



SeeRRI

D6.1

Plan for Activities Evaluation

Work Package: WP6 – Impact Assessment & Activities
Evaluation V31

Lead beneficiary: University of Haifa (UH)

Date: 30/04/2020

Nature: Report | Diss. level: PU (Public)

CONTENTS

DOCUMENT INFORMATION	4
DOCUMENT HISTORY	5
DEFINITIONS & ACRONYMS	6
EXECUTIVE SUMMARY	7
INTRODUCTION	8
THE EVALUATION PROCESS	10
STEP 1: ESTABLISHING THE PURPOSE AND AUDIENCE OF THE EVALUATION	11
STEP 2: IDENTIFYING THE IMPACTS	15
STEP 3: CLARIFYING THE IMPACTS	23
STEP 4: EVALUATING THE IMPACTS	25
STEP 5: REPORTING	40
LIMITATIONS AND RISK MITIGATION	41
REFERENCES	44
ANNEXES	46

LIST OF TABLES

Table 1 SeeRRI's specific impact and indicators/qualificators	18
Table 2 SeeRRI contribution to MoRRI & SDG.....	19
Table 3 SeeRRI evaluation approach	24
Table 4 List of SeeRRI participants	25
Table 5 SeeRRI main events structure and expected participants	27
Table 6 Evaluation roadmap	33
Table 7 Questionnaires	35
Table 8 Research model	38
Table 9 Risks associated with the activity of evaluation	43

LIST OF FIGURES

Figure 1 Impact evaluation process	11
Figure 2 SeeRRI's evaluation plan and implementatio.....	13
Figure 3 Impact framework	16
Figure 4 SeeRRI's levels of evaluation	32

DOCUMENT INFORMATION

Grant Agreement Number	824588	Acronym	SeeRRI
Full title	Building Self-Sustaining Research and Innovation Ecosystems in Europe through Responsible Research and Innovation		
Project URL	www.seerri.eu		
EU Project officer	Cristina Marcone		

Deliverable number: 6.1	Title	Plan for Activities Evaluation
Work package number: 6	Title	Impact Assessment & Activities Evaluation

Delivery date	Contractual	31/12/2019	Actual	31/12/2019
Status			Draft <input type="checkbox"/>	Final <input checked="" type="checkbox"/>
Type		Internal Deliverable <input type="checkbox"/>	Official Deliverable <input checked="" type="checkbox"/>	
Nature		ORDP <input type="checkbox"/>	Report <input checked="" type="checkbox"/>	Websites <input type="checkbox"/> Ethics <input type="checkbox"/>
Dissemination Level		Public <input checked="" type="checkbox"/>	Confidential <input type="checkbox"/>	

Project Coordinator	Nhien Nguyen	E-mail: nng@nforsk.no
Partner	NRI	Phone: +47 932 74 674

Reviewer	Carlos Alvarez Pereira	E-mail: calvarez@innaxis.org
Partner	INNAXIS	Phone: +34 902 955 527
Reviewer	Ángel Honrado	E-mail: angel@wedo-projects.com
Partner	WeDo	Phone: +34 657 039 949
Reviewer	Alice Panciroli	E-mail: alice.panciroli2@unibo.it
Partner	UNIBO	Phone:
Authors (Partner)	Alan Hartman, Eran Vigoda-Gadot, Itai Beeri, Donatella Casale (UH); Katharina Fellnhofer (RIM)	
Responsible partner	Alan Hartman	Email alan.hartman.gm@gmail.com
	Organisation UH	Phone +972 4 8288283

Description of the deliverable	This report presents a comprehensive plan for the evaluation SeeRRI project's activities at both organizational level and territorial level as well as the measurement of the concrete outputs and outcomes of these activities
Key words	Activities Evaluation, RRI, RRI activities, impact assessment, MORRI indicators perceptions, stakeholders' participation and satisfaction.

DOCUMENT HISTORY

MODIFIED BY	DATE	VERSION	DESCRIPTION
Donatella Casale Mashiah, Alan Hartman (UH)	06.05.2019	7	First Draft circulated to stakeholders
Input from: Carlos Alvarez Pereira (INNAXIS), Angel Honrado (WEDO), Alice Panciroli (UNIBO), Tatiana Fernandez Sirera (GENCAT), Nhien Nguyen, Åge Mariussen, Are Jensen (NRI), Marianne Hörlesberger (AIT).			
Donatella Casale Mashiah, Alan Hartman (UH)	15.07.2019	12	First Draft based on CSIRO Format
Input from: Nhien Nguyen, Åge Mariussen, Are Jensen (NRI), Carlos Alvarez Pereira (INX), Angel Honrado (WEDO), Alice Panciroli (UNIBO).			
Donatella Casale Mashiah	08.09.2019	17	Updated Questionnaires
Input from: Carlos Alvarez Pereira (INX), Angel Honrado (WEDO), Alice Panciroli (UNIBO), Tatiana Fernandez Sirera (GENCAT), Nhien Nguyen, Åge Mariussen, Are Jensen (NRI), Marianne Hörlesberger (AIT).			
Donatella Casale Mashiah, Alan Hartman (UH)	09.12.2019	23	Submitted to Reviewers
Input from: Carlos Alvarez Pereira (INX), Angel Honrado (WEDO), Alice Panciroli (UNIBO), Nhien Nguyen (NRI).			
Donatella Casale Mashiah, Alan Hartman (UH)	29.12.2019	26	Final Submitted Document
Input from: Feedback from the EU project officer after the first review meeting.			
Donatella Casale Mashiah, Alan Hartman (UH)	14.04.2020	29	First Draft of Revisions
Input from: Carlos Alvarez Pereira (INX), Angel Honrado (WEDO), Alice Panciroli (UNIBO), Tatiana Fernandez Sirera (GENCAT), Nhien Nguyen, Åge Mariussen, Are Jensen (NRI), Marianne Hörlesberger (AIT).			
Donatella Casale Mashiah, Alan Hartman (UH)	30.04.2020	31	Final Draft of Revisions

DEFINITIONS & ACRONYMS

RRI	Responsible Research and Innovation
R&I	Research and Innovation
GOV	Governance
PE	Public Engagement
GE	Gender Equality
SLSE	Science Literacy and Science Education
OA	Open Access
E	Ethics
EC	European Commission
SUS	sustainability
RIS3	Regional Research and Innovation Strategies for Smart Specialisation
S3	Smart Specialisation Strategies
NAT	Network of Affiliated Territories
MoRRI	Monitoring the Evolution and Benefits of Responsible Research and Innovation
SDG	Sustainable Development Goals
Q1	Questionnaire 1: SeeRRI Consortium Members Questionnaire
Q2	Questionnaire 2: SeeRRI Stakeholder' Questionnaire

EXECUTIVE SUMMARY

This document provides information on the design methods for evaluating the SeeRRI project activities and the framework for self-sustaining ecosystems in terms of:

Outcomes of the activities initiated in the three territories affiliated to the SeeRRI Project.

Societal, democratic, environmental, economic and scientific impacts of activities in the territories.

Recommendations on policy and governance structures to facilitate the creation and maintenance of self-sustaining RRI ecosystems.

In order to do so, the document describes the evaluation process that will be implemented by Work Package 6 Impact assessment & activities evaluation, along with the consideration of limitations and risk mitigation.

INTRODUCTION

The SeeRRI project establishes a foundation for building self-sustaining R&I ecosystems in Europe by developing a framework for integrating the RRI approach into regional development policies in three European territories: B30 Area (Spain), Polymer and Mechatronic Cluster (Austria), and Nordland Region (Norway). To become self-sustaining, the SeeRRI ecosystem will be “healthy”, i.e. adaptive, resilient, reproducible, continuous learning, and open or closed when needed. With 12 quadruple-helix partners from government authorities, clusters and SMEs, academics, and civil organization, the SeeRRI consortium will build an integrated framework based on literature review and co-creation with the relevant stakeholders. By mapping the territorial R&I ecosystems, SeeRRI will understand the supporting conditions for R&I and identify the stakeholders that will be involved to formulate a variety of scenarios for building a self-sustaining ecosystem in their territories. The engaged stakeholders will gain awareness and insights while engaging in creative collaboration through workshops and open-labs, thus will function as multipliers and promote RRI principles in their territories and beyond. The inputs from territorial stakeholders will contribute to defining and validating the framework for self-sustaining R&I ecosystems developed by the project team, which will generate concrete activities to be implemented.

Furthermore, SeeRRI will evaluate the activities carried out in the three pilot territories and assess their impact at EU level, thus offering concrete guidelines for policies, suggesting conditions and governance structures for the R&I ecosystems with a roadmap tool identifying RRI openings in Smart Specialisation process. Finally, SeeRRI will establish a Network of Affiliated Territories, i.e. other territories with a composition that could mirror SeeRRI ecosystems, to help contribute, improve, and apply the SeeRRI framework. Learnings and best practices will be transferred across territories. This will facilitate its scaling-up at European and global level.

Work Package 6 (WP6) will evaluate the activities implemented in the SeeRRI project and its objectives can be synthesized as follows:

- To design methods for evaluating the project activities and the framework for self-sustaining RRI ecosystems;
- To evaluate the outcomes of the activities initiated in the three territories;
- To determine societal, democratic, environmental, economic and scientific impacts of activities in the territories;
- To make recommendations on policy and governance structures to facilitate the creation and maintenance of self-sustaining RRI ecosystems

WP6's work is mainly organized along 3 tasks. The first task (Task 6.1) consists of this plan for activities evaluation which is due between months 7 and 12 of the project and for which the University of Haifa (UH) is responsible, with the support of Research and Innovation Management (RIM) and with inputs from the University of Bologna (UNIBO). The plan is aimed at the evaluation of the scenarios envisioned in WP3 and the activities planned in WP5.

The second task of the WP is the implementation of activities evaluation (Task 6.2) which is to be implemented between month 7 and month 27 of the SeeRRI project. The SeeRRI partner responsible for this task is RIM, with inputs from the University of Haifa (UH) and UNIBO. This task consists of the evaluation of the concrete measurements before and after the activities, to give an indication of the extent of the changes and their impacts. This task also includes an informal interim check on the activities during their performance to get progress on their implementation and, if necessary, to modify the strategy. Indeed, this task also includes observations of future intentions, such as, aspirations, plans and intention to collaborate; thus, facilitating the evaluation of the self-sustainability of the ecosystems. These observations have been taken into account in the internal consortium questionnaire. The measurements will be analyzed by a variety of statistical and analytical tools to create a dashboard of progress towards the sustainability and resilience of the eco-systems for research and innovation in

the three territories. The task will be divided into five subtasks, one (T6.2.1) for evaluating the activities described in Task 5.1 for the promotion of RRI within the partner organizations (via the internal consortium questionnaire), three subtasks (T6.2.2; T6.2.3; T6.2.4) for evaluating the activities in each of the territories and a final subtask (T6.2.5) for evaluation of the transnational learning activities specified in Task 5.3 (via the external stakeholder questionnaire). Each partner in the respective territories will be the responsible leader of the subtasks within their region.

The third task of the evaluation activities of WP6 (Task 6.3) consists of the definition of policy and action recommendations which are scheduled between month 25 and 30 of the SeeRRI project. The main partner involved is UH, with inputs from all other partners. This task will produce a document including guidelines for policies to promote responsible self-sustaining research and innovation ecosystems in territories. It will detail governance structures to be applied for the maintenance and control of such systems. It will further propose a series of concrete activities in each of the three territories and in the territories of the Network of Affiliated Territories for the maintenance of high levels of responsible research and innovation for the achievement of social, democratic, environmental, economic and scientific impacts through public engagement, gender equality, scientific education, open access and ethical behavior.

THE EVALUATION PROCESS

The general activities and impacts evaluation process consists of five steps, as shown in Figure 1. Each following step relies upon content or decisions that are the outputs of tasks completed within the previous steps and it is detailed in the following paragraphs, along with provision of the estimated timing and the distribution of responsibilities among WP and SeeRRI members.

Figure 1 Impact evaluation process



STEP 1: ESTABLISHING THE PURPOSE AND AUDIENCE OF THE EVALUATION

An evaluation analysis can serve a variety of purposes and can provide information to a wide range of audiences. At the outset of every evaluation, it is of primary importance to define the way a particular evaluation is conducted, its units of evaluation (eg. project, program, geographic areas, individuals, etc.), the data collected for it, and the methodology used to investigate those data. These are all functions of this step which involves the determination of

the objectives of the evaluation and its beneficiaries¹.

Generally, impact evaluations are undertaken for one or more of the following purposes (CSIRO 2015):

Accountability: The purpose is to provide evidence that research funding has been used effectively and in line with its initial intent. The audience are generally external regulatory or funding bodies (e.g. European Commission).

Allocation: The purpose is to assess progress and inform future allocation of research funding to ensure that resources are used in the best and/or efficient way. The audience is generally internal to the project or program (e.g. program or project executive boards).

