

## Evaluation report II

Deliverable D8.3



## **JERRI – Joining Efforts for Responsible Research and Innovation**

### **Deliverable D8.3**

### **Evaluation report II**

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## PURPOSE

Work package 8 of the JERRI project deals with monitoring and evaluating the steps undertaken in the effort to define actions and implement pilot activities in the two largest research and technology organisations (RTO) in Europe (Fraunhofer in Germany and TNO in the Netherlands). These concern the five key dimensions: Gender, Open Access, Science Education, Societal Engagement and Ethics which constitute the concept of Responsible Research and Innovation (RRI).

The present report is the third outcome (after D8.1, the monitoring and evaluation framework and D8.2, the first evaluation report) of work package 8 of JERRI and aims at monitoring and evaluating the activities that were implemented in the phase between month 16 and month 28 of the project, respectively between September 2017 and September 2018.

The deliverable D8.3 gives a formative evaluation on the work packages 4 and 5, where RRI action plans were formulated, and a first summary of the implementation process at TNO and Fraunhofer (work packages 6 and 7). To begin, the report outlines the methods used to assess the quality and success of the activities within this period. In the end, conclusions and recommendations for the last phase of the project (which runs until May 2019) are given.



## EXECUTIVE SUMMARY

Within the project of JERRI, the two largest research and technology organisations in Europe, the Fraunhofer Gesellschaft and TNO, are orchestrating a transition process for institutionalising RRI through its five key dimensions of Gender, Ethics, Science Education, Societal Engagement and Open Access. The present report depicts the evaluation of the intermediate results of the project.

### *Intention and structure of this report*

As a formal Deliverable within the JERRI project, this report D8.3 summarises the efforts of the two organisations in regard to the development of transformative RRI action plans in chapter 4.1 JERRI WP4-WP5: RRI action plans at Fraunhofer and TNO (p.23) and the implementation of the first pilot activities with respect to the dimensions in chapter 4.2 (p.51). Further, the evaluation of international learning (chapter 4.3, p.79), multi-level learning and communication (chapter 4.4, p.86) processes are presented. Chapter 4 comprises conclusions and recommendations to the partners for the last period of the project (October 2018 until May 2019).

### *Methodology*

For the purposes of the evaluation, a multi-method approach was chosen. A mixture of quantitative and qualitative methods is used in order to assess the project in terms of process and content. A detailed description of the empirical part is given in 3. Methods and Data, p.9.

### *Results*

Results show that TNO and Fraunhofer made great efforts and could follow up on earlier results and goals: they included the conceptual framework (which was developed in an earlier phase of the project) in their actual works, assessed organisational barriers and enablers for the institutionalisation of RRI, developed transformative action plans which are taking into account organisational characteristics and started to pursue the goals and implement the pilot activities which they formulated in the first phase of JERRI.

For the remaining project time it will be essential to forge ahead with existing activities and to make the processes as transparent as possible in order to enable other RTOs to learn from the findings and experiences of Fraunhofer and TNO.

## DELIVERABLE REPORT

### 1 Introduction

JERRI work package 8 (WP8) aims at monitoring and evaluating the different steps of the JERRI project. In order to assess the suitability and success of the JERRI activities and to provide continuous formative feedback during the project period, a variety of measures will be taken to, on the one hand, improve the quality of the JERRI processes and on the other hand, to gather the outcomes in summative feedback at the end of the project.

This deliverable D8.3 describes and summarises the activities and results of JERRI WP8 *Monitoring and Evaluation* between September 2017 (project month 16) and September 2018 (project month 28). Within this time frame, the two main organisations, Fraunhofer and TNO, developed transformative action plans for the five key dimensions which aim at a deeper transformation beyond previously defined and initiated pilot activities. In the first phase of the project, goals and supporting pilot actions to attain them were defined for each of the dimensions (see also D2.2 and D3.2). Within the second phase, interviews with partners identified (organisational) barriers and enablers for the implementation and institutionalisation of the five dimensions. Building upon this knowledge, actions plans should be elaborated in subsequent meetings and workshops. In addition to the transformative action plans, activities have begun within the organisations in the last year and a half to implement pilot activities defined in phase one.

This report therefore has three main focuses: to monitor and evaluate the elaboration of the RRI action plans within Fraunhofer and TNO (WP4 and WP5), to monitor and evaluate the activities for the implementation of the goals defined in WP2 and WP3 (the goal development process was evaluated in D8.2) and furthermore, to monitor and evaluate the implementation of the action plans (WP6 and WP7) already in motion.

Additionally, the steps that were taken in the international mutual learning process (WP9) are integrated in this report. WP10, *Multi-Level Learning and Upscaling* had no dedicated tasks or steps within this reporting period, but as the deliverable D10.2 was delayed in summer 2017, a short summary is also integrated here.

The overall objectives and design of WP8 will not be described at this point; details about the concept and criteria for monitoring and evaluation can be found in the previous reports D8.1 and D8.2.

First, the report will start with an overview of the empirical methods used to collect and analyse relevant data as well as a description of the different types of data collected.

Second, the report will present the results from the different evaluation steps on the JERRI activities and the documents assessed through this second project period. The report is structured following the logics of the work packages: results of the evaluation regarding the identification of organisational barriers and the development of transformative action plans at Fraunhofer and TNO (WP4/WP5) are reported for the respective organisations. This is followed by the first overview of the implementation and pilot activities (WP6/WP7) until September 2018 which will be further continued and elaborated in the last phase of the project (until May 2019, comprehensive results will be found later on in D8.4). Results from WP9 evaluation of the international mutual learning process and the case studies can be found in chapter 4.3 *JERRI WP9: International mutual learning process* (from p.79) and the Consortium's analysis of mutual exchange and dissemination activities (WP10) are reported at the end of the formative evaluation (chapter 4.4: *JERRI WP10: Multi-level learning and Communication*, p.86 ongoing).

Finally, an overall summary will be presented and recommendations provided for the last phase of JERRI to improve the progress of the activities and promote institutionalisation within the two organisations and beyond.

## 2 Objectives and design of WP8

The main focus within work package 8 is to evaluate and monitor the process of the JERRI activities on three different levels:

- On a process level (design and implementation of activities and research efforts, workshops, dissemination activities)
- On an output level (reports, concepts, etc.)
- On an outcome level (impacts in different areas)

The detailed evaluation criteria can be found in Deliverables D8.1 (p.14-15) and are also repeated in Deliverables D8.2 (p.11-12). By linking different approaches (reviewing of documents, participant observations, surveys, interviews, group reflections etc.), it is possible to obtain a multi-layered picture of the steps which were

taken in JERRI within the last period (September 2017 to September 2018) but also before and beyond.

Table 1 gives an overview of evaluation objects for the actual reporting period (M16-M28) as proposed in the monitoring and evaluation concept (D8.1, p.18-19). In the next parts of this report it stands out that the focus in this phase was on WP4/WP5 and WP6/WP7, as it was pivotal for this second phase to identify organisational barriers and define concrete (transformative) action plans for Fraunhofer and TNO. Parallel to this, the implementation phase already started which is in very different stages depending on the organisations and key dimensions.

Table 1. Overview of evaluation objects for the actual reporting period (M16-M28) as proposed in the monitoring and evaluation concept (D8.1, p.18-19).

	<b>Input</b>	<b>Process</b>	<b>Output</b>	<b>Outcome</b>
<b>WP4 and WP5 RRI action plans</b>	Interview guidelines, Workshop design	Interviews, stakeholder workshops	Deliverables D4.1, D4.2, D5.1, D5.2: Barriers, action plan	Consideration of barriers in action plan
<b>WP6 and WP7 Implementation process</b>	Goals and action plans described in Deliverables D1.1, D1.2, D2.1, D2.2, D3.1, D3.2, D4.1, D4.2, D5.1, D5.2: State of the art, identified goals, barriers, action plan	RRI activities at FhG and TNO	Depends on the actual RRI activities; Deliverables 6.1/7.1 and 6.2/7.2	<i>Success</i> of the pilots/the actual promotion of institutional change towards RRI (intended effects)
<b>WP9 International mutual learning process</b>	Interview guidelines, workshop design	Interviews, workshops	Case studies, Deliverables D9.1, D9.2, D9.3	Mutual learning
<b>WP10 Multi-Level Learning and Upscaling</b>	Exchange workshop design, results of other WPs	Project-internal and external exchange workshops	Deliverables D10.1 to 10.5, lessons learned and good practices	Usefulness of results for other RTOs

In the following section, the empirical methods applied in line with previous formulated approaches will be described in-depth.



