender equality and diversity (GED)	Gender equality	Gender balance in workforce; Integrated the perspectives of women in the research and innovation process; gender balance in the decision-making team
	Inclusion of ethnic minority	Aimed for the inclusion of ethnic minorities in research teams; Consulted ethnic minorities during the research process; Integrated the perspectives of ethnic minorities in the research and innovation process; Achieved ethnic diversity in research teams; Developed innovations targeted to ethnic minorities
	Clear policy and organizational norms	Policy and organizational norms for GED
	Remove constraints	Increase financial resources
Ethics	Clear policy and organizational norms for ethics	Policy and organizational norms for ethics There are formal ethical evaluations Participation in or engagement with ethics committees
	Protection of rights	Respecting intellectual property rights and academic referencing
	Personal responsibility and morality	Promoting research ethics through delivering or attending training
	Remove constraints	Increase financial resources



Annex 2. Quality of Involvement Survey

Start of Block: Welcome block

Introduction

Welcome!

You have been invited to participate in this survey because you have participated in interaction(s) with [Name of partner site], Wales. This survey study is designed to gain stakeholders' perspectives on their experiences during the interaction(s). The focus of this survey is gathering on stakeholders' viewpoints about the quality of involvement, impacts, and expectations from further such activities. It should take about 10 minutes to complete.

Page Break



Consent

By taking part in this research, I acknowledge that: I am aware that taking part in this research is completely voluntary. I can terminate my participation in this research at any time (by discontinuation of the online survey). The data I provide will be completely confidential and anonymous, and will be seen only by the principal investigators of GRRIP project. If I have any question regarding this research at a later time, I can contact [Name of principal investigator]: [Contact email address]. I have read and understood the above consent form and agree to participate in this study. (After you have agreed to attend this study, please click the 'Next' button to continue.)

- Yes, I agree!
- No, I disagree!

End of Block: Welcome block

Start of Block: General background info

Introduction Before your start, we would like to ask you some general questions.

[To know about the basic characteristics of the respondents of this survey study and collect more meaningful data for analysis, we will ask you some demographic questions. Note. your responses are recorded anonymously. You are also allowed to skip some of the questions for this part.]



Page Break

Q2.1 Which category below includes your age?

- Younger than 20
- 21-29
- 30-39
- 40-49
- 50-59
- 60 or older

Page Break



Q2.2 Please indicate if you are...

- Female
- Male
- Other/ Non-binary
- Prefer not to say

Page Break



Q2.3 What is your nationality?

Q2.4 What is your country of residence?

Page Break



Q2.5 What is the highest level of formal education you have completed?

- Bachelor's (or equivalent) level
- Master's (or equivalent) level
- Doctoral (or equivalent) level
- Other (please specify) _____

Page Break



Q2.6 What is your current employment status?

- Employed full-time
- Employed part-time
- Unemployed (currently looking for work)
- Unemployed (not currently looking for work)
- Student only
- Retired
- Self-employed
- Other (please specify) _____

Page Break





Q2.7 In what type of organization do you work (or have you most recently worked)?

- Industry (large than 250 employees)
- Small and medium-size enterprise [less than or equal to 250 employees]
- Civil society/non-governmental organization
- Policy making organization
- National governmental organization (including research/innovation funders)
- International governmental organization (including research/innovation funders)
- University or similar research performing organization
- Education (other than university)
- Other (please specify) _____

End of Block: General background info

Start of Block: Quality of involvement

Introduction The following questions are about your general experience and your feelings during the interaction.

Q3.1 Please give a title or a sentence to represent the interaction you had with [Name of partner site]. _____

Q3.2 Have you participated before in similar activities (e.g., workshop, meetings) organized by [Name of partner site]?

- Yes
- No
- Unsure

Q3.3 Why did you decide to participate in these activities?

- Protect the environment
- Develop my skills
- Meet new people



- Make a positive contribution to my local community
 - Learn more about a specific topic
 - Learn more about the co-creation process
 - Exchange experiences
 - To get involved in the thematic of the event
 - To identify networking opportunities
 - For curiosity about the event
 - Other (Please specify) _____
-





Q3.4 Think about your interaction(s) with [Name of partner site], how much do you agree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I was able to actively participate. (Q3.5_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My contribution during the interaction was valued. (Q3.5_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The process of conducting the interaction was poorly managed. (Q3.5_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had a clear understanding of the expectations for my contribution during the interaction. (Q3.5_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I needed more information to fully participate. (Q3.5_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My opinions have been heard and discussed. (Q3.5_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presentation was relevant. (Q3.4_7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sufficient efforts were put in place to interact with me. (Q3.4_8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a stakeholder, I feel positive towards my interaction with [Name of partner site]. (Q3.4_9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



X→

Q3.5 My involvement in the interaction(s) with [Name of partner site] has been...

	3	2	1	0	1	2	3	
Satisfying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disappointing
Comforting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Frustrating
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Bad
Clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Confusing
Easy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Difficult

Page Break

X→

Q3.6 Did the activities (e.g., discussion and others) you participated led to further collaborations (e.g., further involvement in similar activities or collaborating on a new project) with [Name of partner site]?

- Yes
- No.
- Unsure.

Display This Question:

If Did the activities (e.g. discussion and others) you participated led to further collaborations (e... = Yes

Q3.6_1 If yes, please write in the text box below what further activity has arisen. This could be activity related to: further involvement in similar activities; applications or awards for





funding; research or innovation projects; citizen science projects; industry partnerships or anything else you feel is relevant.

Q3.7 With regard to your own professional life or your life outside work, would you say these interactions had a positive impact?

- Had a very positive impact on me.
 - Had a positive impact on me.
 - Has not impacted me either positively or negatively.
 - Had a negative impact on me.
 - Had a very negative impact on me.
-

Q3.8 How familiar are you with the concept of "engaging societal actors in research processes and other related activities"?

- Not at all familiar
 - Slightly familiar
 - Somewhat familiar
 - Moderately familiar
 - Extremely familiar
-





Q3.9 How familiar are you with the concept of "involving policymakers, citizenry, academia, and/or industry to identify societal needs and challenges and designing solutions to those challenges"?

- Not at all familiar
 - Slightly familiar
 - Somewhat familiar
 - Moderately familiar
 - Extremely familiar
-

Q3.10 If it were possible, how likely would it be that you would join a platform where you can easily communicate with activity organizers and other interested parties (from academic, industry, citizens, governmental organizations, etc.) in the Marine and Maritime sector?

- Extremely unlikely
 - Somewhat unlikely
 - Neutral
 - Somewhat likely
 - Extremely likely
-

Q3.11 Is there anything else you would like to add relating to the interaction you had with [Name of partner site] or future engagement activities to be held by [Name of partner site]?

End of Block: Quality of involvement

Start of Block: Thank you for participation!

Thanks again for taking the time to complete this survey in full! Your inputs will be carefully analyzed and used to improve the engagement activities in the Marine and Maritime sector



in the future. Anonymized results from this survey will be used for research purposes and the report will be available on the GRRIP project website: grip.eu.

Click **Next** below to finish this survey.

End of Block: Thank you for participation!