Analysis: The purpose is to understand the reasons for success/failure of the research outcomes and identify lessons learnt and areas for improvement. The audience is generally internal to the project or program (e.g. program or project executive boards).

Advocacy: The purpose is to demonstrate benefits and build the case for a specific research area under the program of work. The audience is external and includes the community, the industry, other external organizations and the general public.

The main objective of every impact evaluation, program evaluation or simply activity evaluation is the determination of the extent to which one set of directed human activities (X) affected the state of some objects or phenomena (Y_1, \dots, Y_k) (Mohr .1995; Patton 1988; Fitz-Gibbon & Morris 1987). On these lines, the main objective of this plan for activities evaluation is the measurement of both the concrete outputs and the outcomes of the activities initiated in the SeeRRI project using a combination of reliable and established measures chosen with the participation of the territories, adjusting them to fit the cases and ecosystems under evaluation.

More precisely, in order to fulfill this task, the outcomes of the SeeRRI project's activities are measured in terms of:

¹ In case of multiple purposes and audiences, it is crucial to determine their relative priority.

impact on the participants/customers/clients.



The concept of '**Responsible Research and Innovation**' originated from the European Commission's Directorate-General for Research and Innovation (**DG RTD**) around 2011, specifically during the drafting of the Horizon 2020 (**H2020**) Framework Programme (2013-2020). By 2014 there were already several workshops and conferences dealing with RRI around Europe, RRI was discussed in the daily news and FP-funded RRI projects were making themselves and the concept visible. By 2015 the concept was also diffusing beyond Europe and it moved beyond workshops and conferences to actions.

RRI is now a cross-cutting issue in Horizon 2020 and according to the EC the RRI framework consists of six dimensions (EC, 2014):

GOV (GOVERNANCE)

PE (PUBLIC ENGAGEMENT)

GE (GENDER EQUALITY)

SLSE (SCIENCE LITERACY AND SCIENTIFIC EDUCATION)

OA (OPEN ACCESS)

E (ETHICS)

In line with the Monitoring the Evolution and Benefits of Responsible Research and Innovation (MoRRI) project, which was a project tasked with implementing a monitoring system for responsible research and innovation (RRI), SeeRRI builds on the suggested six policy agendas for RRI provided by the European Commission, which are leveraged together with one of those used in evaluating the UN sustainable development goals. Therefore, the outcomes of the SeeRRI project's activities are measured based on the MoRRI indicators supplemented by measures of concrete outcomes, and indicators used in the Sustainable Development Goals.

The analysis will take into account the multiple levels of the units involved in the SeeRRI project, therefore the units of analysis shall be nested at different levels:

1. **Individual members**, i.e. single individuals involved in the SeeRRI project.
2. **Members' organizations**, which will be categorized by type (research, public government, industry, citizens).
3. **Territories**, so that the three territories involved in the SeeRRI project will be considered and analyzed separately in order to better evaluate and to provide more apt policy recommendations.

The analysis will allow the SeeRRI consortium to **assess progress** and **to understand the reasons for success/failure of research outcomes** and to **identify lessons learnt** and areas for future improvement and indeed it will be **used for advocacy of RRI**. The analysis will also provide **accountability to the EC** and will serve as a measure of effectiveness of the

funding allocated to the project.

The beneficiaries of the outcomes of the evaluation will be the SeeRRI member organizations, the quadruple-helix external stakeholders involved in the project, the EC and the general public.

Finally, in terms of usage of the evaluation outcomes, all the data collected will be free to use by the whole consortium and will be shared with external regulatory and funding bodies.

STEP 2: IDENTIFYING THE IMPACTS

In order to define an impact, it is necessary to identify a clear pathway in order to lead the impacts back to the specific project or program to be evaluated.

Therefore, this step involves the determination of the context, impacts to be evaluated, and the pathway to connecting them back to SeeRRI.

Generally, impacts to be evaluated can relate to some innovation or improvement of existing technology, new tasks or capabilities, or local, regional, national or global needs addressed through research and innovation activities.

Impacts need to be clearly defined because their analysis will play an essential role in the final evaluation report. Therefore, for each unit of evaluation (individuals, organizations or territories) it is of central importance to consider the specific elements of the context under examination, in order to properly understand the full significance of the impacts.

The identification of an impact requires a traceable causal relationship that has the purpose of providing an impact pathway. Figure 3 provides a representation of a typical impact framework which consists of inputs, activities, outputs, outcomes and impacts.

Inputs are very often confused to be synonymous with activities. However, these terms are not interchangeable. Inputs, in simple terms, are those things that we use in the project to

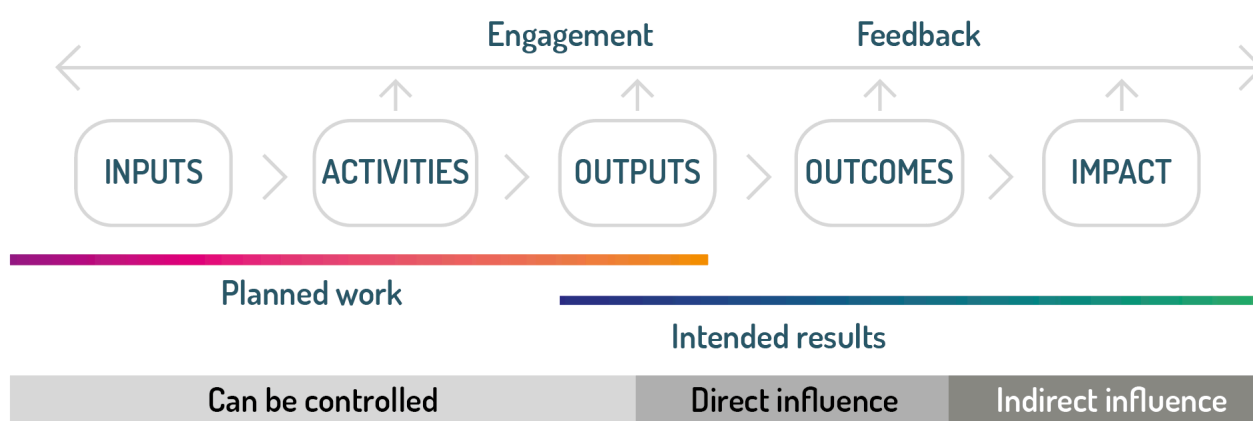
implement it. Inputs ensure that it is possible to deliver the intended results of a project (e.g. staff, infrastructure etc.).

Activities are actions associated with delivering project goals (e.g. collaborations, workshops, trainings etc.).

Outputs are the first level of results associated with a project. Often confused with “activities”, outputs are the direct immediate results associated with a project. In other words, they are usually what the project has achieved in the short term (e.g. materials, processes, skills, or technologic advancements).

Outcome is the second level of results associated with a project and refers to the medium term consequences of the project. Outcomes should be clearly linked to the project goals (e.g. the adoption of the outputs by the research partners).

Impact is the third level of project results, and is the long term consequence of a project. Most often than not, it is very difficult to ascertain the exclusive impact of a project



Source CSIRO (2015)

The scope of the SeeRRI project is to start pilot activities in three territories, validate the framework, and then ensure its applicability to as many regions in Europe and the Associated Countries as possible. The SeeRRI consortium is expected to provide evidence of 1) societal, 2) democratic, 3) environmental, 4) economic and 5) scientific impacts. These impacts can be generally defined as follows:

1. **Economic impacts** are impacts on an economic system at a local, national, or global level such as changes in revenue, operating costs, profitability, gross domestic product, employment or investment returns.
2. **Social impacts** are impacts on well-being of the surrounding and wider community. Social impacts include effects on health, equality, living standards, cohesion, resilience, security and safety practices. They are often non-monetary and include economic and environmental elements.
3. **Environmental impacts** are impacts on living and non-living natural systems, including ecosystems, land, air and water.
4. **Democratic impacts** consist in bringing science into democracy and democracy into science through RRI.
5. **Scientific impacts** consist in the impact that scientific research has on society, individuals and different types of organizations such as public organizations or industry.

Following the above-mentioned categories, the SeeRRI project is expected to deliver a series of outputs which will impact the SeeRRI members, the engaged stakeholders, the territories and their organizations, the citizens and ultimately society at large. The pathways to connect

such impacts to the SeeRRI project is through clearly defined indicators/quantifications as detailed in Table 1.

Table 1 SeeRRI's specific impact and indicators/qualificators

SeeRRI specific impact	indicators / quantifications
SCIENTIFIC IMPACT	
Develop an integrated framework of self-sustaining R&I ecosystems	4 reports of the pilot regions, 8 Scientific publications, presentations in at least 3 conferences, 500 views of our promotion clip, 3 newsletters, 4 press articles.
Transnational-learning across territories	
SOCIETAL AND DEMOCRATIC IMPACT	
Engage balanced and active participation from relevant stakeholders in the process of building sustainable R&I ecosystems	14 workshops described in section 1.3 of the contract. Project closure conference open to public, expect to have at least 100 participants.
Create physical and virtual platform for all relevant stakeholders	Participation and satisfaction of stakeholders in physical workshops will be measured, along with the use of the online platform (5000 views), 1000 social media followers.
ECONOMIC IMPACT	
Identify cross-country and inter-regional collaboration opportunities among 3 selected territories and NAT	Identification and promotion of 5 business collaboration initiatives within the focal territories through workshops and consortium meetings between NCC, NHO, Ecoplus, GENCAT. Specifically, Ecoplus focuses on the system in and around the technology of Additive Manufacturing. It is expected to increase the number of cross-country collaboration projects concerning additive manufacturing, around 15-20% more projects.
ENVIRONMENTAL IMPACT	
Reorientation of RIS3 strategic focus to circular-economy-driven policy, towards circular economy	SeeRRI will promote environmental actions specifically in municipal waste recycling activities. This activity is dependent on the outcomes of Workshop 1.
FACILITATE INSTITUTIONAL CHANGES	

Actions promoting change in intention and behaviours at institutional level

A questionnaire will collect the relevant indicators for change before and after the interventions. 100% SeeRRI partners committed to actions promoted institutional change towards RRI.

A transformative and opening effect on organisations involved, which should be sustainable beyond the lifetime of funding, will be measured by the MORRI Indicators GE1, SLSE1, SLSE2, SLSE3, SLSE4, E1, GOV2 .(MoRRI 2018).

Beyond such impacts, the SeeRRI project will also contribute to following MoRRI indicators/ RRI dimensions and to impact the Sustainable Development Goal related to the recycling rate of municipal waste. The impacts achieved by the project are expected to include significant advances in implementing the RRI agenda in each of the participating organizations and territories as indicated by both the MoRRI and SDG indicators beyond the baseline measurements taken at the beginning of the project. See Table 2.

Table 2 SeeRRI contribution to MoRRI & SDG

Indicators to measure the impact of seerri	Expected results within the duration of the project
GE1 - Share of research-performing organizations (RPO) with gender equality plans	The project will promote gender balanced teams, ensuring gender balance in decision-making bodies, and always considering the gender dimension in R&I to improve the quality and social relevance of the results. In order to do so, a clear indicator that we expect to measure is an increase in the percentage of RPOs with gender equality plans within SeeRRI members by at least 15%.

Indicators to measure the impact of seerri	Expected results within the duration of the project
SLSE1 - Importance of societal aspects of science in science curricula for 15 to 18-year-old students	Organize educational activities related to societal aspects of science in 3 selected territories. UH and RIM created online material for use by science educators (privacy issues related to social networking by UH & content suitable for use with 15-18-year-old students by RIM). 4 trial classes using this educational material are expected to take place. RIM performed one in Austria. Educational authorities in the territories and NAT have been made aware of the availability of this material. 100% SeeRRI members will disseminate this material in their network and territories.
SLSE2 - RRI-related training at higher education institutions (HEI)	UAB will organize 12 RRI-related trainings at their university. UH and UNIBO will disseminate the training content in their institutions
SLSE3 - Science communication culture	100% SeeRRI members will disseminate SeeRRI activities in their networks and territories to create awareness.
SLSE4 - Citizen science activities in research-performing organizations	100% SeeRRI members participate in the National Science / Research week and contribute at least two new citizen science activities involving the local citizens every year
PE1 - Models of public involvement in S&T decision-making	Conducting three round table discussions with citizens on science and technology policies that affect them. These round table discussions will take place during the workshops described in WS12, WS13, WS14 (table 6)
PE2 - Policy-oriented engagement with science	Conduct public debates on science and technology questions, INX will be active in this activity and involve the think tank network “The Club of Rome” A series of 2 expert round tables will be organized with policy makers and proceedings will be published and disseminated.
PE5 - Public engagement performance mechanisms at the level of research performing organizations	Lobby for increased prominence and mechanisms for citizen engagement in S&T activities at our institutions. This will be measured by the number of new citizen science projects at the participating RPOs. SeeRRI expects to generate at least six new projects based on the participation of the RPOs in citizen-based workshops in WS 5, WS6, WS7 (table 6)
OA1 - Open access literature	Publish 8 articles in Open Access Journals
OA6 - Research-performing organizations' support structures for researchers as regards incentives and barriers for data sharing	Improve the Open Data support at our institutions. This will be measured by the amount of funding for Open publication at each RPO in the consortium.