### 3 Methods and Data

Within WP8, a variety of methods are used in order to assess and analyse the actual status of the project:

- Written documents were reviewed and given feedback upon.
- Action plan workshops were – where possible – accompanied by participant observations and a survey which was completed by the workshop participants.
- Interviews with workshop organisers and dimension leaders covered data generation for the development of action plans and evaluation of implementation activities.
- A reflection workshop with dimension leaders about the implementation of JERRI and the organisational impact (due to organisational reasons this was only possible with TNO dimension leaders).
- A short written questionnaire collecting data about the second workshop round for defining the transformative action plans and the status of the implementation of the pilot activities was sent to the dimension leaders of both organisations.
- The participants' observations were done at three action plan workshops, the general project meetings and also at an additional workshop which was conducted by Manchester University in The Hague in May 2018.

Furthermore, the JERRI team was in close contact with the project lead and the JERRI consortium via email, telephone or voice-over-ip (e.g. Skype or GoTo Meeting) and in face-to-face meetings.

Within the next chapters, the methods that were used are described in detail. To avoid unnecessary duplication, references are made to previous reports within WP8.

#### 3.1.1. Review of documents

The task of the JERRI monitoring and evaluation team is to review documents that are produced within the framework of the JERRI project in the form of deliverables and beyond.

As the pilots and activities are in different stages of their implementation, documents that are produced within the organisations for the different dimensions are not analysed at this current state, but in the next phase of the project. Therefore, evaluation and monitoring was focused on the results achieved in the last period. WP8 reviewed the

documents and provided feedback to improve the quality of the content and the appropriateness of the planned activities. Furthermore, this serves as a quality check to track the conceptual framework, the previous findings within the project, the defined goals and the overall direction of the JERRI project.

One important part of the WP8 formative evaluation is the assessment and return of constructive feedback on the formal output of the different JERRI activities: the deliverables and other working documents like documents produced for dissemination, information sheets for workshops and workshops concepts. In order to improve the JERRI processes as well as their outputs and impacts, WP8 assessed preliminary versions of various documents and gave constructive written feedback.

Referring to the description of work, five deliverables were scheduled for project months 16-28 (see also Table 2). These were reviewed and feedback was provided. The feedback focused on two main aspects:

- On the one hand, documents are assessed in regard to structure, meaningfulness, clarity and comprehensiveness in order to make them understandable for the outside reader. Documents should be clear enough to be read as independent works without knowing the whole background of the JERRI project and previous activities.
- On the other hand, the review focused on the suitability of the taken actions and whether the described processes were aligning to previous deliverables, activities and findings. Additionally, the process was assessed in regards to former applications of the conceptual framework.

Table 2. Reviewed JERRI deliverables between the period of August 2017 and September 2018.

Organisation	WP	Deliverable	Feedback on draft version(s) by IHS	Submission Date (Planned)
FhG-ISI	WP4	D4.1 Discussion paper on the analysis of organisational barriers (Fraunhofer part)	27.03.2018	04.05.2018 (December 2017)
FhG-ISI	WP4	D4.2 Transformative RRI action plan for Fraunhofer	17.08.2018 and 31.08.2018	31.10.2018 (April 2018)
TNO	WP5	D5.1 Discussion paper on the analysis of organisational barriers (TNO part)	07.02.2018	02.05.2018 (December 2017)



TNO	WP5	D5.2 Transformative RRI action plan for TNO	29.05.2018	Submission expected November 2019 (April 2018)
FhG-ISI	WP9	D9.2 Case study part II: Good practices for RRI institutionalisation	31.8. & 12.09. 2018	31.10.2018 (December 2017)

For work package 1 there are contradictory entries in the Gantt chart, the work package descriptions and the list of deliverables. In the Gantt chart, for month 24 an update was foreseen for D1.1 in the work package description and list of deliverables, there is an update of D1.2 for month 24 (the first version was submitted in month 6). There was an update of the deliverable 1.2 following the midterm review and it is planned that the results feed into the *Lessons Learned Compendium (10.2)* and *Good practice RTO engagement manual (10.3)* which for D10.2 already happened (see also chapter 4.4.1, p.87), and for D10.3 it is foreseen for the last period of the project.

Deliverables D4.2, D5.2 and D9.2 were postponed. Submission of deliverables D9.1 and D10.2 (see Table 3) was moved back as well (see D8.2, p.31-32), whereby the evaluation of the respective documents could not be included in the previous report, but was promised to be given in the actual one (results see chapter 4.3.2, p.80).

Table 3. JERRI deliverables, delayed from the last reporting period, are reviewed in the current report.

Organisation	WP	Deliverable	Submission Date (Planned)
FhG-ISI	WP9	D9.1: Case study part I: RRI goals and practices	First submission: 21.08.2017, submission of revised version: 30.11.2017 (December 2016)
FhG-ISI	WP10	D10.2 Lessons learned for goal development	13.08.2018 (July 2017)

Additional documents that were produced within the JERRI project were also included in the monitoring. Fraunhofer sent agendas for workshops and a documentation of the Gender action plan workshop in power point format. TNO involved the IHS team in the email correspondence of their second workshop on Science Education, where participants were informed about the agenda of the workshop, received a briefing

paper about the respective topic (which was a preparation also for participants of the first workshop) and the documentation of the first workshop.

### 3.1.2. Participant observations

Participant observations were implemented for the ongoing meetings and workshops, mainly from WP4 and 5. For background, focus, purpose and methodology of participant observations see D8.2, p.18-19.

Action plan workshops were carried out at Fraunhofer and TNO between December 2017 and April 2018. One member of the JERRI team took part in two out of four transformative action plan workshops (or roadmapping workshops, as they labelled it) at Fraunhofer on Open Access and Societal Engagement. The workshop on Gender could not be attended due to conflicting schedules and the workshop on Ethics was closed for Fraunhofer employees only due to reasons of confidentiality and data protection.

Table 4 shows the types and locations of observations made and includes the meetings attended by the WP8 team.

At TNO, one WP8 team member attended the second workshop on Societal Engagement. For the other dimensions, workshops were not conducted in the respective manner but replaced by meetings and other formats of interaction like informal talks and inputs at meetings which were held for other purposes (e.g. general appointments for Advisory Boards). It was made available to take part in a meeting of the Integrity/Diversity Advisory Board, but this could not be followed by the IHS due to health reasons. For the dimensions of Ethics and Science Education, it was not planned by the dimension leaders that the IHS would participate in a meeting. For the dimension of Open Access, the IHS asked to take part in one of the scheduled workshops, but JERRI participation from outside was determined as not fruitful by the dimension leaders, mainly because of language barriers. The dimension leaders promised to provide the WP8 team with a prior translation of the workshop setup and methodology, followed by the workshop documentation. The interview planned for evaluation and monitoring with the dimension leaders was scheduled directly after each workshop.

Table 4. Overview of participant observations.

Date	Location	Type of meeting	Topic
06.- 07.11.2017	Brussels	Project meeting and midterm review	State of the art meeting and midterm evaluation
12.12.2017	The Hague	WP5 Workshop	Science Education Workshop at TNO
08.03.2018	Stuttgart	WP4 Workshop	Open Access Workshop at FhG
10.04.2018	Oberhausen	WP4 Workshop	Societal Engagement Workshop at FhG
19.04.2018	The Hague	Workshop: MMU Case Study	Workshop with all dimension leaders and the Advisory Board to serve the MMU case study
20.04.2018	The Hague	Project meeting	2 <sup>nd</sup> JERRI Advisory Board meeting and regular meeting

Additionally, the results from the first mutual learning workshop related to WP9 which was held in Munich on the 15<sup>th</sup> of December 2016, have been included in the present report. This is due to postponements of the related deliverable D9.1, wherefore the evaluation of the actions in WP9 is only included now.