Indicators to measure the impact of seerri	Expected results within the duration of the project
E1 - Ethics at the level of higher education institutions and public research organizations	100% consortium members will take specific actions to achieve compliance with the MoRRI question ²
GOV2 - RRI-related governance mechanisms within research-funding and higher education institutions	100% consortium members will take actions to achieve compliance with the MoRRI question ³
GOV3 - RRI-related governance mechanisms within research-funding and research performing organisations.	Develop an RRI specific framework for small and medium sized research organizations which integrates their specific needs. INX will be the lead and produce this framework with RIM and WEDO.
SDG11 (Sustainable cities and communities) – indicator: Recycling rate of municipal waste	The workshops involving municipal authorities will contain a discussion of conducting municipal waste recycling activities in each of the 3 chosen territories and in at least 3 NAT members. Dependent on the adoption of relevant policies by the authorities, this SDG will be promoted and achieve impact.

Other expected impacts consist in 10 policy impacts, RRI impact on business sector, and legacy impact after the project ends.

First, regarding the **policy impact**, SeeRRI engages policy-makers in the activities' implementation process, learns about their challenges and then recommends a policy agenda for integrating RRI into regional development. By doing this, SeeRRI contributes an impact on the process of how a policy is formed, implemented and understood. Policy impact could be measured by the number of actions implemented by the policy-makers from the government authorities in the 3 focal territories and NAT members, for example attending 17 SeeRRI workshops, conference and meetings, disseminating SeeRRI project information in their territories in at least 3 public events, involving 4 categories of stakeholders in their territories in 14 SeeRRI stakeholder workshops. This will act as a foundation for merging the SeeRRI framework into the Smart Specialisation Platform and European policies related to regional development.

1. Did your organisation have a research ethics committee?

2. Has your organisation established processes for managing ethics/ citizen engagement/ open access and open science/ gender equality/ responsible research and innovation?

Second, regarding **RRI impact on business sector**, SeeRRI focuses on creating impact specifically for SeeRRI business partners, such as SMEs (WeDo, RIM) and Ecoplus business cluster. In case of SMEs, SeeRRI aims to develop a roadmap for institutionalizing RRI approach considering small size of organizations, to understand what the trigger for the companies will be to put efforts in understanding RRI and implementing it or at least to address this more in their business strategy. In the business cluster in Austria, Ecoplus, the focus is the system in and around the technology of additive manufacturing (AM). Therefore, the RRI impact on this business cluster is related to at least two aspects. *Gender aspect*: The number of women workers in additive manufacturing production will increase at least 20% since the technology requires less heavy labour than is the case in traditional production. *Science education aspect*: The share of infrastructure in AM implies open innovation as well as the necessity for focused procedures regarding training on the job in AM, thus science education in AM is required. The project will deliver concrete actions for promoting science education in AM, aiming for a 50% increase in the number of graduate experts in AM in the Lower Austria Region.

Third, regarding **legacy impact** after the project ends, SeeRRI has actively planned to preserve the network after the project funding ends by designing the activities to be conducted after the project ends, including an exploitation plan to be implemented after the SeeRRI project ends. For example: research institutes and SMEs can apply SeeRRI knowledge in a large number of further projects; the cluster management may develop new services, trainings and materials from SeeRRI knowledge to benefit their members and legitimize its existence; the universities may produce spin-offs to consult on the implementation of RRI; the territorial government authorities may provide self-funding to continue the co-creation RRI activities in their territories.

STEP 3: CLARIFYING THE IMPACTS

In order to assess the net impact of a project or program, it is necessary to have a reference point, known as counterfactual, that may work as a control group (the group that does not receive the treatment, i.e. project or program activities) to be compared to the treatment group (the group that receives the treatment, i.e. project or program activities).

The counterfactual is generally intended as the hypothetical situation that would have been occurred in the absence of the program or project activities that are aimed to exert impact on a target population or on multiple target populations. The comparison against a counterfactual allows one to try to rule out possible alternative explanations for the impact's cause and to establish the degree to which the activities or interventions are responsible for the observed outcomes or impacts. In other words, the counterfactual contributes to identify substitute activities or causes that would have led to similar outcomes or impacts and factors outside the influence of SeeRRI that may influence or did influence changes in the outcomes or impacts of interest. The net impact, therefore, is estimated by comparing the expected or observed benefits with the counterfactual.

This step consists in the clarification of:

1. What would have happened if the stakeholders would not have been involved in the SeeRRI project?
2. What are the contributions to RRI, if any, made by other organizations not involved in the SeeRRI project?

The SeeRRI control group will consist of the following groups:

The members of the Network of Affiliated Territories (NAT) which did not participate to the SeeRRI activities.

- A group of minimum 30-35 stakeholders coming from the three territories (Ecoplus, B-30, Nordland). These stakeholders must be identified by the representatives of the three territories among the salient stakeholders of each organization and selected for their power, legitimacy and urgency (Mitchell, Agle & Wood 1997). These stakeholders are among those invited to the SeeRRI project or that had the characteristics to be invited, but that for any reason, did not attend. In this way we will assure that these stakeholders have the same characteristics of those that participated at the SeeRRI workshops but that they did not received any “treatment”, in the sense that they did not actively participate to any SeeRRI activity.
- The participants to the project’s closure conference that did not participated in the SeeRRI activities. The conference will be open to public, and will take place approximately on Month 28. It is expected to have at least 100 participants.
- The use of any, and/or the other group will be subject to their availability. It will be the responsibility of the territories to keep track of such stakeholders and promptly send them the online evaluation questionnaire (Q2 SeeRRI stakeholders’ questionnaire) and to share the results with the evaluation team (WP6).

STEP 4: EVALUATING THE IMPACTS

This step is strictly dependent on the previous ones, in fact once the impacts to be measured are identified, such impacts need to be measured and documented. Therefore, this step involves the definition of the evaluation approaches and methods used for gathering evaluation data, the implementation of such approaches, and finally once the data has been received, the analysis of the data to determine the extent and degree of the impacts.

The evaluation approaches that will be implemented will include both the collection of quantitative data through questionnaires and qualitative methods such as informal interim evaluations, including the optional possibility of gathering of workshop participants' impressions via written questions or structured face-to-face interviews if extra inputs will be needed beyond the information received via the questionnaires and the evaluations. See table 3.

Table 3 SeeRRI evaluation approach

QUANTITATIVE DATA GATHERING	QUALITATIVE DATA GATHERING
Standardized questionnaires (Q1 and Q2)	Informal interim checks via written evaluations, optional structured interviewing if needed.

We believe that conducting an impact evaluation using a mixed-methods approach (i.e. using both qualitative and quantitative data) will provide us with the most complete possible assessment.

The evaluation tasks deriving from the chosen evaluation approach are divided into two main activities:

Evaluation of the internal impact of the SeeRRI project's activities, framework and processes on the twelve-member organizations of the consortium.

1. Evaluation of the activities initiated in the SeeRRI project with stakeholders from

outside the consortium.

2. Evaluation of the internal impact of the SeeRRI project's activities, framework and processes on the twelve-member organizations of the consortium

The evaluation of the internal impact of the SeeRRI project's activities, framework and processes on the twelve-member organizations of the consortium will be carried out by gathering quantitative data via a questionnaire (i.e. Q1 SeeRRI consortium members questionnaire). The questionnaire is intended only for employees or members of the twelve organizations - including those working directly on the project and others in the organization that are indirectly involved (e.g. gender equality officers, ethics committees) through interaction with the RRI facilitator or other relevant contacts.

The members of the consortium represent a set of different organizations representing research organizations or foundations, small and medium sized enterprises (SMEs), universities, regional governments and confederations of enterprises. See table 4.

Table 4 List of SeeRRI participants

NO.	PARTICIPANT ORGANISATION NAME	COUNTRY	ORGANISATION TYPE
1	Nordland Research Institute (NRI)	Norway	Research organization
2	Austrian Institute of Technology GmbH (AIT)	Austria	Research organization
3	Innaxis Foundation and Research Institute (INX)	Spain	Research foundation
4	WeDo Project intelligence made easy S.L. (WEDO)	Spain	SME
5	Research and Innovation Management GmbH (RIM)	Austria	SME
6	University of Haifa (UH)	Israel	University
7	Alma Mater Studiorum - Università di Bologna (UNIBO)	Italy	University
8	Universitat Autònoma de Barcelona (UAB)	Spain	University
9	Generalitat de Catalunya (GENCAT)	Spain	Regional Government
10	Ecoplus Niederösterreichs Wirtschaftsagentur GmbH (ECOPLUS)	Austria	Regional Government (Business Cluster Organisation)
11	Nordland County Council (NCC)	Norway	Regional Government
12	NHO Nordland (NHO)	Norway	CSO (Confederation of Norwegian Enterprise)

The main objectives of Q1 are:

1. Evaluate outcomes of activities initiated in the **three territories**
2. Evaluate impacts of activities in **the territories** -
3. Evaluate the institutional changes in **12 SeeRRI partners**

The measurements will be taken in two different points in time, before and after the activities, to give an indication of the extent of the changes and their impacts. This will be possible by using some self-generated identification codes (Damrosch, S.P. 1986; Garvey Wilson, A. L., et. al. 2010, Schnell, R., et. al. 2010; Yurek, L. A. et. al. 2008) to compare pre and post-activities surveys.

These codes are widely used to protect anonymity while allowing for longitudinal analysis, since they allow to create unique identification codes for each respondent.

Evaluation of the activities initiated in the SeeRRI project with stakeholders from outside the consortium and of the outcomes of such activities.

These activities are focused on influencing a significant subset of the indicators: GE1, SLSE1, SLSE2, SLSE3, SLSE4, PE1, PE2, PE5, OA1, OA6, E1, GOV2, GOV3, SDG11. The evaluation of these activities will be carried out via a questionnaire (i.e. Q2 SeeRRI stakeholders' questionnaire), which is also aimed to evaluate stakeholder participation in an indirect way - number and nature of the participants. The questionnaire will also be distributed to members of the NAT.

The main objectives of Q2 are:

1. Evaluate outcomes of activities initiated in the **three territories**

2. Evaluate impacts of activities in *the territories*

The following table provides information on the SeeRRI main events structure and expected participants.

Table 5 SeeRRI main events structure and expected participants

EVENT	CONTENT	TIME	LOCATION	N. OF PERSON	PARTICIPANTS
WS1	* Engaging key stakeholders & identify influencing factors * Training RRI-facilitator *Measuring inputs	M8	UNIBO	30	Core team+SAP
WS2	* Assessment of influencing factors and projection into the future of key factors	M14	Ecoplus	30-40	Core team+Ecoplus stakeholders
WS3	* Training RRI-facilitator	M14	B30	40-30	Core team+B30 stakeholders+NAT
WS4		M15	Nordland	30-40	Core team+Nordland stakeholders
WS5	* Anticipation of the future / Scenario development and identify trigger points	M18	Ecoplus	30-40	Core team+Ecoplus stakeholders
WS6	* Implement activities	M18	Nordland	30-40	Core team+Nordland stakeholders
WS7		M19	B30	26-30	Core team+B30 stakeholders+NAT
WS8	* Self-reflection on each territory (based on its unique characteristic)	M20	Nordland	10-30	Core team+Nordland stakeholders
WS9	* Validate the framework	M20	Ecoplus	10-30	Core team+ Ecoplus stakeholders
WS10		M20	B30	10-30	Core team+Territorial partners

WS11	* Deriving consequences, chances, risks & Transfer into territorial strategies	M22	UH	13-15	Core team+SAP
WS12		M24	B30	30-40	Core team+B30 stakeholders
WS13	* Implement activities	M24	Nordland	30-40	Core team+Nordland stakeholders
WS14	* Measuring outputs * Validate the framework * Share learning across territories	M25	Ecoplus	50	All partners+NAT
CONFERENCE	Final conference: Consolidate all results for policy implication	M28	Brussel	120	Open to public

The questionnaires that will be administered to Nordland and Ecoplus stakeholders will be, respectively, translated into Norwegian and German. The questionnaires that will be administered to the B30 stakeholders will be administered in English, since the stakeholders did not request it to be translated.

-The territorial partners needing the survey in their language, will commit, alongside with the members of WP6, to the following tasks:

1. Translate the questionnaires from English to Norwegian (Nordland team), and from English to German (Ecoplus team) creating a bi-lingual version of the questionnaire to allow for reviews by WP6 members, by at least one month before the first stakeholder workshop in their territory (18/1/2020 for Ecoplus and 11/2/2020 for Nordland).
2. Oversee the process of data entry of the questionnaires on LimeSurvey possibly by February 2020.
3. Assist with back-translations after every workshop attended by their stakeholders as follows:

Ecoplus, will have to collaborate with this task after WS2 March/20, WS 5 July/20, and WS9

Sept/20.

Nordland will have to collaborate with this task after WS 4 April/20, WS 6 July/20, WS 8 Sept/20, and WS13 Jan/21

Similarly, to the evaluation of the internal impact of the SeeRRI project's activities, framework and processes on the twelve-member organizations of the consortium, also in the context of the evaluation of the activities initiated in the SeeRRI project with stakeholders from outside the consortium, the measurements will be taken before and after the activities, to give an indication of the extent of the changes and their impacts.

Differently from the evaluation of the internal impact of the SeeRRI project's activities, framework and processes on the twelve-member organizations of the consortium, the evaluation of the activities initiated in the SeeRRI project with stakeholders from outside the consortium will take place at every external stakeholder workshop. This will allow for the comparison of 12 points in time, where we expect that at least one external stakeholder for each territory will attend a maximum of four workshops. This being the case, we will be able to have a four-point time series for external stakeholders in order to get insights on the activities during their performance and to get progress on their impact.

The comparison between different points in time will be possible by using some self-generated identification codes (Damrosch, S.P. 1986; Garvey Wilson, A. L., et. al. 2010, Schnell, R., et. al. 2010; Yurek, L. A. et. al. 2008) to compare pre and post-activities surveys. These codes are widely used to protect anonymity while allowing for longitudinal analysis since they allow to create unique identification codes for each respondent.

Note that, since SeeRRI consortium members are expected to complete Questionnaire 1, they will not be required to complete also Questionnaire 2, notwithstanding their participation to the external stakeholder's workshops.

The evaluation roadmap

Both considering 1) and 2), interim checks on the activities during their performance, will be performed by RIM with input from UNIBO (see Task 6.2) or by a representative of WP6 present at the workshop, via a **written evaluation**. The evaluation will be aimed at providing qualitative data on the workshop attendees, the objectives of the workshop, the activities and the outcomes and impacts of such activities in the *three territories*, along with information on possible institutional changes in *12 SeeRRI partners* if possible⁴.

The WP6 representative at the workshop will make a written evaluation **(a)** and will also administer a brief anonymous qualitative evaluation **(b)** to the workshop participants to get interim checks on specific measures of outcomes on the specific SeeRRI project's activities and on their perceived impact by the participants.

a) The written evaluation should be standardized and be consistent across all the workshops and will include the following sections:

1. Name of the workshop and dates,
2. List of participants, including organization and role,
3. Objectives/contents of the workshop,
4. Breakdown of the activities implemented during the workshop (according to the program),
5. Outcomes of such activities and expected impacts on the territories,
6. Degree of perceived satisfaction, criticalities, complaints, or comments of workshop participants regarding the workshop activities, objectives, etc. This should be also based

⁴ WP5 includes RRI activities at both levels, organizational level with 12 partners, territorial level with 3 territories. These activities are closely connected to SeeRRI conceptual framework, which is developed in WP4. Before suggesting which RRI activities are needed, WP4 and WP5 need a snapshot overview of RRI inclusion in each organization. Therefore, we need survey items for this purpose. An elaboration of this activities can be found in the attached file "RRI facilitator – action plan". After implementing RRI activities, we need another round of survey, comparing input and outcome to measure institutional changes in terms of RRI.

on the evaluator's review of the results of the **brief qualitative evaluation (b)** listed hereafter.

7. Degree of perceived achievement of the workshop objectives,
8. Additional comments by the evaluator present at the workshop.

Such written evaluations will have to be submitted to the members of WP6 for internal use to the purposes of the evaluation within one week of the end of the workshop and won't be in any manner shared outside the SeeRRI consortium.

b) The brief qualitative evaluation will be aimed at the collection of qualitative measures of workshop attendants' satisfaction on task-related resources, involvement, degree of influence, decision making, transparency of processes, incentive mechanisms, voluntariness, implementation and perceived benefits of the activities on the practice of RRI in their organization. The survey will be administered at the conclusion of each workshop using a paper form. This satisfaction survey will follow the following structure:

SEERRI PROJECT PARTICIPANTS SATISFACTION (multiple answers allowed)

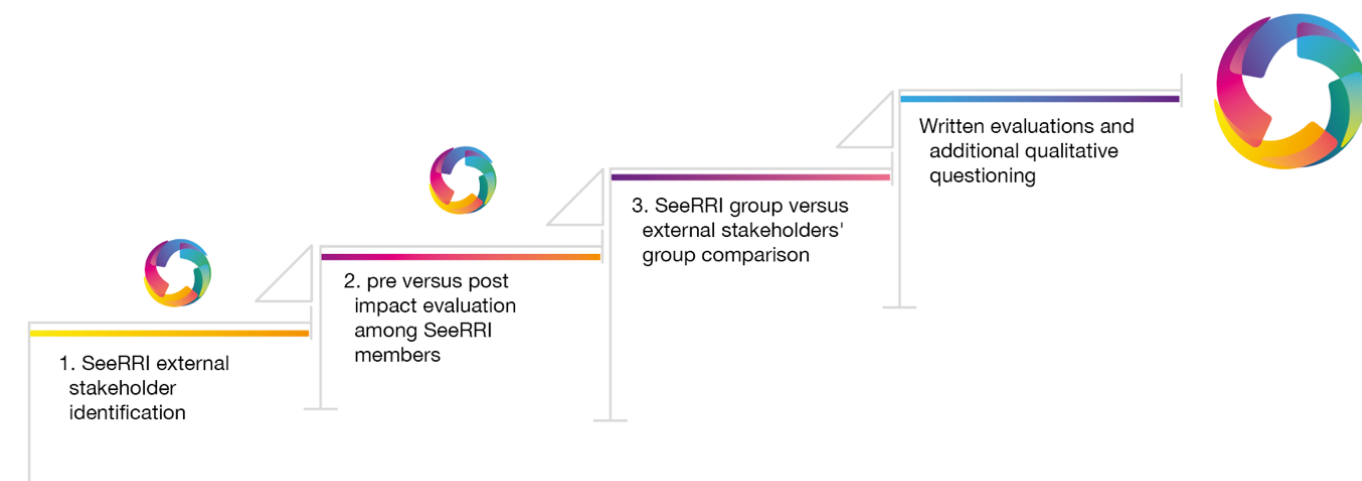
This is an overall assessment of your activities related to the responsible research and innovation workshop you have attended.

Please indicate your level of agreement with the following statements. 1 (strongly disagree) -7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Task-related resources I received adequate information and support in performing the activities related to responsible research and innovation within the SeeRRI consortium.							
Involvement The degree of participation that is requested to me in performing the activities related to responsible research and innovation is adequate.							

Degree of influence							
My participation in the activities related to responsible research and innovation within the SeeRRI consortium has an influence on the outcomes to be achieved in my organization.							
Decision making							
I have been adequately involved in the decision-making process during this workshop							
Transparency of processes							
All members have received adequate information about the methods, steps and tasks related to the performance of the activities related to responsible research and innovation within the different organizations							
Incentive mechanisms							
My participation to the activities related to responsible research and innovation is incentivized strongly by the SeeRRI consortium.							
Voluntariness							
I do not feel forced to participate to the activities related to responsible research and innovation within the SeeRRI consortium but like to take part.							
Implementation							
The SeeRRI project and their workshops engage the members in policy making processes.							
Other: specific comments about the workshop you have attend							

Figure 4 SeeRRI's levels of evaluation



The SeeRRI evaluation plan and implementation roadmap is built on the following key

elements which enable to provide robust, consistent, rigorous, valid and reliable evaluation results for both quantitative and qualitative analysis. The following table provides an overview/roadmap of the evaluation implementation of the SeeRRI project.

Table 6 Evaluation roadmap

	SEERRI CONSORTIUM MEMBERS QUESTIONNAIRE (Q1)	SEERRI STAKEHOLDERS' QUESTIONNAIRE (Q2)
Evaluation level	Pre-post SeeRRI activities	Control group

Table 7 Questionnaires

	SEERRI CONSORTIUM MEMBERS QUESTIONNAIRE	SEERRI STAKEHOLDERS' QUESTIONNAIRE
	MANDATORY ELECTRONIC CONSENT.	
PRE	1 PRELIMINARY QUESTIONS Delivers general information about the involved individual's familiarity with RRI and S3.	
	2 CONCRETE RRI-ACTIVITIES AND DRIVERS FOR THE RRI-ACTIVITIES Covers specific questions aimed at evaluating the project activities and the framework for self-sustaining ecosystems to evaluate the outcomes of the activities initiated in the three territories and among the consortium organizations. They are based on the six policy agendas for RRI provided by the EC along with a UN development goal indicator. This section, along with the others, also provides information on the influencing factors to RRI principles among the project's members/stakeholders.	2 CONCRETE RRI-ACTIVITIES AND DRIVERS FOR THE RRI-ACTIVITIES Covers some specific questions based on the six policy agendas for RRI as provided by the EC, along with a UN development goal indicator to provide information on the degree of RRI engagement among the project's external stakeholders/workshop participants/ members of NAT organizations. It is a shortened version of the section included in the questionnaire for Consortium's members.
	3 MORRI INDICATORS PERCEPTIONS Covers the perceptions regarding the importance of RRI and is based on the MoRRI indicators to measure the impact of SeeRRI.	3 MORRI INDICATORS PERCEPTIONS Covers the perceptions regarding the importance of RRI and is based on the MoRRI indicators to measure the impact of SeeRRI. It is a shortened version of the section included in the questionnaire for Consortium's members.
	4 IMPACTS Measures the impact of the scenarios envisioned in WP3 and the activities planned in WP5 in terms of scientific, economic, democratic and social benefits	4 IMPACTS Provides information on the predisposition of the respondents and their organizations to the possible implementation of RRI activities and on the expected/observed impacts.

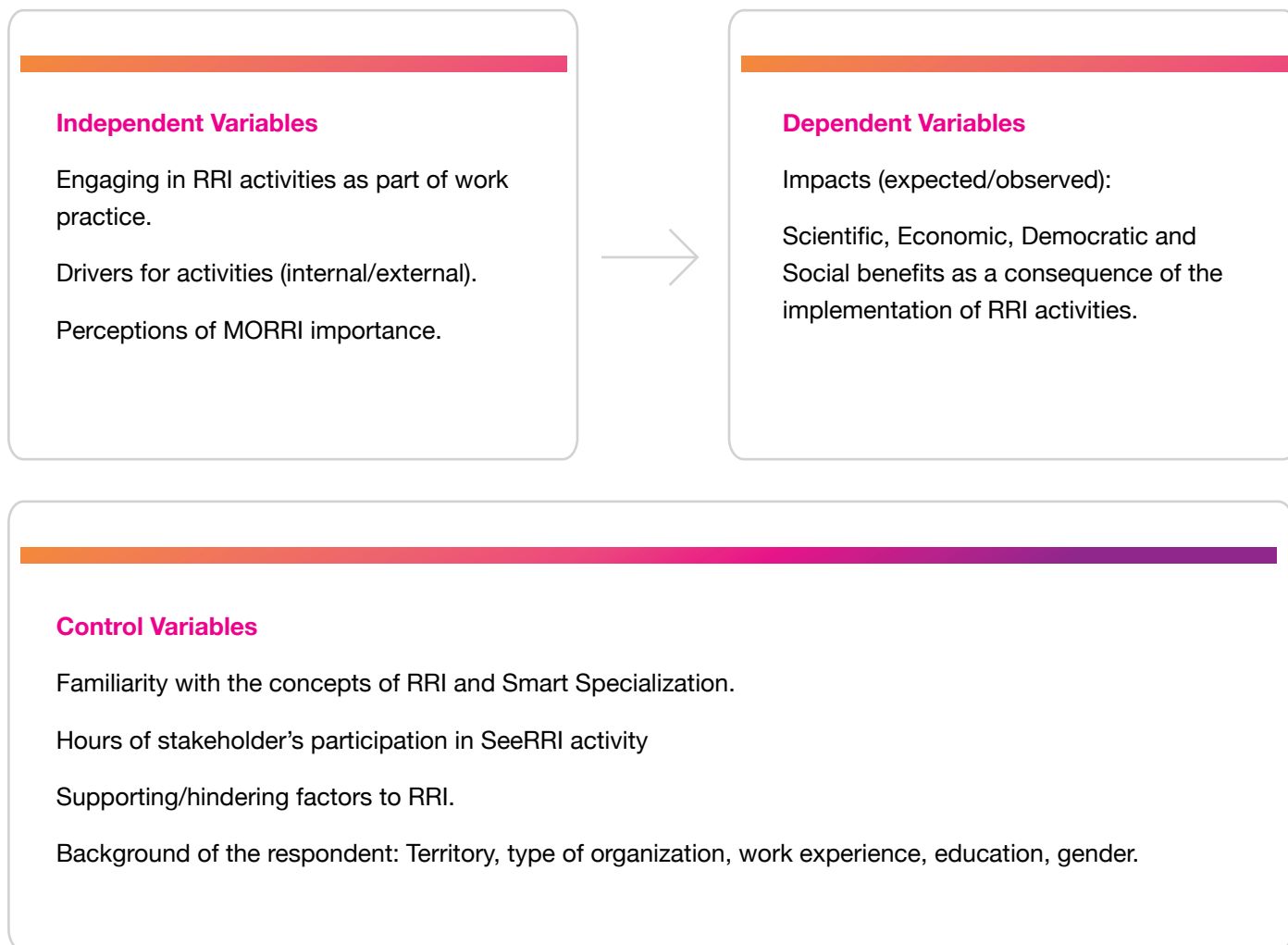
	<p>5 SUPPORTING AND HINDERING FACTORS FOR RRI</p> <p>Identifies barriers and supporting factors to RRI. This section, along with the others, is also useful for the evaluation the framework for self-sustaining responsible research and innovation.</p>	<p>5 SUPPORTING AND HINDERING FACTORS FOR RRI</p> <p>Provides information on the characteristics of the organizations to which the respondents belong in terms of barriers and supporting factors to the practice of RRI in the organization.</p>
	<p>6 SEERRI PROJECT PARTNERS' SATISFACTION</p> <p>Covers wider satisfaction measures regarding specific RRI activities developed in SeeRRI along with participants level of collaboration, active work-relations and their intentions to collaborate in the future. Indeed, the section also covers subtask for evaluating the SeeRRI transnational learning activities specified in task 5.3.</p>	<p>6 STAKEHOLDERS' PARTICIPATION</p> <p>Covers questions on the degree of participation to SeeRRI activities and on the impact of the activities on the participants in terms of awareness respect to RRI.</p>
	<p>7 RESEARCH & INNOVATION ECOSYSTEM</p> <p>This part pertains to WP4 evaluation and addresses RRI in that larger context.</p>	Skipped
	<p>8 REGIONAL SMART SPECIALIZATION STRATEGY (RIS3)</p> <p>This part pertains to WP4 evaluation and addresses the relationship between the deployment of RRI and regional policies and instruments to promote R&I activities.</p>	Skipped