### 3.1.3. Survey of participants in the action plan workshops and meetings

As in the first round of workshops (see D8.2, p.15-16), a feedback questionnaire was handed out to the participants in the second round of workshops held by the two organisations to define the action plans.

The original questionnaire focused on the expectations of participants regarding the workshop and how these expectations were met, positive and negative aspects of workshop organisation and implementation, how stakeholders were involved in the workshops and how the workshop dealt with the respective RRI dimension.



The survey was slightly changed from the first version. The questions from the original version (see D8.2, Annex II, p.55-56) mainly stayed the same with the addition of questions to address any previous participation of stakeholders involved, the uptake of former results, satisfaction with concrete results and possible impact of the defined actions on the organisation and the dimension. The full questionnaire can be found at the end of this report (see Annex I. Participant Feedback questionnaire, p.112).

The questionnaire comprised 17 nominal scale questions (1: Yes, 2: to some extent, 3: No), nine open ended questions (in most cases) related to previous topics, and one question each on the participant's gender and relationship to the organisation, i.e. if the respondent was an employee of the organisation (either Fraunhofer or TNO) or an external stakeholder<sup>1</sup>. Differing from the first questionnaire, five ordinal scale questions on a four scale level (from strongly agree to strongly disagree) with a *no answer* option (I do not know / question does not suit the purpose of the workshop) were included in the survey.

The questions were translated into German, this version of the survey was used at the workshops at Fraunhofer, and an English version was spread at TNO. The questionnaires were distributed as *offline* hardcopy directly after the workshops, collected either by WP8 team members or the organisers on-site and sent to IHS via post or as scan via email. For one workshop at TNO, some participants received a digital version of the questionnaire and sent the filled version to the workshop organiser, who then sent it via email to the WP8 team.

For the Gender workshop at TNO, the respective dimension leader did minor changes to the questionnaire because the meeting was not structured as a workshop, but the discussion on the topic was part of a general meeting of the Diversity Steering Group. Changes were made to clarify the setting of each meeting, in coordination with one of the WP8 team members. As the content of the queries remained the same, it was decided to include the answers in the overall calculation. These two questions, that were added by the responsible person, are indicated separately in the results section of the present report.

As the implementation of the workshops differed greatly between the two organisations, calculations and the depiction of the results are done separately for

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<sup>1</sup> External stakeholders are defined as member of an organisation related to the topic or the RTO, but not a member/employee.

Fraunhofer and TNO. Comparisons – where made – have to be read and interpreted with the dissimilarities in mind.

Data was entered manually into IBM SPSS Statistics 25<sup>®</sup> and analysed by the IHS team. Only descriptive analyses were conducted. Answers to open questions were extracted from the data, interpreted and included in the results. Due to the low number of cases and answers to open questions, they were not categorised and quantified.

Altogether, 50 people completed the questionnaire, 19 from TNO and 31 from Fraunhofer. The distribution in Table 5 and Table 6 shows the surveys answered in regard to the respective organisation, gender and external vs. internal stakeholders. It can be seen that the distribution regarding gender is quite evenly distributed with a slight surplus for women taking part in the workshops; 22 women and 18 men took part, one participant self-identified as mismatching with the male or female gender, nine people refused to give an answer.

Table 5. Overview of completed questionnaires, distribution regarding organisation and gender (actual number of participants).

	<b>FhG</b>	<b>TNO</b>	<b>Total</b>
<b>Female</b>	14	8	44%
<b>Male</b>	7	11	36%
<b>Other</b>	1	0	2%
<b>No or invalid response</b>	9	0	18%
<b>Total</b>	31	19	<b>50 (100%)</b>
<b>Return rate<sup>2</sup></b>	68%	76%	

<sup>2</sup> The response rate is calculated from the original number of participants: for Fraunhofer there were 44 participants in all four workshops, for TNO the total number is calculated in proportion to the total number of participants from three workshops/meetings, one each for Gender (n=8), Open Access (n=9) and Science Education (n=8).

Regarding stakeholder distribution, 68% were internal stakeholders coming from within the organisations and only 16% came from outside the organisation. 16% gave no answer to this question.

Table 6. Overview of completed questionnaires, distribution regarding organisation and stakeholder status (actual number of participants).

	<b>FhG</b>	<b>TNO</b>	<b>Total</b>
<b>Internal stakeholders</b>	17	17	68%
<b>External stakeholders</b>	7 <sup>3</sup>	1	16%
<b>No or invalid response</b>	7	1	16%
<b>Total</b>	31	19	<b>50 (100%)</b>

38% of the participants who completed the questionnaire participated in the first workshop on the respective topic (47% from TNO and 32% from Fraunhofer), for the rest of the participants it was the first participation in a JERRI meeting/workshop.

### 3.1.4. Qualitative interviews

As in the first year of JERRI, qualitative, semi-structured interviews were used, to gather information about expectations, plans and experiences of those responsible for designing and implementing different work packages and tasks of the JERRI project. The main focuses of the interviews in this period were on the process and outcomes of the definition of the RRI action plans, the workshops and meetings that were taking place for this purpose (WP4 and WP5) the implementation process which already began in the two participating organisations (WP 6 and WP7) and the mutual learning

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<sup>3</sup> Two people from TNO were present at the Open Access workshop at Fraunhofer, who were also calculated as external stakeholders.

with respect to the exchange within and between the two main organisations of TNO and Fraunhofer (WP10).

IHS prepared interview guidelines, which were partly built upon the questions that were used for the goal development process, adapted and further elaborated to the actual purpose. There were questions about the implemented workshops targeted at organisers of the workshops/meetings and the dimension leaders that were taking part in these activities. The questions regarding the workshops covered a general perception about the workshops, the selection and involvement of stakeholders, uptake of previous results from former activities and expected possible (short-term and long-term) effects of the formulated action plans and activities on the organisations. The questions addressing the implementation process were indented to get an overview of the actual status of the activities and pilots, to see whether the most important stakeholders for formulation and implementation of the actions were involved, to gather information about deviations to the previously formulated action plans and to ask for impact assessment of the activities within the organisation. In addition, two questions were included about the mutual knowledge exchange within the organisations, respectively the communication between dimensions (within the organisations) and between Fraunhofer and TNO. The interview guidelines can be found in Annex II. Interview guidelines, parts 1 and 2, see p.115f.

The guidelines were structured in two parts, whereas some interviews covered only the part about the workshops, some only questions about the implementation of the pilots and, again, some both. Number and content of interviews can be seen in Table 7. There were six interviews with representatives of TNO (two of these were conducted with two people each), of which five were done via telephone or Skype and one face to face. With Fraunhofer JERRI proponents, a total of nine interviews were done (all via telephone or Skype), in which two focused only on the workshops, one only on the implementation, five on both and one on the general overview of the actual status of the dimension with the project leader (the latter one did not follow the guidelines). For the interviews with Fraunhofer, interview guidelines were translated and queries were conducted in German. Interviews with people from TNO were done in English. All interviews took place between 14<sup>th</sup> of March and 19<sup>th</sup> of April 2018 and lasted between 37 to 78 minutes. People were asked for their permission for audio recording and the audio recordings have since stored securely.

Table 7. Overview of conducted interviews in regard to content with representatives of the two organisations of Fraunhofer and TNO.

Main topic of interview	FhG	TNO
<b>Action plan workshop</b>	2	1
<b>Implementation</b>	1	1
<b>Workshops and Implementation</b>	5	4
<b>Other</b>	1	
<b>Total</b>	9	6

It has to be mentioned that the evaluation of the implementation process can only cover activities up to the time when the interviews were carried out (so, until spring 2018). The pilot activities are still ongoing at the time of reporting, thus all actions taken until the end of JERRI will be reported in the final summative evaluation report D8.4.