	<p>9 PROCESS CHARACTERISTICS</p> <p>This part pertains to WP4 evaluation and addresses the characteristics of the processes in your organization related to RRI.</p>	Skipped
	<p>BACKGROUND OF THE RESPONDENT</p> <p>Gathers information about respondents in terms of territory, type of organization, work experience education, gender, and nationality.</p>	
POST	<p>The whole questionnaire again. Section 1 is asked again to do robustness and validity checks. The day and city code is important to connect pre and post questionnaires.</p>	<p>The whole questionnaire again. Section 1 is asked again to do robustness and validity checks. The day and city code is important to connect pre and post questionnaires.</p>

The research model

This is a tentative research model that will be followed during the analysis of data gathered through the questionnaires.

Table 8 Research model



SUGGESTED LEVELS OF ANALYSIS: *individuals, organizations, territories.*

The data analysis

The qualitative and quantitative data collected by different efforts will be analyzed applying appropriate social scientific data analysis and interpretation methods and supported by using specific software. The measurements will be analyzed by a variety of statistical and analytical tools to create a dashboard of progress towards the sustainability and resilience of the eco-systems for research and innovation in the three territories.

Before using quantitative survey data, data cleansing and or categorization of answers to open or semi-open questions will be conducted when needed. Depending on the format of the survey, online or paper questionnaire, it will be necessary to first digitalize the collected data.

Steps of data analysis:

Summary of quantitative data:

This step will provide descriptions of the sample either through numerical calculations (central tendencies, variation) and graphs and tables (frequency distributions).

Analysis of relationships between variables:

This step is aimed at analyzing the data using descriptive statistical techniques such as contingency tables, t-tests or ANOVA, correlation, or regression.

In order to analyze the relationships between variables, statistical significance levels shall be computed (i.e. confidence levels or probability levels) which compute the probability of no relationship between variables (null hypothesis).

Factor analyses and sensitivity analyses will be carried out, if needed. Factor analyses allow to reduce the number of variables without losing the information that the original variables provide. Indeed, a through sensitivity analysis informs the audience of the uncertainty around the change attributable to the research intervention

STEP 5: REPORTING

The primary purpose of undertaking an evaluation is to inform internal and external audiences of the impacts, both expected and delivered, as well as of any lessons that can be learned.

Therefore, between month 25 and month 30, a document containing Policy, Governance and Activity Recommendations (Task 6.3) will be prepared by the UH, with inputs from all partners.

This task will produce a document including guidelines for policies to promote responsible self-sustaining research and innovation ecosystems in the territories.

It will detail governance structures to be applied for the maintenance and control of such systems. It will further propose a series of concrete activities in each of the three territories and in the territories of the Network of Affiliated Territories for the maintenance of high levels of responsible research and innovation for the achievement of social, democratic, environmental, economic and scientific impacts through public engagement, gender equality, scientific education, open access and ethical behavior. This document will describe the policies and governance structures recommended for territories to promote self-sustaining RRI ecosystems for sustainable development. Finally, the report will further detail a set of specific activities recommended for the three territories and for the Network of Affiliated Territories of the SeeRRI project. This document is the outcome of task 6.3, and will serve as input to Task 5.3.

The report will be based on the results of the quantitative and qualitative data gatherings performed by WP6. Indeed, it will gain inputs from other WPs deliverables and by reporting about the territories regarding the implementation of the activities, the outputs, outcomes and impacts that they observed. The report will also acknowledge the evaluation's limitations.

LIMITATIONS AND RISK MITIGATION

Limitations

Every evaluation research, no matter how well designed it is, has some existential limitations:

1. Evaluations do not constitute entire assessments of a project.
2. In some cases, quantitative assessments are difficult since projects rarely randomly assign participants, but instead select participants based on specific characteristics which matter to the project objectives. This limits validity, statistical significance and statistical power of the analyses. Indeed, due to the specific given characteristics of the project and the specific requirements of the evaluation, it may be difficult to build strong models of dependent and independent variables based on pre-tested theoretical assumptions, since projects have given specific requirements that limit the definition of such strong models. This may impact the results of sensitivity analyses and therefore additionally contribute to limit the validity of the results and their generalizability (Csiro 2015).

On top of such limitations, also potential challenges or barriers to maximize the expected impact should be accounted for. Such barriers are both economic, legal and policy barriers, and institutional and behavioral barriers.

1. **Economic, Legal and Policy Barriers:** Barriers can be caused by lack of coordination and alignment among policies and plans at different levels of government. Public authorities oversee planning and implementing strategies for regional development. However, usually different levels of the public administration are responsible for planning and implementing such measures. Local public authorities are typically charged with implementation AND coordinating actions from different levels, while the regional/national authorities are in charge of defining priorities within the regional innovation strategies. To this extend, SeeRRI project will produce an integrated analysis of the R&I ecosystems in and three territories and state of the art for the inclusion of RRI approach into existing

policies (WP2) in order to identify areas where improvements are most needed and produce proposals. Also, the maximization of expected impact might depend on the legal framework at national and regional level, the level of competencies between governmental agencies, etc.

2. **Institutional and Behavioral Barriers:** Resistance to change or lack of willingness to implement SeeRRI activities can be an obstacle. Changes have different ways of affecting people and can often encounter resistance. RRI approach is not at the core of most of the stakeholders' agendas since there is not much successful evidence for its benefit especially in terms of economic, political or social effect. Thus, change resistance is potentially high. Furthermore, citizens may fear they lack the necessary knowledge and skills to participate in research and innovation policy, as a result, they might not want to participate. Therefore, it is a necessity to engage citizens and stakeholders from the beginning in effective ways that make clear that proposed changes are not perceived as "imposed", but rather are the results of ideas and strategies identified by them that will be tailor-made to solve their needs and problems. For what concerns institutional barriers, SeeRRI partners will promote the SeeRRI actions and ask the relevant body to adopt some of the changes, but cannot guarantee that the changes will effectively take place, due to institutional changes and consequent priorities change.

Risk mitigation

The Consortium includes outstanding expertise and productivity. However, a **continuous risk identification, evaluation and monitoring activity** is performed to provide the necessary tools for timely detection and control of any significant risks (both threats and opportunities). Some risks, however, are unavoidable and can already be identified in relation to the proposed work.

The main risks detected at the current stage are listed hereunder, with estimation of their **probability** ("P", ranging from 1-Low to 3-High), and **potential impact** ("I", ranging from 1-Low to 3-High). An **index** ("r") for each risk is constructed multiplying probability by impact, to allow

for **prioritization**. A third variable, **proximity** (x) defines whether the risk concerns the *short* (3), *medium* (2) or *long* term (1), and is used for ranking among identically rated risks.

Risk management in SeeRRI is conceived as a ‘bottom-up’ activity that will span from intra-WP work to strategic interfacing between different WPs, to risks raised through consultations with the Strategic Advisory Board (SAB) and the stakeholders at large. The task will also include definition of appropriate mitigation (i.e. actions to influence the probability and/or impact of each risk before it happens) and contingency plans (i.e. actions to take once the risk happens), which will be periodically reported to the European Commission.

The following table provides description of the risks associated with the activity of evaluation, along with the mitigation and contingency instruments.

Table 9 Risks associated with the activity of evaluation

RISK	MITIGATION	CONTINGENCY	SEVERITY
Lack of statistical significance of the measurements	The stakeholder pool will be taken from the participants in the workshops and additional effort will be made to recruit participants in the surveys and focus groups in the NAT.	The use of online questionnaires will be considered to solicit additional data from interested third parties.	P=2 I=2 r=4 x=2
Difficulty to build basic measurement metrics for evaluation of activities implementation	The evaluation metrics will be based on the existing MoRRI metrics and will be extended with measurements of outcomes of the activities based on the existing literature for outcomes of government policies.	If this risk eventuates, the metrics used in previous projects will be adopted.	P=1 I=2 r=2 x=3
Delay in task execution, particularly in relation with the organization of events	Apply quality assurance guidelines in relation with process design and the organization of events; elaborate a detailed contingency plan and appropriately reflect its changes in the project budget, GANTT, PERT, etc.	Having a wide programme of workshops that is decentralized. In case there is a task delayed, there is always another task that could be filled in workshop series. The delayed task then will be arranged in the nearest workshop to assure continuity.	P=1 I=2 r=2 x=3

REFERENCES

Autio, E., & Thomas, L. (2014). Innovation ecosystems. The Oxford handbook of innovation management, 204-288

Cadwallader, S., Jarvis, C. B., Bitner, M. J., & Ostrom, A. L. (2010). Frontline employee motivation to participate in service innovation implementation. Journal of the Academy of Marketing Science, 38(2), 219-239.

CSIRO (2015). Impact Evaluation Guide. CSIRO Australia. Available online <https://www.csiro.au/en/About/Our-impact/Evaluating-our-impact>

European Commission, Horizon 2020 Work Program 2018-2020, Science with and for Society. Available online http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-swfs_en.pdf.

Damrosch, S. P. (1986). Ensuring anonymity by use of subject-generated identification codes. Research in Nursing & Health, 9, 61-63.

Fitjar, R.D., Benneworth, P.S. & Asheim, B.T. (2018) Towards Regional Responsible Research and Innovation, paper presented at the Geography of Innovation conference, 31 January 2018, Barcelona, Spain.

Fitz-Gibbon, C., & Morris, L. L. (1987). How to design a program evaluation. Newbury Park/London/New Delhi: Sage.

Garvey Wilson, A. L., Hoge, C. W., McGurk, D., Thomas, J. L., Clark, J. C., & Castro, C. A. (2010). Application of a New Method for Linking Anonymous Survey Data in a Population of Soldiers Returning from Iraq. Annals of Epidemiology, 20(12), 931-938. doi: <http://dx.doi.org/10.1016/j.annepidem.2010.08.008>

Gurzawska, A., Mäkinen, M., & Brey, P. (2017). Implementation of Responsible Research and Innovation (RRI) practices in industry: Providing the right incentives. *Sustainability*, 9(10), 1759.

Mariussen, Å & Virkkala, S (eds 2013), Learning transnational learning, Routledge.

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of management review*, 22(4), 853-886.

Mohr, L. B. (1995). Impact analysis for program evaluation. Sage.

MoRRI (2018). The evolution of Responsible Research and Innovation in Europe: The MoRRI indicators report (D4.3). MoRRI consortium. Publication date: 01 February 2018. Available online. <https://morri.netlify.com/reports/2018-02-21-the-evolution-of-responsible-research-and-innovation-in-europe-the-morri-indicators-report-d4-3>.

ANNEXES

ANNEX I

QUESTIONNAIRE 1: SeeRRI CONSORTIUM MEMBERS QUESTIONNAIRE

WELCOME TO SeeRRI!¹

The project SeeRRI invites you to participate in this survey. SeeRRI establishes a foundation for building self-sustaining Research and Innovation (R&I) ecosystems in Europe by developing a framework for integrating Responsible Research and Innovation (RRI) into regional development policies in European territories.