For WP9, one interview was conducted with two representatives from Fraunhofer ISI, who are mainly responsible for international case studies. The interview was done directly after the first international mutual learning workshop, which was held on the 15<sup>th</sup> of December 2016, and lasted for half an hour (see also D8.2, p.31). As the time after the workshop was not well chosen (interviewees did not have enough time because they were occupied for other talks, there were disturbances during the interview and one person had to leave earlier), all questions (see Annex II. Interview guidelines, part 3, p.118) were only discussed very briefly.

In order to analyse the interviews in an efficient manner, an analysis template following the main focus points of the interviews was developed and then applied to each interview. The audio recordings were listened to and the information extracted and organised along the template; key citations were transcribed verbatim. Then, the findings of the different interviews were compared, similarities and varieties identified and their significance interpreted.

### 3.1.5. **Written update provided by dimension leaders on workshops and actual status of pilot activities**

In order to make the qualitative interviews more efficient and to have the option of preparing for the interviews beforehand, the IHS designed a template in Excel format. It should serve to gather quantitative and more descriptive information in written form and to concentrate on qualitative information regarding the workshops and the subsequent implementation of the pilot activities in the interviews. The template should be filled in by the dimension leaders in relation to information about the two workshop rounds (separately for workshop round one and two) and the pilot and implementation activities. Questions regarding the workshops included details about actual participants, selection criteria for stakeholder involvement and main outputs of the workshops (see Annex III. Written template on RRI implementation, p.119). Questions about the implementation activities covered details on the following aspects:

- Short description of the actual status of the implementation of the action, main achievements, deviations from the original planning.
- Reasons for choosing this action.
- Start and expected end of the action (also if the activity already started before JERRI or with the project).
- People involved in implementation (besides the dimension leaders).
- Main target group for the action, including an estimate of how many people the pilot activity will reach.
- Short-term and long-term impact on the specific dimension and on the overall institutional change.

Dimension leaders received the template prior to their interview and were asked to fill it in and send it back before the examination took place. The IHS team received six completed templates, two from TNO and four from Fraunhofer. The completed templates from TNO contained information about the workshops and the implementation of the pilots, while the completed sheets from Fraunhofer only included data about the pilot activities.

The low number of received information can be explained manifold: the most prominent reason why people are not willing and able to take their time to fill in forms and to collaborate with the evaluation team is that there are no dedicated resources for this task. This is especially relevant for the dimension leaders of TNO, as their resources are limited (and fewer than those for Fraunhofer dimension leaders and implementation activities) and they want to put all their efforts and resources into the implementation of



their actions. Another reason is that it was easier for Fraunhofer to find the information about the workshops with the coordination and organisation team than with the dimension leaders – because although they were involved in the workshops, they did not do the whole organising and inviting of the participants, neither the documenting of the events. This was also communicated to the IHS team through the project leader after preparing the template. As most information about the workshops held by Fraunhofer can be found in deliverables D2.2 and D4.2, there was no additional collection of these data from the project team.

### 3.1.6. Group reflection workshop

In order to get an overview and a summary of the first phase of JERRI (from the start of the project to the end of 2017) and an actual status of the implementation and the actions that were taken in this period, a group reflection workshop was set up for the dimension leaders.

On the one hand, the idea behind the workshop was to get a more in depth view about the activities related to JERRI and to gain first-hand accounts about hindering and supporting factors. A more accomplished view should be generated through the face-to-face exchange and the collaborative reflection on certain aspects. This should complement the insights that can be gathered through reporting within the deliverables, where experiences and results about organisational barriers are also discussed (D4.1/D5.1).

On the other hand, the group reflection workshop should serve as a structured exchange between dimension leaders. Dimension leaders are in contact with each other, but the amount of exchange and the way they exchange vary greatly depending on the organisation and the dimension – or, more specifically, on the persons representing the dimension (see chapter 4.1.1.4, p.38). For dimension leaders at TNO it is easier to get in contact than for Fraunhofer representatives, as members of TNO are all located in the same place, whereas Fraunhofer dimension leaders are spread all over Germany.

Personal interactions and exchanges between dimension leaders are not foreseen in the JERRI project plan as *obligatory* parts of the project work, therefore a workshop setting was thought to be mutually fruitful for both the evaluation team and those responsible for implementation.



The workshop design can be seen in Annex IV: Workshop Agendas, p.122.

After a short introduction round, the first part of the workshop covered the following questions, which give an overview of the achievements and proof of their success:

- In your opinion, what were the three most prominent achievements within the first phase of JERRI regarding your dimension?
- How did the (pilot) activities so far influence your organisation?
- What measures can provide evidence of this success?

Participants were asked to answer the questions on their own on a prepared template, then to share their experiences in the plenum and discuss them in the group. The second part covered reflection about short-term wins and supporting factors as well as hindering factors from the start of JERRI up until the workshop, and should also include ideas about aspects that could support the implementation of JERRI in the next phase of the project. Participants were asked to discuss these aspects following guiding questions (see Annex IV: Workshop Agendas) in small groups of two and mark their results on sticky notes (different colours for barriers, enablers and future helping). The next step was to collect and cluster the results and discuss them in the group. At the end, the workshop was rounded up and an outlook on the next steps of the evaluation was given.

The workshop with the dimension leaders of TNO took place at TNO's Hague office on the 12<sup>th</sup> of December 2017 with four dimension leaders present in person and one added via Voice-over-IP (Skype) connection. It was scheduled in the early afternoon (following the action plan workshop for Science Education) and lasted for around two and a half hours. The person who attended over Skype was present for one hour, while another person had to leave after two hours, so the workshop was finalised with three dimension leaders.

After obtaining informed consent of the participants, the workshop was recorded. Privacy was guaranteed to the participants to provide a comfortable and open atmosphere, where people are willing to share their full experiences and thoughts. As the group was so exclusive and small, and in order to preserve anonymity, results were only aggregated and reported on a summative and reflective meta-level.

The first part of the workshop proceeded as planned. For the second part, the original plan (using sticky notes and clustering) was adapted and instead of using small pairs for discussion and clustering of ideas, the reflection was done in the group. The main reason for this change in the agenda was that the discussion paper on the analysis of

organisational barriers for TNO (D5.1) was finalised a few days earlier, in which the aspects of barriers and enablers were described in depth. Participants referred to the report, wanted to share their results in the plenum with the workshop organiser and to present their findings and reflections on the matter of trust – which are included in D5.1, p.52ff.

It was also planned to hold the same workshop with the dimension leaders of Fraunhofer. In coordination with the JERRI project leader, it was decided that a workshop with Fraunhofer dimension leaders could not be implemented in this way. There are several reasons for this: Fraunhofer dimension leaders are spread all over Germany, thus it would take them at least one full day to take part in a two-hour workshop. As all of them are highly involved in JERRI activities and also in other projects, time resources are very limited. Additionally, there is no dedicated budget foreseen in the description of work for such an activity. Furthermore, at the time the reflection workshop was planned (autumn 2017), it was already decided upon that there would be a meeting for all dimension leaders and the Advisory Board in spring of the following year (April 2018), which made it even less likely for Fraunhofer dimension leaders to travel and meet for an additional workshop.

### **3.1.7. Securing anonymity**

Anonymity is guaranteed, in general, to all participants in activities carried out for evaluation and monitoring, but recognition of individuals by members of FhG or TNO and/or the JERRI consortium might be possible due to several reasons: due to the small number of interviews and single data that was gathered through other channels like the reflection workshop at TNO, due to the clear division of labour in the JERRI project, due to a small number of very actively involved people (responsibilities for certain work packages, tasks, RRI dimensions and leads) and due to the small number of interviewees. However, to preserve anonymity in the best possible way, the analysis conducted operates on a more aggregated level (e.g. dealing with the workshops and pilot activities in general and not highlighting particular workshops) and the transcripts and analysis sheets are not to be made public now or in the future.

## **4 Formative evaluation of JERRI (September 2017 to September 2018 – M16 to M28)**

Between month 16 and month 28 of the JERRI project, various actions were implemented by different groups of actors: on the side of the executing organisations Fraunhofer and TNO, dimension leaders and people involved in the definition and accomplishment of pilot activities were mainly involved in this period. On the other side, the evaluation and monitoring team accompanied these activities, evaluated the outputs of the project, gave feedback and gathered additional data.

As mentioned earlier in this report, the focus of this reporting period is on the analysis of organisational barriers and the development of transformative action plans for TNO and Fraunhofer (WP4/WP5) as well as the implementation of first activities and the realisation of pilots (WP6/WP7) that were defined in the previous phase of JERRI. Further on, output assessments on the work of the case studies (WP9) and aspects of knowledge exchange within and between the two organisations (WP10) were part of the research within this period.

### **4.1 JERRI WP4-WP5: RRI action plans at Fraunhofer and TNO**

JERRI WP4 and WP5 RRI action plans at FhG/TNO aim to develop transformative action plans for each of the five key dimensions to foster the institutionalisation of RRI in the Fraunhofer Gesellschaft and at TNO. Referring to the description of work, this is done through a participatory approach involving relevant internal and external stakeholders. Before defining the action plans, organisational barriers and drivers in respect to the specific organisations are identified and discussed, based on the theoretical state-of-the-art and the concept of institutionalisation that was defined in JERRI (within WP1).

Several data, which was gathered either indirectly through inputs produced by Fraunhofer and TNO or directly via data collection on the process, outputs and outcomes of the activities, served for the evaluation of this work packages. Interviews were analysed via content analysis (see also chapter 3.1.4). There was no direct feedback about the results of the formative evaluation (meant here is mainly the feedback on deliverables) given to the dimension leaders. Communication about recommendations on deliverables and other documents only happened between the



IHS team and the project leaders, so it was up to their responsibility to hand over the feedback to the responsible people for each dimension.

Main inputs for the evaluation were the following:

- Participant observation at workshops and assessment of workshop design.
- Qualitative interviews with workshop organisers and dimension leaders.
- Survey of workshop participants.
- Group reflection workshop at TNO (December 2017).
- Written questionnaire about workshops (completed by dimension leaders).
- Reading and giving feedback on deliverables and other documents.

Data is gathered and analysed in respect to the following questions and aspects:

- Barriers and enablers of institutionalisation: How are the institutionalisation barriers defined conceptually and in which way are they empirically identified? Are there any blind spots?
- Transformative RRI action plans: How are RRI action plans defined? Are the RRI action plans sufficiently adapted to the institutional structures? Are the goals represented in the action plan?
- Stakeholder involvement: Are relevant stakeholders involved defining action plans and implementing pilot activities? Who is missing?

#### **4.1.1. RRI action plans at TNO**

##### **4.1.1.1. Identification of barriers and enablers of institutionalisation of RRI at TNO**

For the identification of barriers and enablers for the institutionalisation of RRI at TNO, a variety of qualitative methods were implemented (see D5.1, p.6). These were a mixture of interviews and meetings/workshops with change agents and key personnel, as well as observations and participation in interventions that targeted collaboration with change agents. It is not fully enlightened how the interactions were set up, because workshop agendas and interview guidelines are missing in the report, but the number of workshops and interviews are mentioned for every dimension.

In the report on the analysis of organisational barriers, reference is made to the six different strategies with which organisations can refer to RRI in the form of *narratives*

(from D1.2, p. 42ff) and the phase in which TNO is in (e.g. no resemblance to *Narrative A: Science Republic*, *D: Citizen Firm*, and *E: Moral Globalization*). The report also refers to the fact that “TNO wants to move towards *Narrative F: Research and Innovation With/for Society*, e.g., in its ambitions to ameliorate pressing societal problems, and its formulation of a new CSR Strategy (available at <https://www.tno.nl/en/about-tno/tno-and-its-social-role/corporate-social-responsibility-csr/>) (and its participation in the JERRI project)” (D5.1, p.5).

In their report, the authors characterise *institutionalisation* with elements from the concept of RRI defined in D1.2 and adapt them to their specific organisational context:

- The internalisation of specific societal values and the embedding of these values in the practices of the organisation,
- the transformation towards specific normative goals,
- the alignment, integration and interconnection of multiple governance tools, processes and structures,
- effective leadership, including, e.g., vision and support, both top-down and bottom-up and
- the creation of clarity about roles, tasks, responsibilities, processes and structures (see also D5.1, p.4).

For each dimension, the elements are linked to the barriers and enablers for the specific dimension. Afterwards, the barriers and enablers for each dimension are described, conclusions are drawn and recommendations are given. The report is finalised by a general summary about the institutionalisation of RRI at TNO. There, a reference is made to the SMART goals TNO uses to implement its activities (see also D3.2) and another topic is introduced which the authors consider as very relevant: trust as an enabler to foster institutionalisation.

The IHS team evaluated the draft concept and suggested to make clear at some point the definition of *change agents* and how these were identified. This would be necessary in order to make it easier for other organisations to understand and also to learn (repeat, generalise) the process.

For some dimensions (Ethics, Gender, Societal Engagement) only one goal was chosen: to develop the enablers and barriers. It would have been interesting to reflect in a discussion on a meta-level if the results about the enablers and barriers can also be generalised for the other goals or if they are very specific to the examples given. It was also suggested to reflect if the identified goals and chosen activities reflect the

whole purpose of RRI, e.g. gender at TNO is only focusing on gender equality, thus the whole range of gender (e.g. gender in content) is not covered.

Most of the recommendations were considered in the final version of the evaluated Deliverable D5.1.

For the *internalisation of values*, the *setting of normative goals* and *governance* commonalities between the different dimensions are drawn in regard to enablers and barriers. The issues of *trust*, *resistance* and *change agents* were also discussed in regard to all dimensions in the last chapter of the report. It would be interesting in the last phase of the project to elaborate further on these common features – and also differences – as this would strengthen the possibility not only to institutionalise single dimensions, but also to foster a cultural change in the organisation.

#### 4.1.1.2. Reflection on barriers and enablers at TNO

During the group reflection workshop held in December 2017 with the dimension leaders from TNO, there was also a discussion about barriers and enablers for change within their organisation. As the participants had just finished their report on the analysis of organisational barriers, the reflection took place against the background of these outcomes and a general discussion took place and complemented the results of the deliverable.

The following points came up regarding barriers for institutional change at TNO:

- A generic barrier is general resistance to change. If people do not perceive problems and think that everything is fine, combined with the feeling that people already have enough responsibility on their plate, they do not need more topics, more complexity and more issues to be addressed. There is a general tendency to leave things as they are.
- Due to the different levels of maturity of the dimensions, it was necessary to decide very specifically which are the best steps for each topic and to set realistic goals – also related to the money available – for each dimension separately. Open Access, for example, is on a very different level of maturity than gender and thus, very different actions need to be taken.
- Often, there is a big interest in changing things, but between the emergence of ideas and setting an action there is a long way to go: there is a big difference between really accepting change, think along with it and/or implement actions.

- Within an organisation working on the basis of Key Performance Indicators (KPI), it is necessary to relate the goals that employees should pursue in terms of responsibility (or different forms of RRI) to their desired performance. One of the participants in the reflection workshop stated: “What you reward in your KPI system, you get from your people!”
- It is necessary to decide which values and which strategic orientation an organisation wants to follow, e.g. if the organisation should focus on the commercial side and act as a consultant or if it should follow public values and embed the organisation in society.
- A barrier which is related to the topic of Societal Engagement and, for example, the involvement of societal stakeholders in the scientific process, is that scientists lack in their abilities to communicate to people other than their own community about what they are doing (Quote: “If scientists don’t know how to tell people out there what they do, they are lost.”).
- Another barrier mentioned in the group reflection within TNO was that people no longer want to fill in checklists. It was said that it depended on the management and culture and that it was an explicit choice if an organisation wanted to implement more regulations and controls or if it could create an environment where employees were willing to follow a vision without completing checklists.