This questionnaire is aimed at the evaluation of the current RRI inclusion in each SeeRRI partner as well as the internal impact of the SeeRRI project's activities, framework and processes on the twelve-member organizations of the consortium. We ask questions about your perceptions of responsible research and innovation's impact on you and your network. It will take approximately 15-20 minutes of your time.

THANK YOU VERY MUCH in advance for your support, which is very much appreciated! If you have any questions, please do not hesitate to contact us via evaluation@seerri.eu

The SeeRRI team

I. PRELIMINARY QUESTIONS (All questions are mandatory)

1 Have you ever encountered the concept "Responsible Research and Innovation" (RRI)?

☐ Yes ☐ No

2 If yes, what are the five most important dimensions of "Responsible Research and Innovation" for your organization / workplace?

Multiple answers allowed

☐ Sustainability ☐ Public Engagement ☐ Social Inclusion ☐ Ethics
☐ Science Education ☐ Gender Equality ☐ Open Innovation ☐ Corporate Social Responsibility

3 Please indicate the extent of your familiarity with the concept of Smart Specialization (the innovation policy concept that aims to boost regional innovation, contributing to growth and prosperity by helping and enabling regions to focus on their strengths. Smart Specialisation is based on partnerships between businesses, public entities and knowledge institutions.)

1= Not familiar; 7= Very familiar

1 Not familiar	2	3	4	5	6	7 Very familiar

¹ The SeeRRI project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824588.

II. CONCRETE RRI-ACTIVITIES AND DRIVERS FOR THE RRI-ACTIVITIES

The European Commission defines RRI as follows:

“Responsible Research and Innovation (RRI) implies that societal actors (researchers, citizens, policy makers, business, third sector etc.) work together to better align with the values, needs and expectations of society. “Key elements of RRI, as implemented by the EU, are these 5 dimensions Public Engagement, Gender Equality, Ethics, Science Education, and Open Access².

In the following part of the questionnaire we want to know which RRI activities are part of your practice.

PUBLIC ENGAGEMENT

This dimension is about ‘choosing together’, co-creating the future by **bringing together the widest possible diversity of actors**, including researchers and innovators, industry and SME, policymakers, non-governmental organisations (NGOs), civil society organisations and citizens, on matters of science and technology, in particular to tackle the grand societal challenges.

4 Please quantify on a scale from 1 to 7 if the following activities are part of your work practice. 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
I engage in activities such as listening to, developing their understanding of, and interacting with others outside my institution							
I involve citizens in discussing the consequences of research/its application (including technology assessment)							
I work with people who specialize in dialogue with citizens and society (e.g. mediator, communication company)							
Other relevant activities for public engagement (Please specify)							

5 What is the main driver for the public engagement related activities mentioned above? (Multiple answers allowed)

- ☐ I see it as a quality criterion for good work practice
- ☐ It is part of my institute's policy
- ☐ It is a requirement of the research/project/work funders
- ☐ It is a legal requirement
- ☐ None of the above
- ☐ Other (please specify) _____

GENDER EQUALITY (GE)

GE is about promoting gender balanced teams, ensuring gender balance in decision-making bodies, and always considering the gender dimension in R&I to improve the quality and social relevance of outcomes.

6 Please quantify on a scale from 1 to 7 if the following activities are part of your work practice. 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
I encourage gender-balanced teams in my work environment							
I actively support female colleagues within my teams							
I encourage the participation of women in organizational decision making							
Other relevant activities for gender balance (Please specify)							

² The European commission also suggest additional dimensions.

7 What is the main driver for the gender equality related activities mentioned above? (Multiple answers allowed)

- ☐ I see it as a quality criterion for good work practice
- ☐ It is part of my institute's policy
- ☐ It is a requirement of the research/project/work funders
- ☐ It is a legal requirement
- ☐ None of the above
- ☐ Other (please specify) _____

ETHICS

The Ethics dimension focuses on research integrity and on ethical acceptability of scientific and technological developments.

8 Please quantify on a scale from 1 to 7 if the following activities are part of your work practice. 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
I submit my work to ethical reviews							
I consider ethical issues in my work (e.g. when I implement my projects or design my research etc.)							
I have attended training on ethical issues							
Other relevant activities for ethics (Please specify)							

9 What is the main driver for the ethics related activities mentioned above? (Multiple answers allowed)

- ☐ I see it as a quality criterion for good work practice
- ☐ It is part of my institute's policy
- ☐ It is a requirement of the research/project/work funders
- ☐ It is a legal requirement
- ☐ None of the above
- ☐ Other (please specify) _____

SCIENCE EDUCATION³

The focus of SE is to enhance the current education process to better equip citizens with the necessary knowledge and skills so they can participate in R&I debates; and to increase the number of researchers (promote scientific vocations).

10 Please quantify on a scale from 1 to 7 if the following activities are part of your work practice. 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
I develop education material (e.g. kits, websites, explanatory booklets, videos)							
I work in partnership with educational institutions (e.g. schools and/or teachers)							
I inform the wider public about my work/research/project results							
Other relevant activities for science education (Please specify)							

³ The terms 'Science Education' and 'Science Literacy and Education' are used interchangeably.

11 What is the main driver for the science literacy and science education related activities mentioned above? (Multiple answers allowed)

- ☐ I see it as a quality criterion for good work practice
- ☐ It is part of my institute's policy
- ☐ It is a requirement of the research/project/work funders
- ☐ It is a legal requirement
- ☐ None of the above
- ☐ Other (please specify) _____

OPEN ACCESS

It is widely agreed that making research results more accessible contributes to improving research and innovation. OA addresses issues of accessibility to and ownership of scientific information and it can be moved into Open Access.

12 Please quantify on a scale from 1 to 7 if the following activities are part of your work practice. 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
I use open access publications							
I publish open access							
I use publicly available data							
Other relevant activities for open access (Please specify)							

13 What is the main driver for the open access related activities mentioned above? (Multiple answers allowed)

- ☐ I see it as a quality criterion for good work practice
- ☐ It is part of my institute's policy
- ☐ It is a requirement of the research/project/work funders
- ☐ It is a legal requirement
- ☐ None of the above
- ☐ Other (please specify) _____

GOVERNANCE OF RRI

Policymakers have a responsibility to anticipate and assess potential implications and societal expectations with regard to R&I. Through this overall dimension it is possible to develop harmonious Governance models for RRI that also integrate all the other dimensions.

14 Please quantify on a scale from 1 to 7 if the following activities are part of your work practice. 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
I put in place or implement forms of coordination designed to foster responsible research and innovation within my organizations.							
The policies, protocols, and/or agreements related to research and innovation that I put in place or implement promote participation.							
I adapt to changing conditions when I put in place or implement policies, protocols and/or agreements related to research and innovation.							
Other relevant activities for governance of RRI (Please specify)							

15 What is the main driver for the governance related activities mentioned above? (Multiple answers allowed).

- ☐ I see it as a quality criterion for good work practice
- ☐ It is part of my institute's policy
- ☐ It is a requirement of the research/project/work funders
- ☐ It is a legal requirement
- ☐ None of the above
- ☐ Other (please specify) _____

SUSTAINABILITY

16 Please specify how often (from 1 to 7) were you involved in activities related to sustainability over the last year. 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
Activities related to environmental protection policies							
Activities related to the use of renewable energy sources							
Activities related to the recycling of municipal waste products							
Other relevant activities for sustainability (Please specify)							

17 What is the main driver for the sustainability related activities mentioned above? (Multiple answers allowed)

- ☐ I see it as a quality criterion for good work practice
- ☐ It is part of my institute's policy
- ☐ It is a requirement of the research/project/work funders
- ☐ It is a legal requirement
- ☐ None of the above
- ☐ Other (please specify) _____

III. MORRI INDICATORS' PERCEPTIONS (All questions are mandatory/multiple answers allowed)

18 Please indicate your perceived level of agreement for the following statements. 1 (strongly disagree) -7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
The involvement of the wider public in debates (e.g. via social media) related to responsible research and innovation is important.							
The promotion of gender-friendly workplaces and cultures is important to me.							
It is important to me that researchers should reflect on people's ideas and concerns about research and innovation							
It is important to me to increase my knowledge regarding science (e.g. via visiting science centres, via participating in demonstrations about scientific issues, etc.).							
I believe that to access free online books, free articles is important.							
It is important to me to participate in the definition of rules, practices and processes related to research and innovation in my work practice.							
Environmental protection policies are important to me							
Please specify if there is any other RRI practice that you perceive important in your work practice							

IV. IMPACTS (All questions are mandatory/multiple answers allowed)

19 Do/did you observe or expect any of the benefits listed below as a result of the implementation of RRI activities?

Scientific benefits	I have observed benefits	I expect benefits	I don't expect any benefits	I don't know
Emergence of new research topics				
Enhanced visibility in the research community				
Higher relevance of scientific outputs				
Higher quality of scientific outputs				
Decrease in scientific misconduct				
Mobilizing funding				

Economic benefits	I have observed benefits	I expect benefits	I don't expect any benefits	I don't know
Decreased costs of introducing innovation				
Cost reduction due to improved access to data				
Improved products and services as consumer demands are better addressed				
Increase in relevant students and labour force				
Increased intrinsic satisfaction (i.e. internal satisfaction or fulfillment) with science and engineering positions				
Stimulation of innovation				
Effectiveness of public investment				
Faster diffusion of knowledge				

Democratic benefits	I have observed benefits	I expect benefits	I don't expect any benefits	I don't know
Elimination of gender bias in participation in Research and Innovation related activities				
Inclusion of citizen knowledge				
Reduction of Research and Innovation related conflicts				
Empowerment of citizens				

Social benefits	I have observed benefits	I expect benefits	I don't expect any benefits	I don't know
More competencies (i.e. the ability to do something successfully or efficiently) among locals and citizens				
Outreach to disadvantaged groups				
Improvement of curricula and enlarged competences among students				
Increasing interest in science				

V. SUPPORTING/HINDERING FACTORS FOR RRI (All questions are mandatory/multiple answers allowed)

20 Do you observe any barriers to practice RRI in your institution, please specify your answer. 1 (strongly disagree) - 7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Increased direct costs							
Overload of tasks							
Loss of scientific excellence							
Lack of institutional incentives							
Lack of motivation							
Lack of experience with RRI / skills for RRI							
Others (please specify)							

21 Do you observe any supporting factors to practice RRI in your institution, please specify your answer. 1 (strongly disagree) -7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
Institutional strategy							
Access to research funding							
Gain of scientific excellence							
Legal requirements							
Performance criteria within the institution reflect those activities							
Personal motivation							
Others (please specify)							

VI. SeeRRI PROJECT PARTNERS' SATISFACTION (All questions are mandatory/multiple answers allowed)

22 This is an overall assessment of your activities related to responsible research and innovation.

Please indicate your level of agreement with the following statements. 1 (strongly disagree) -7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
I receive the right amount of information and support by the other project members/leaders in performing the activities related to responsible research and innovation within the SeeRRI consortium.							
The involvement required of me when performing activities related to RRI within the SeeRRI consortium is too much							
My participation in the activities related to responsible research and innovation within the SeeRRI consortium has an influence on the outcomes achieved.							
SeeRRI members are adequately involved in the decision-making process of the SeeRRI program							

All members receive enough information about the methods, steps and tasks related to the performance of the activities related to responsible research and innovation within the SeeRRI consortium.							
My participation to the activities related to responsible research and innovation within the SeeRRI consortium is incentivized strongly by the project.							
I do not feel forced to participate to the activities related to responsible research and innovation within the SeeRRI consortium but like to take part.							
The SeeRRI project engages its members in policy making processes.							
Other comments about your overall assessment of your activities related to responsible research and innovation							

23 The following list covers the SeeRRI's transnational learning activities
Please indicate your perceived level of satisfaction with the following statements. 1 very dissatisfied-7 Very satisfied.

	1 Very dissatisfied	2	3	4	5	6	7 Very satisfied
Identifying good practices and targets in territories other than my own.							
Analysis of the activities in other territories and identifying the points requiring local customization.							
Implementation of ideas and practices learned from the other territories.							

24 Please specify how often (from 1 to 7) you are in contact with SeeRRI members that are not members of your organization (i.e., individuals engaged in the activities carried out in the SeeRRI project that are not members of your organization). 1 = (very low frequency) and up to 7 (very high frequency).

	1 Very low frequency	2	3	4	5	6	7 Very high frequency
Over the last year , how often did you talk, consult and/or collaborate (by e-mail or telephone, in person, at meetings) with SeeRRI members that are not members of your organization on subjects related to the program?							
In the next coming year , how often are you going to talk, consult and/or collaborate (by e-mail or telephone, in person, at meetings) with SeeRRI members that are not members of your organization on subjects related to the program?							

VII. RESEARCH & INNOVATION ECOSYSTEM (All questions are mandatory)

Your organization is part of a larger R&I ecosystem, or at the intersection of several of them. Hence this set of questions addresses RRI in that larger context.