The following points came up regarding enablers for institutional change at TNO:

- The restructuring of the organisation gives a big window of opportunity to new developments and cultural change. “The organisation shaped a window of opportunity that was used by the JERRI project”, said one of the participants. It gives the topics a greater visibility and thus it is easier for key actions to be put forward. Of course, this can also be seen as a barrier because it is difficult to put topics on the agenda, which are not, at first sight, vital for the re-structuring of the organisation. In general, the moment is perceived as a good one by the dimension leaders for JERRI getting in action.
- One of the participants of the reflection workshop said that in Deliverable 5.1 they came to the conclusion that if you have the budget, you can do what is needed to bring the measures related to the topic of RRI on the ground. The interview partner was sure that if you do not have a decisive budget, it only depends on your intrinsic motivation to go for goals that are related to RRI. In a

working environment where the allocation of work to specific projects is needed, it is not possible to use single hours for the creation of ideas which are only related to responsibility and not to one's own project work.

- A lot of informal work needs to be done: talking, taking part in discussions, making aware of the consequences, etc. People are only slowly aware that a change might be something for the good/the better.
- The environment is an important enabler in putting RRI topics on the agenda. This could be confirmed in the reflection workshop with TNO where the role from outside, respectively the government, is perceived as a crucial one in certain developments, e.g. regarding the topics of gender or ethics, but also for open access as this pushes also the discussion within TNO. One participant said that the more it is discussed outside and in the media, the more prominent it gets for the organisation. So a pressure from outside is also crucial in order to foster change.
- Enlarging the scientific integrity and letting the *outside world* know what scientists are doing. Thus to be more transparent and share data more openly would lead to more trust in society.
- It is necessary to listen to the people working at TNO (also to the researchers) and connect their problems with the activities that are implemented and the tools that are elaborated. Connecting and framing are perceived as success factors in motivating people to use new tools. Just to tell them that they should use them is not enough.

On the question, what could help to improve the JERRI outcomes, a few things were stated:

- Involvement of the most important stakeholders: for the case of TNO, it was perceived as important to involve the human resource department more intensively in the next phase of JERRI (the implementation of the pilot activities and elaborated tools). It is necessary to integrate them earlier in the decision making and the development of new policies (e.g. to employ more women) if their contribution is needed in the subsequent implementation.
- The finance department should also be involved in the JERRI project, as it has not been part of the project so far, but is the driver for the next phase of JERRI when it comes to the allocation of budgets for following actions – also after the JERRI project.

- The integration of the higher management is seen as crucial for success, as it can really influence and change something, but can also serve as best practice (prototype effect).
- All participants were talking about the fact that it needs creative ways to *sell* the ideas and tools they elaborate within JERRI to all kinds of stakeholders – within the organisation but also beyond. Having special communication strategies and skills are required to get people interested and also seeing the advantage of the actions and tools. One participant is bringing in the approach of provocative coaching<sup>4</sup> as an example for a different way of addressing this topic.

#### 4.1.1.3. Development of RRI action plans at TNO

To evaluate the development of the action plans, reference is made to the results of the following empirical steps:

- Reporting within the draft of deliverable D5.2.
- Participant observations and participant surveys of the workshops at TNO.
- Interviews with dimension leaders.

For the development of RRI action plans, the deliverable D5.2 comprises the results for TNO. At the moment of writing the present report, only the draft version of D5.2 could be evaluated, as the revision of D5.2 was still in the hands of TNO undergoing internal review at that time.

##### 4.1.1.3.1. Assessment of the Deliverable on the transformative action plan for TNO, D5.2

As already announced in the work description of WP5, the development of transformative action plans at TNO required quite different formats depending on the dimension and could not follow the same workshop plan as Fraunhofer (see also the chapter on RRI action plans at Fraunhofer, starting on page 39 of this report). There

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<sup>4</sup> Provocative coaching is a method that emerged from the psychotherapeutical orientation of provocative therapy and consists of the three elements humour, warmth and challenging the client (Kukkonen & Lilleberg 2016).

were different formats for discussion, using workshops, general meetings (e.g. like for the gender dimension) as well as informal and formal bilateral exchanges.

In the draft version of D5.2 – as TNO was undergoing a period of organisational change from January 2018 on – the new organisational structure was described first. The development of the JERRI roadmap was inspired by the new TNO Strategy Plan and a longer term vision “in order to show a logical embedding of JERRI actions” (draft version D5.2, p.8). The framework used to capture the RRI dimensions was defined through current activities within JERRI until the end of the project (short term), the strategic plan from 2018 to 2021 (mid-term) and the future vision (long-term) until 2025. This time frame is less ambitious than promised in the definition of the JERRI project, where a time horizon of 10 to 15 years was proposed. Due to the organisational development, this plan was changed and aligned to organisational plans and visions.

The authors discuss their goals in relation to their SMART goals, which they defined in D3.2, taking into account lessons learnt from D10.2. Where possible, reference is made to D5.1 and to the enablers and barriers already described there. Activities needed to reach the goals are outlined, as are the requisite collaborations for implementation, which are concluded with mid-term planning by the end of 2019.

The feedback of the IHS team on the draft version contained – in brief – the following points:

- In some cases, the process how the action plan was defined was clearer than in others. It was proposed to describe the process of definition of actions and deviations from the work plan more properly. Stakeholder involvement is also left open at some points (when, how, which people were involved, why exactly these people were invited, etc.).
- The presented timetables indicate that most of the work should be done in the second half of 2018 and early 2019. As this seems a very ambitious plan for the upcoming year, it is recommended by the IHS team to discuss how this will be realised and how barriers are taken into account.
- Sometimes it remains unclear how the institutionalisation will take place, thus how certain measures/outputs of the actions will become part of a specific department, activity or (standardised) behaviour within TNO. In some places it is not explicitly described whom the goals and actions should address. The evaluation team respects the fact that not all outcomes can be anticipated, but encourages the dimension leaders to elaborate this within their plans in order to

- have it available in a structured form – as personal interviews and talks show that these aspects are on the table but simply not written down.
- At some points for the actual moment it seems that some actions depend very much on one person. It would be crucial on a process level to reflect these circumstances and elaborate plans for the case if, e.g. these people leave the organisation or the department and who will take over the responsibility after the lifetime of JERRI (knowledge management). A detailed description of the distribution of future JERRI responsibilities within the organisation and the dimensions would be a solution.
  - Reference is made to some SMART goals (these were already used in the definition of goals in D3.2) which are related to an evaluation of a certain measure with 4 on a 5 point scale. The evaluation team suggested making clear which scale was used, for which purpose and who implemented it.
  - The IHS team suggested to go a little deeper in the chapter *Science Education*, as it was not much further developed compared with D3.2.

In all cases, previously defined goals and pilot activities were taken up and elaborated further on in regard to the short-term activities. The institutional and organisational environment is taken into account when formulating the goals. It becomes clear that there is a very pronounced knowledge about the strategic steps that are needed to get actions really implemented.

A lot of work and effort was put into the plans for the strategic period from 2018 to 2021. Ambitious plans are presented for the period until the end of 2019, with a quite precise specification of actions to be taken until then. For mid-term activities, which refer to the strategic plan until 2021, actions are mostly defined on a quite general level, which becomes even more vague in the description of the vision beyond 2021, e.g. awareness raising, greater visibility or cultural changes are mentioned at this point. For this mid- and long-term period, more concretely formulated activities to reach these goals are not included so far.



#### 4.1.1.3.2. Interviews with dimension leaders about the action plan workshops

For the definition of the action plans, several meetings were organised in which the dimension leaders discussed with specific people how to reach the described goals. In some cases they named it *workshop*, in some cases interactions were framed as meetings – or part of general meetings that would have taken place otherwise. According to the notes, these meetings did not follow the same methods in the meetings/workshops, like visioning or a specific definition of action plans (as at Fraunhofer), but were implemented and adapted to the respective dimension and setting.

The aims of the workshops and meetings were thus very much differing from each other. One interviewee said that the goals of the workshops/meetings were to bring together different kinds of stakeholders and to process and develop the results of the first workshop. There was a need to break up the varying aspects of the topic in different components on one side, but also to specify actions and to receive insight about possible next steps on the other side.

For one person interviewed, the main focus was to receive feedback on the formulated goals and how they should be achieved, if it was necessary to include other people in the process than in the previous meeting and to see if there were any blind spots. It was more like a self-assessment if the earlier results and formulated activities were still on the right track (participants of the meetings had also been interviewed in the first round). Also, it was necessary to see if the actions would be supported in the future by the participants.

Another interview partner said that they were specifically discussing on one of the pilot cases. In the workshop, they applied the tool already developed within JERRI to collect feedback and to discuss what would be needed in order to implement it, and to discuss possible ways to distribute the tool within the organisation.

For one workshop, the interviewed person stated explicitly that the format was set up in order to stimulate communication: the workshop was a mixture of presentations from different people, group work and plenary discussions. For the dimension of Ethics and Societal Engagement, one event for both dimensions was organised, as the tool (in the process of development and testing) should be used for both dimensions.

If meetings were organised as follow-ups for the first workshops (where goal setting did take place), the participants were in some cases the same, in some they were new: participants' survey answers show that 47% (N=19) of respondents participated in an earlier event. There were several reasons stated why the invited group differed from the first workshop: either it was a deliberate decision in order to involve people for the best progress within the dimension, in other cases also simple reasons like illness or time issues were the reasons for the participation of others.

As the follow-ups were organised by the same people as the first workshop round, the organisers knew very well on which former results they could build their discussion on and whom to invite. This very much differed for each dimension: in general, the focus was to include different views on the topic and, for example, to integrate researchers, project leaders and business.

In all of the cases, dimension leaders were very satisfied with the outcomes of their meetings and perceived them as very fruitful. They reported a good working atmosphere and new insights and food for thought could be gathered.

Except for one case (Societal Engagement), only internal stakeholders of TNO took part in the events. The main reason for the internal recruitment of stakeholders was that at the current stage of implementation it was not seen necessary to include external stakeholders. After the first workshop round – where more generic contributions were asked – for the second workshops, they needed specific inputs in the context of the organisation, on which external stakeholders would not have been sufficiently informed. Furthermore, some plans and activities were in the very first stage, so due to privacy issues it was not possible to invite people from outside. In the case where external stakeholders were involved, the perception was that they were able to give new and interesting insights into the debate about the specific topic and dimension.

One interview partner said they could build very well on former results (from the first workshop, but also on the outputs of the started pilot activities) and drive the topic further in the workshop, but it was not only JERRI that pushed the issues. There were several drivers helping to bring the topic forward: internal and environmental developments serve as a good basis for change.

All in all it can be said that earlier results and defined goals were taken up in all dimensions and elaborated further on.



#### **4.1.1.3.3. Participant observation at TNO**

As participant observation could take place only in one case and all meetings were structured in a different way, no generalisation is possible. Another hindering factor in the assessment of the workshop was that the language of the workshop was Dutch, thus due to language barriers only observations of the dynamic and the atmosphere of the setting could be done.

The specific workshop was also not organised for the definition of an action plan, but rather a general collection of external perspectives on Science Education within TNO and the role of TNO towards the topic alike. Therefore, five stakeholders within the organisation and two from outside were invited to a two-and-a-half-hour workshop at the premises nearby the TNO headquarters. Participants were informed ahead of time, including a briefing paper about Science Education (which had been handed out to stakeholders at the first workshop), a summary of the results of the first workshop on the topic and the agenda for the upcoming workshop. The atmosphere at the workshop was open and respectful. The goal of the encounter was made clear to the audience and there was enough time for discussion. The format was very open and only restricted to some guiding questions, the outputs were discussed in plenary and not directed towards specific outcomes. As the workshop method was restricted to this format, some people were more prominent in the discussion than others, but in general everybody could raise her/his voice and give input. For a more diverse discussion, the evaluation team would propose to use also different workshop methods like group work or other discussion formats than a plenary session.

#### **4.1.1.3.4. Participant survey at TNO**

At three workshops/meetings, the participants' feedback questionnaire was handed out and collected, twice through the dimension leaders, once through the evaluation team. As the number of fully completed surveys is small with 19, the results need to be read with caution and cannot be generalised to the whole group of events that have taken place.

As already mentioned, amongst the sample only one was an external stakeholder, all others were TNO employees. 42% (n=8) were women, 58% (n=11) were men. Out of the participants who answered the questionnaire, nearly half indicated that they had taken part in an earlier workshop on the specific topic (47% or 9 people responding

yes). Of these who earlier participated, two thirds (78% or 7 people) indicated that defined goals from the first workshop were taken up and elaborated further and 89% (8 people) were satisfied with how earlier results had been taken up.

84% of all participants were satisfied with the information they received beforehand about earlier activities in the project. In Table 8 it can be seen that the workshop worked out pretty well for the majority of the people; the workshop atmosphere was perceived as good (free and open) and most of the people were satisfied with the results of workshop (95%).

Only 42% (8 people) indicated that the next steps of JERRI were clear to them, for 53% this was the case to some extent.

95% of the people indicated that the purpose of the workshop was made clear to them. Looking at the open answers on the purpose of the meeting, one can see that the answers are differing between dimensions, but are mostly consistent with the actual reason for the meeting.

Table 8. RRI action plan workshops at TNO: Participants' survey, questions about workshop facilitation (row% rounded to full numbers, N=19).

Question	Yes	To some extent	No	Missing
Was the purpose of the workshop clear to you beforehand?	95%	5%	0%	0%
Did you encounter any difficulties in order to participate in the workshop?	5%	11%	84%	0%
Did you deal with the topic in your professional life before the workshop?	68%	32%	0%	0%
Do you think the relevant stakeholders were present at the workshop?	79%	21%	0%	0%
Were the tasks you had to do in the workshop clear to you?	95%	5%	0%	0%
Were the views of all participants listened to and respected?	100%	0%	0%	0%
Were you able to openly share your opinions?	100%	0%	0%	0%
Were you able to freely voice your concerns?	100%	0%	0%	0%
Did your input contribute to the achievement of the workshop goals?	84%	11%	5%	0%
Is the developed vision of relevance to your own work?	84%	16%	0%	0%
Were the activities in the workshop appropriate to achieve its purpose?	95%	5%	0%	0%
Are you satisfied with the results of the workshop?	95%	5%	0%	0%
Would you like to participate in similar workshops in the future?	90%	10%	0%	0%
Are the further steps of the JERRI project clear to you?	42%	53%	5%	0%

79% indicated that the relevant stakeholders were present. On the question if all relevant people for implementing the actions/action plans were taken into account, 42% strongly agreed, 32% agreed and 16% disagreed, two answers were missing in that case. Asking for whom was missing at the meetings, participants stated that the board of directors or directors of research (so the higher management) and other policy makers within TNO would have been helpful to be integrated, but also perspectives of younger people (for the case of Science Education).

Table 9. RRI action plan workshops at TNO: Participants' survey, questions about workshop content (row% rounded to full numbers, N=19).

Question	Strongly agree	Agree	Disagree	Strongly disagree	Don't know/answer inappropriate	No answer
I am satisfied with the definition of the concrete actions/action plans.	37%	63%	0%	0%	0%	0%
All responsibilities are allocated in a way to best implement the actions/action plans.	26%	69%	0%	0%	5%	0%
All relevant people for implementing the actions/action plans are taken into account.	42%	32%	16%	0%	10%	0%
I think the defined actions/action plans will make a contribution for change of the specific dimension within Fraunhofer.	53%	42%	5%	0%	0%	0%
I think the defined actions/action plans will lead to an overall institutional change within my organisation towards more responsibility.	16%	58%	0%	0%	21%	5%

Asking people about their assessment about several aspects (see Table 9), 26% strongly agree and 69% agree that all responsibilities are allocated in a way to best implement the actions/action plans. 53% strongly agree, 42% agree and 5% disagree that they think the defined actions/action plans will make a contribution for change of the specific dimension within TNO. Only 16% strongly agree that they think the defined actions/action plans will lead to an overall institutional change within their organisation towards more responsibility, 58% agree on this question.