25. Other than those related to SeeRRI, how many concrete cases of implementation of RRI in yours or other R&I ecosystems do you know?

- ☐ 10 or more
- ☐ Between 5 and 9
- ☐ Between 1 and 4
- ☐ I don't know any, besides those related to SeeRRI

26. Of the cases you know, how many of them involve a set of several actors participating together in a whole R&I value chain (as for instance in the B-30 project present in SeeRRI)?

- ☐ 10 or more
- ☐ Between 5 and 9
- ☐ Between 1 and 4
- ☐ I don't know any, besides those related to SeeRRI

27 We would like to know more about your opinion on RRI's importance now and in the future. Please indicate your level of agreement with the following statements. 1 (strongly disagree) - 7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
RRI is today an outstanding characteristic of the R&I ecosystem(s) in which my organization is involved.							
RRI is not yet dominant but is already shaping the evolution of the R&I ecosystem(s) in which my organization is involved.							
It will take a long time (5 years or more) for RRI to become dominant in the R&I ecosystem(s) in which my organization is involved.							

Note: you can agree with both second and third statements, if you consider that RRI dynamics is well engaged but will be slow in transforming a whole R&I ecosystem.

28 We would like to identify systemic factors that could drive the deployment of RRI in your R&I ecosystem(s). In the following list, could you please identify those factors you consider as important, now and in the future, for the progress of RRI (please, select at most four of them)?

- ☐ Top-down institutional pressure (through mandatory requirements, policies, regulations, etc)
- ☐ Ecosystem emulation (because relevant actors inside or outside your R&I ecosystem(s) have been successful by adopting RRI)
- ☐ Opening of new opportunities (because RRI brings new opportunities to address, new research topics, new needs for innovative processes and products, etc.)
- ☐ Competition on quality (because RRI enables differentiation at global level, higher-quality processes or products, etc)
- ☐ Competition on costs (because RRI enables more efficiency in processes, use of resources, etc)
- ☐ Bottom-up pressure from society (because citizens / consumers are strongly demanding RRI)
- ☐ Emergence of new forms of R&I from failures of previous ones (for instance through radical "citizen science" because "traditional" R&I is not helping in addressing societal challenges, e.g. Sustainable Development Goals)
- ☐ New cultural norm (because not adopting RRI has simply become inconceivable)
- ☐ Others (please, specify):

29 Please indicate your level of agreement with the following statements. 1 (strongly disagree) -7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
The full deployment of RRI is feasible within the currently dominant logic of market-oriented R&I (i.e. developing new products to satisfy or create new needs of citizens and organizations)							
The full deployment of RRI requires a deep transformation and reframing of R&I ecosystems in order to fully address societal challenges (including environmental issues)							
The full deployment of RRI is facilitated by the adoption of community-oriented practices and overarching visions (for instance proclaiming "zero waste" as a shared goal among stakeholders in a local area)							

30 Can you share with us any concrete suggestions of initiatives engaging whole ecosystems of R&I actors towards RRI at community level? For instance the project B-30 involves 23 cities close to Barcelona, together with research centres, universities, businesses and citizens' organizations in a joint effort to implement circular economy under the banner of the "zero waste"goal.

VIII. REGIONAL SMART SPECIALIZATION STRATEGY (RIS3) (All questions are mandatory)

RIS3 is the EU acronym for Research and Innovation Strategies for Smart Specialisation. It applies to a strategic and integrated conception of regional policies to maximize the potential for "smart growth", i.e. development based on knowledge and innovation. SeeRRI's objective is to integrate RRI into regional development policies, specifically those conceived with the RIS3 methodology.

This set of questions addresses the relationship between the deployment of RRI and RIS3 to promote R&I activities.

31 Please indicate your level of agreement with the following statements. 1 (strongly disagree) -7 (strongly agree).

	1 Strongly disagree	2	3	4	5	6	7 Strongly agree
The evolution of the R&I ecosystem(s) in which my organization is involved is much more determined by global trends than by local or regional initiatives and policies.							
The role of RIS3 is to facilitate better local conditions to enhance competitiveness of regional organizations in the global R&I landscape and value chains							
The role of RIS3 combined with RRI is to facilitate the regional R&I ecosystems address societal challenges at the regional level, and that would be a strong global differentiator							
The role of RIS3 combined with RRI could be decisive to facilitate the emergence of community-oriented projects							
The existing R&I instruments and policies at regional level are sufficient to facilitate a systemic deployment of RRI							

32 Can you share with us any concrete suggestions for future regional instruments, policies or initiatives helping the transformation towards RRI?

IX. PROCESS CHARACTERISTICS (All questions are mandatory)

This set of questions addresses the characteristics of the processes in your organization related to RRI.

33 RRI requires exchanges and co-creation with all kinds of stakeholders. This can have different degrees, from sharing knowledge and results to engaging the stakeholders in the formulation of the challenges to be addressed. In your organization, what is the current level of engagement of stakeholders? (only one answer allowed)

- ☐ Systematically engaged at all levels, including the formulation of challenges and strategic agendas
- ☐ Widely engaged through surveys, panels and other participatory mechanisms to provide expressions of needs and feedbacks on specific activities
- ☐ Engaged as participants in activities of science education and diffusion or in "living labs"
- ☐ Only occasionally engaged, e.g. as participants in some "citizen science" projects
- ☐ Rarely or not at all engaged

34 Is a process in place in your organization to increase the level of engagement of stakeholders?

- ☐ Yes
- ☐ No
- ☐ Don't know

35 Is there a specific source of financing or budgetary chapter in your organization for adaptation to RRI or for RRI-related activities?

- ☐ Yes
- ☐ No
- ☐ Don't know

36 For the success of RRI, organizations committed to it need to attract more attention and resources than those who do not care for RRI. Below are some factors that can help organizations committed to RRI to succeed. Please select the four factors you consider would help the most your own organization to make RRI a success

- ☐ Regulatory enforcement of RRI
- ☐ Changes in public procurement towards RRI-compliant providers
- ☐ Changes in customers' habits and preferences
- ☐ Differentiation through reputational benefit of being RRI-compliant
- ☐ Differentiation through quality effects of being RRI-compliant
- ☐ Differentiation through cost effects of being RRI-compliant
- ☐ Large scale pro-bono involvement of citizens in RRI activities
- ☐ Identification of opportunities difficult to address by non-RRI organizations (f.i. because co-creation is critical)
- ☐ Others (please, specify): _____

37 In your experience or knowledge, do RRI-compliant processes produce positive outcomes for their participants? Are they more satisfied, do they get a clearer sense of purpose or meaning in their R&I activities?

- ☐ Yes
- ☐ No
- ☐ Don't know

38 Is there a process in your organization to assess the impacts of your activities and analyse what kind of outcomes can contribute positively to RRI?

- ☐ Yes
- ☐ No
- ☐ Don't know

39 Is there a process in your organization to ensure mutual learning with your stakeholders about the results, outcomes and consequences of your activities, including the unintended? (only one answer)

- ☐ Yes, it is part of the strategy of the organization
- ☐ Yes, but it is not integrated in the strategy
- ☐ No
- ☐ Don't know

40 Is there a process in your organization to detect and analyse the impacts and unintended consequences of your activities on social and environmental issues? (only one answer)

- ☐ Yes, and the results of the analysis are fed into the strategy of the organization

- ☐ Yes, but not much is done is with the results of the analysis
- ☐ No
- ☐ Don't know

X. BACKGROUND OF THE RESPONDENT (All questions are mandatory/multiple answers not allowed)

41 Which regions do you represent as a respondent of this survey?

- ☐ Lower Austria
- ☐ Nordland
- ☐ B-30
- ☐ Other (please specify) _____

42 How many hours have you been involved in activities within SeeRRI?

- ☐ Less than 15 hours per month on average
- ☐ Between 15-30 hours per month on average
- ☐ More than 30 hours per month on average

43 Please indicate the kind of institution you represent in the SeeRRI project

- ☐ Higher Education Institution / University
- ☐ Research performing organization, excluding university
- ☐ Company/ Business Company
- ☐ Public body (excluding research and education)
- ☐ Non-profit organization (e.g. NGO, private foundation)
- ☐ Self-employed or independent
- ☐ Other (please specify)

44 Your years of work experience in your current organization:

- ☐ 0-5 years
- ☐ 6-10 years
- ☐ 11-20 years
- ☐ >20 years

45 Please indicate your years of education:

- ☐ Less than high school
- ☐ High school/GED
- ☐ 2-year college degree/associate degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctoral or professional degree (PhD/JD/MD)

46 Are you...?:

- ☐ Female
- ☐ Male
- ☐ Other
- ☐ Prefer not to tell

47 Please indicate the day of the month you were born (i.e. if you were born on 01/02/1970, the day of the month you were born would be 01)*

48 Please indicate the last two letters of your childhood's hometown* _____

*Note: This information is very important for us to create unique identification codes for each respondent. These codes are widely used to protect anonymity while allowing for longitudinal analysis. In fact, we will use these codes to compare pre-activities surveys with post-activities surveys. We won't be able to identify you by this information. Your identity will remain anonymous.

THANK YOU FOR COMPLETING OUR SURVEY!

Your contribution is very important to us to better understand and influence research and innovation policy.

If you have any questions, please do not hesitate to contact us via evaluation@seerri.eu

Best wishes,
The SeeRRI team⁴

⁴ Paper versions and online versions of the questionnaires may differ in terms of question numbering due to technicalities.

ANNEX II

QUESTIONNAIRE 2 : SeeRRI STAKEHOLDERS QUESTIONNAIRE⁵

WELCOME TO SeeRRI!

The project SeeRRI invites you to participate in this web-based online survey. SeeRRI establishes a foundation for building self-sustaining Research and Innovation (R&I) ecosystems in Europe by developing a framework for integrating Responsible Research and Innovation (RRI) into regional development policies in European territories. We ask questions about your perceptions of responsible research and innovation's impact on you and your network. It will take approximately 15-20 minutes of your time.

THANK YOU VERY MUCH in advance for your support, which is very much appreciated!

If you have any questions, please do not hesitate to contact us via evaluation@seerri.eu
The SeeRRI team

The SeeRRI project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824588.

I. **PRELIMINARY QUESTIONS** (All questions are mandatory)

The European Commission defines RRI as follows:

"Responsible Research and Innovation (RRI) implies that societal actors (researchers, citizens, policy makers, business, third sector etc.) work together to better align with the values, needs and expectations of society. "Key elements of RRI, as implemented by the EU, are these 5 dimensions Public Engagement, Gender Equality, Ethics, Science Education, and Open Access"⁶.

1. Have you ever encountered the concept **"Responsible Research and Innovation" (RRI)**?

1. Yes 2. No

2. If yes, what are, for your organization / workplace, the three most important dimensions related to the collaboration between societal actors to align to the values, needs and expectations of society? Multiple answers allowed

- | | | |
|-----------------------------------|----------------------------------|-----------------------------|
| 1 Sustainability ⁷ | 2 Public Engagement ⁸ | 3 Ethics ⁹ |
| 4 Science Education ¹⁰ | 5 Gender Equality ¹¹ | 6 Open Access ¹² |

The European Commission describes the concept of Smart Specialization as "an innovation policy concept based on partnerships between businesses, public entities and knowledge institutions aimed at boosting regional innovation, growth, and prosperity by helping and enabling regions to focus on their strengths. .)

3. Based on the above definition, please indicate the extent of your familiarity with the concept of **Smart Specialization**

1= Not at all familiar; 7= Very familiar

⁵ NB. An additional section including items necessary for the consortium members to publish articles in high impact journals is scheduled to be added. However, since this part is not related to the evaluation it is not included in this document. More information can be found on the SeeRRI website.

⁶ The European commission also suggest additional dimensions.

⁷ Sustainability is intended as any development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

⁸ Public Engagement: this dimension is about 'choosing together', co-creating the future by **bringing together the widest possible diversity of actors**, including researchers and innovators, industry and SME, policymakers, non-governmental organisations (NGOs), civil society organisations and citizens, on matters of science and technology, in particular to tackle the grand societal challenges.

⁹ The Ethics dimension focuses on research integrity and on ethical acceptability of scientific and technological developments.

¹⁰ The focus of Science Education is to enhance the current education process to better equip citizens with the necessary knowledge and skills so they can participate in R&I debates; and to increase the number of researchers (promote scientific vocations).

¹¹ Gender Equality is about promoting gender balanced teams, ensuring gender balance in decision-making bodies, and always considering the gender dimension in R&I to improve the quality and social relevance of outcomes.

¹² Open Access addresses issues of accessibility to and ownership of scientific information.

1 not at all familiar	2 slightly familiar	3 somewhat familiar	4 moderately familiar	5 familiar	6 extremely familiar	7 very familiar

4. In which way are you involved in the SeeRRI activities?

- ☐ 1 I collaborate with one of the SeeRRI Consortium's member organizations¹³
☐ 2 I belong to one of the Network of Affiliated Territories (NAT) within the SeeRRI project¹⁴
☐ 3 I have been invited to a Workshop organized by SeeRRI but I do not work for / collaborate with any of the SeeRRI Consortium's member organizations
☐ 4 Other (please specify) _____

II. CONCRETE ACTIVITIES AND DRIVERS

In the next part of the questionnaire, we ask about the activities in your organization and/or your work practice related to Public Engagement, Gender Equality, Ethics, Science Education, Open Access and Sustainability.

5. Please quantify on a scale from 1 to 7 if the following activities are part of your work practice. 1 = (never) and up to 7 (everytime).

	1 Never	2 Rarely	3 Occasionally	4 Sometimes	5 Frequently	6 Usually	7 Every time
5.1 I engage in activities such as listening to, developing their understanding of, and interacting with others outside my institution							
5.2 I encourage gender-balanced teams in my work environment							
5.3 I submit my work to ethical reviews							
5.4 I develop education material (e.g. kits, websites, explanatory booklets, videos)							
5.5 I publish / and or use open access publications							
5.6 In my organization, I put in place or implement forms of coordination designed to foster collaborations aimed at the alignment with the values, needs and expectations of society.							
5.7 Over the past year my organization was involved in activities related to the recycling of municipal waste products							

6. What are the main drivers for the activities mentioned above? (Multiple answers allowed)

- ☐ 1 I see them as a quality criterion for good work practice
☐ 2 They are part of my institute's policy
☐ 3 They meet the requirements of the research/project/work funders
☐ 4 They are a legal requirement
☐ 5 None of the above
☐ 6 Other (please specify) _____

III. YOUR VIEWS (All questions are mandatory/multiple answers allowed)

In the next part of the questionnaire, we ask about your personal views related collaborations between different societal actors for the alignment with the values, needs and expectations of society.

7. Please indicate your level of agreement for the following statements. 1 (strongly disagree) -7 (strongly agree).

	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree	5 Somewhat agree	6 Agree	7 Strongly agree

¹³Nordland Research Institute, Austrian Institute of Technology, The Innaxis Foundation and Research Institute, WEDO, Research and Innovation management, University of Haifa, University of Bologna, Universitat Autònoma de Barcelona, Generalitat de Catalunya, Niederösterreichs Wirtschaftsagentur, Nordland County Council, NHO Nordland.

¹⁴ CAMARA Badajoz, Haifa Municipality, CEEI Burgos, INTERSECTION, University of Vassa, Regional Council of Ostrobothnia, University of Cagliari, PROMA

				nor disagree			
7.1 The involvement of the wider public in debates (e.g. via social media) related to their needs and expectations is important to me							
7.2 The promotion of gender-friendly workplaces and cultures is important to me							
7.3 It is important to me that researchers should reflect on people's ideas and concerns							
7.4 It is important to me to increase my knowledge regarding science (e.g. via visiting science centres, via participating in demonstrations about scientific issues, etc.)							
7.5 I believe that to access free online books, free articles is important							
7.6 In my work practice, it is important to me to participate in the definition of rules, practices and processes related to collaborations with different societal actors (researchers, citizens, policy makers, business, third sector etc) to better align with the values, needs and expectations of society							
7.7 Environmental protection policies are important to me							
7.8 Please specify if there is any other practice/activity that you perceive important in your work practice							

IV. **IMPACTS** (All questions are mandatory/multiple answers allowed)

The next section asks about the impact that activities related to the collaboration between different societal actors for the alignment with the values, needs and expectations of society may have on your organization or your work practice.

8. In relation to your organization and/or work practice, do/did you observe or expect any of the benefits listed below because of the implementation of activities aimed at the collaboration with different societal actors (researchers, citizens, policy makers, business, third sector etc.) for the alignment with the values, needs and expectations of society?

Impact	1. I have observed benefits	2. I expect benefits	3. I don't expect any benefits	4. I don't know
8.1 Higher relevance of scientific outputs				
8.2 Mobilizing funding (e.g. for research related activities)				
8.3 Decreased costs of introducing innovation				
8.4 Stimulation of innovation				
8.5 Elimination of gender bias				
8.6 Empowerment of citizens				
8.7 More competencies among locals and citizens				
8.8 Increasing interest in research and science				

V. **SUPPORTING/HINDERING FACTORS** (All questions are mandatory/multiple answers allowed)

The next section asks about your views on supporting or hindering factors for the implementation of activities related to the collaboration between different societal actors (researchers, citizens, policy makers, business, third sector etc.) for the alignment with the values, needs and expectations of society in your organization or your work practice.

9. In relation to your organization and/or work practice, do/did you observe or expect any of the barriers listed below because of the implementation of activities aimed at the collaboration with different societal actors (researchers, citizens, policy makers, business, third sector etc.) for the alignment with the values, needs and expectations of society? 1 (strongly disagree) -7 (strongly agree).

Barriers	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree nor disagree	5 Somewhat agree	6 Agree	7 Strongly agree
9.1 Increased direct costs							
9.2 Overload of tasks							
9.3 Lack of experience / skills							
9.4 Other barriers (please specify)							

10. In relation to your organization and/or work practice, do/did you observe or expect any of the supporting factors listed below because of the implementation of activities aimed at the collaboration with different societal actors (researchers, citizens, policy makers, business, third sector etc.) for the alignment with the values, needs and expectations of society? 1 (strongly disagree) -7 (strongly agree).

Supporting Factors	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree nor disagree	5 Somewhat agree	6 Agree	7 Strongly agree
10.1 Implementation of a better institutional strategy aimed at the collaboration with different societal actors to meet social values, needs and expectations.							
10.2 Better access to research funding							
10.3 Personal motivation							
10.4 Other supporting factors (please specify)							

VI. YOUR PARTICIPATION IN THE SeeRRI PROJECT (Only the first question is mandatory)

11. Is the coming workshop the first SeeRRI workshop that you will attend? (Mandatory)

☐ 1 Yes ☐ 2 No

If your answer is yes, please go directly to section 7.

12. If no, how many workshops organized by the SeeRRI consortium have you attended?

1-14

13. If you already attended one or more SeeRRI workshops, please indicate your level of agreement with the following statements.

1 (strongly disagree) -7 (strongly agree). (Not mandatory)

	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree nor disagree	5 Somewhat agree	6 Agree	7 Strongly agree
13.1 I received adequate information on the implementation of activities aimed at the collaboration with different societal actors for the alignment with the values, needs and expectations of society							
13.2 I feel that the time and effort related to the participation to the workshop/s was adequate							

13.3 My participation to the workshop/s was strongly incentivized							
13.4 The information received enlightened me on the importance of the collaboration between different societal actors for a better alignment to societal expectations							
13.5 Thanks to the information received, I feel that given the opportunity I would implement activities related to ethics, gender equality, public engagement, open access to research, science education, and or sustainability in relation to my work practice in the future							
13.6 Other (please specify)							

VII. ADDITIONAL QUESTIONS FOR ACADEMIC PUBLICATION PURPOSE

This section is part of the SeeRRI project's dissemination activities, which will include of a series of activities of a scientific nature. In line with this aim, the following section gathers data for use in open access publications.

ENTREPRENEURIAL DISCOVERY VIA IMAGINATIVENESS

This section aims at gathering your views on the discovery and production of information about new activities and opportunities within your network.

14. Please indicate your level of agreement with the following statements: 1 (strongly disagree) -7 (strongly agree)

	1 Strongly disagree	2 Disagree	3 Somewhat disagree	4 Neither agree nor disagree	5 Somewhat agree	6 Agree	7 Strongly agree
14.1 I consider myself to be inventive.							
14.2 I consider myself to be innovative.							
14.3 I demonstrate originality in my work.							
14.4 I like to create original work.							
14.5 People say that I am artistic.							
14.6 Being creative is a large part of who I am.							

14.7 I tend to be good at project management.							
14.8 I can picture what the bottleneck of a system will be.							
14.9 Before I face a new situation, I picture the issues I may encounter and plan accordingly.							
14.10 I see connections between seemingly unrelated pieces of information.							
14.11 Forming mental images helps me solve problems.							
14.12 I extrapolate existing methods to solve new problems.							

NETWORK LEADERSHIP

This section aims at gathering your views on the leadership behaviors within your regional network.

15. How often do the leaders in your network (e.g. directors, managers) engage in the following behaviors in managing the network that you are involved in? 1 (never)-5 (always).

Leadership Behaviours	1 Never	2 Seldom	3 Occasionally	4 Often	5 Always
15.1 Treating all network members as equals					
15.2 Identifying resources (equipment, supplies, finances, manpower, etc.)					
15.3 Identifying stakeholders					
15.4 Putting the suggestions made by the network into operation					
15.5 Sharing the leadership role with other network members					
15.6 Establishing a shared vision					
15.7 Influencing the network's values and norms					
15.8 Achieving agreement on the nature of the tasks					
15.9 Keeping the network in good standing					
15.10 Inspiring enthusiasm for a project					
15.11 Establishing member commitment to the network's mission					
15.12 Using incentives to motivate network members					
15.13 Creating trust among network members					
15.14 Brainstorming					
15.15 Permitting the network members to use their own judgment in solving problems					
15.16 Settling conflicts when they occur in the network					

SOCIAL BENEFITS

This section aims at gathering your views on the possible social impact of activities aimed at the collaboration with different societal actors (researchers, citizens, policy makers, business, third sector etc.) for the alignment with the values, needs and expectations of society.

16. Do/did you observe or expect any of the benefits listed below because of the implementation of the above-mentioned activities?

Social Impact	1. I have observed benefits	2. I expect benefits	3. I don't expect any benefits	4. I don't know
16.1 The scientific agenda of my institution would include other voices and inputs to prioritize research and innovation				
16.2 Increasing on the co-creation of solutions				
16.3 The possibility to foresee non expected or non desirable impacts of research and innovation on society				
16.4 Increasing the capacity of research and innovation activity to respond and to react to the changing demands of society				
16.5 Benefit in the wellbeing of citizens who live in the territory. (e.g better environmental conditions, decreasing of pollution, etc.)				

17. As a consequence of the implementation of the above-mentioned activities, do/did you observe or expect that the activities related to the collaboration among different societal values in your territory would be more aligned to:

Social Impact	1. I have observed benefits	2. I expect benefits	3. I don't expect any benefits	4. I don't know
17.1 The shared problems that people experience				
17.2 Societal hopes developed through the practice of public conversation and joint action				
17.3 A set of moral principles defined by society dynamics, institutions, traditions and cultural beliefs				

VIII. BACKGROUND OF THE RESPONDENT (All questions are mandatory/multiple answers not allowed)

18. Via which territory are you engaged or completing this evaluation?

- ☐ 1 Lower Austria
- ☐ 2 Nordland
- ☐ 3 B-30
- ☐ 4 NAT
- ☐ 5 Other (please specify) _____

19. Approximately, how many hours have you been involved in activities within the SeeRRI project?

- ☐ 1 Less than 15 hours per month on average
- ☐ 2 Between 15-30 hours per month on average
- ☐ 3 More than 30 hours per month on average

20. Please indicate the kind of institution you work at:

- ☐ 1 Higher Education Institution / University
- ☐ 2 Research performing organization
- ☐ 3 Company
- ☐ 4 Public body (excluding research and education)
- ☐ 5 Non-profit organization (e.g. NGO, private foundation)
- ☐ 6 Self-employed or independent
- ☐ 7 Other (please specify) _____

21. Please specify your role in the organization (e.g. director of.../manager of.../etc.)

21.1 _____

22. Your years of work experience in the current organization:

- ☐ 1 0-5 years
- ☐ 2 6-10 years
- ☐ 3 11-20 years
- ☐ 4 >20 years

23. Please indicate your years of education:

- ☐ 1 Less than high school
- ☐ 2 High school/GED
- ☐ 3 2-year college degree/associate degree
- ☐ 4 Bachelor's degree
- ☐ 5 Master's degree
- ☐ 6 Doctoral or professional degree (PhD/JD/MD)

24. Are you...?:

- ☐ 1 Female
- ☐ 2 Male
- ☐ 3 Other
- ☐ 4 Prefer not to tell

25. Please indicate the day of the month you were born (i.e. if you were born on 01/02/1970, the day of the month you were born would be 01)*

25.1 _____

26. Please indicate the last two letters of your childhood's hometown*

26.1 _____

*Note: This information is very important for us to create unique identification codes for each respondent. These codes are widely used to protect anonymity while allowing for longitudinal analysis. In fact, we will use these codes to compare pre-activities questionnaires with post-activities surveys. We won't be able to identify you by this information. Your identity will remain anonymous.

27. If you have any further comments, please fill in the text box below.

THANK YOU FOR COMPLETING OUR SURVEY!

Your contribution is very important to us to better understand and influence research and innovation policy.

If you have any questions, please do not hesitate to contact us via evaluation@seerri.eu

Best wishes,

The SeeRRI team