#### 4.1.1.4. Stakeholder involvement at TNO

For the description of barriers and enablers, TNO identified key change agents within the organisation, which were also involved in the implementation of their activities. Change agents are perceived as crucial to the implementation of RRI activities, but it seems as if the definition and selection of change agents is more a tacit knowledge on how the organisation works and who can be identified as change agents than a decisive plan whom to involve. These decisions are underlying organisational logics and it is understandable that they can only be assessed from *within*, but it makes it more difficult to generalise and for other organisations to overtake this strategy.

For the definition of the action plans, apart from one exception, only internal stakeholders were involved. Specific people were invited who could either give important insights in the development of the tools or actions, or who were strategically important for the next phase of implementation and institutionalisation.

Despite repeated proposals from the evaluation team to make the stakeholder identification process more explicit (see D8.2, p.29, but also as feedback to the draft deliverables), these recommendations were not taken up by the TNO team. One possible explanation could be the high level of privacy concerns that the evaluation team was confronted with in the first reporting period. In some cases stakeholder selection became clearer in interviews with the dimension leaders after the workshop. There it became apparent that another reason for the impossibility of describing this process was the organisational change process TNO was undergoing in this phase of the project. The second and third top management was replaced, so it was more like an opportunity driven process than a clear identification of stakeholders. New people held new positions, so there were different drivers and questions regarding possibilities of engagement: were people allowed to participate in certain actions or make decisions, could they include them in their work and vision, did they have time, qualification and permission to decide on activities, etc.? Another aspect which came up in the interviews with the dimension leaders was the question of resources: it was perceived as difficult to recruit and motivate people to participate in a workshop of that kind, often because of time reasons. So e.g. workshop time was shortened (e.g. to have a two-hour meeting instead of a half day), even though the dimension leaders would have preferred to meet for longer.

As a result of the reflection workshop at TNO in December 2017, it turned out that certain groups of stakeholders are currently missing for a successful implementation of the JERRI activities, these are: the human resource and finance department as they

are important drivers and the high level management, which was involved at some points up until now (e.g. within the framework of the diversity steering committee) but not to the extent it would be necessary to push things forward and or to serve as prototype for other employees.

Also from the interviews it emerged that important stakeholders were missing in some cases: e.g. for Science Education, project leaders would have been important but they could not take part because of illness. Participants of the workshops were missing the higher management and a more diverse range of people (e.g. young people on the topic of Science Education).

#### **4.1.2. RRI action plans at Fraunhofer**

##### **4.1.2.1. Identification of barriers and enablers of insitutionalisation of RRI at Fraunhofer**

As a basis for the development of transformative action plans for reaching the previously defined goals, the identification of barriers and enablers to reach these goals was necessary within Fraunhofer. Therefore, the Fraunhofer-ISI and JERRI core team conducted 18 interviews with different actors from within the organisation, covering the four dimensions of Open Access, Ethics, Gender in Research Content and Societal Engagement (the dimension of Science Education integrated in the latter activities, see D4.1, p.22). Characteristics of interview partners are described in detail.

In the report, reference is made to the theoretical framework as well as to the international case studies presented in D9.1, where barriers and enablers were also elaborated. A figure on the establishment of the grand RRI narratives in Fraunhofer is given as well as a table showing a deep institutionalisation (state of the maturation process, systemic consolidation and vertical alignment) of the five RRI aspects at Fraunhofer (D4.1, p.9-10).

For each of the four dimensions, a recap of the vision and the pilots is given at the beginning of the respective chapter. This is followed by the results from the interviews, structured into barriers and enablers and finalised with conclusions. The general conclusion is based on the reflection about common patterns and challenges across all RRI dimensions in regard to the three analytical levels of understanding the deep

institutionalisation of RRI: interorganisational and environmental, intraorganisational and actor level.

The IHS team recommended in the draft version to make clear the selection process for the interviews and to describe in more detail who they are and how many were interviewed per dimension. It was suggested that the term *change agents* be defined, as it is used repeatedly in different reports and therefore requires clarification of the demarcation of stakeholders within Fraunhofer and the JERRI project. The IHS team asked also to make clear which things really hinder and which would support the implementation of the JERRI activities. Further, there was the advice to elaborate more in depth the commonalities and differences regarding the results within and between the dimensions.

In their final version, the Fraunhofer team considered most of the recommendations that were brought in by IHS.

#### **4.1.2.2. Development of RRI action plans at Fraunhofer**

To evaluate the development of the action plans, various data sources were used:

- Reporting within the draft of deliverable D4.2.
- Participant observations and participant surveys of the workshops at Fraunhofer.
- Interviews with dimension leaders.

To the date of writing this report the final version is still in the hands of Fraunhofer, feedback has been given on the draft version and results included here are based on this status of delivery.

##### **4.1.2.2.1. Assessment of the Deliverable on the transformative action plan for Fraunhofer, D4.2**

For developing the transformative RRI action plans for the four dimensions (Science Education is aligned with the Societal Engagement dimension for the JERRI project) within Fraunhofer, an RRI roadmapping process was set up. Within the report, this process is described in detail. Each workshop followed the same agenda, which was a mixture of presentation of previous findings and the actual status (including the defined



pilot activities), within the given dimension and plenary discussions. A short group work was also included in the programme. The roadmaps were based on the visions elaborated in the first workshop round. This happened for all dimensions except for gender, because the aspect of gender in content was not so much addressed in the first workshop and thus neither in the vision.

54 stakeholders took part in the workshops. For the dimension of Ethics, only representatives from within Fraunhofer took part. In the other three events external stakeholders were also present (according to the 24 people who answered the feedback questionnaire, five were from outside Fraunhofer and two participants were from TNO, the rest were internal people).

The elaborated roadmap focused on short-term measures for the upcoming year, a mid-term perspective (between the next five years up to 2025) and a long-term horizon (up to 10 years and above until 2030), which was taken from the previous phase of goal development in Deliverable 2.2. This corresponds with the proposed time horizon of 10 to 15 years in the original plan. Roadmaps were developed in relation to the three levels of organisational change (inter- and intra-organisational level and individual actor level), whereby it is shown that the intra-organisational level is the most relevant one.

Within the report, for every dimension a short recourse on the defined pilot activities is done. A general vision for every dimension is formulated and resulting from the meetings, specifications on the vision are given. Some of the specifications are very precise, some stay on a very general level of description. Followed by this, short-, mid- and long-term elements of the roadmap are explained. The report concludes with a short synthesis across RRI dimensions and key long-term action lines, again referring to the three levels of organisational change from the theoretical framework.

The IHS team gave feedback on the draft version of the deliverable and recommended to specify which results are conclusions from the JERRI team and which directly emerged from the workshop as direct statements from the participants. It was unclear if the presented items were outputs from the roadmapping workshop, the interviews and/or previous findings or the conclusion from all results. It was supposed to make it more stringent for all dimensions and also to define some terms, e.g. *yellowwindow*.

For some actions, the activities are elaborated to a high extent, in some cases the definition of actions remains quite vague (e.g. consciousness for sustainable development or budgeting for gender issues). The evaluation team questioned how the steps should be reached concretely (e.g. to set standards or to raise awareness

building on the JERRI pilots) and whether or not these were discussed in the workshops with the participants.

In the conclusions, a table was given that was summing up the overview of long-term transition roadmaps (table 3, draft D4.2, p.31) comprising the specific goals and activities for the different dimensions of RRI, the collaboration with change agents/specific units that is needed for this and the synergy between RRI dimensions. In the opinion of the evaluation team, this is the core aspect of the transformative action plan to see which people are needed in order to fulfil the pilots (and the actions above) and that there are interactions between the dimensions (and differences) which could be used in order to strengthen organisational change. The IHS team gave the advice to elaborate this further and also to embed the findings in regards to the theoretical framework. This is done in the last chapter about the *Key long-term action lines* (draft version), but with only little reference to the deliverable on the analysis of organisational barriers.

#### **4.1.2.2.2. Interviews with dimension leaders about the action plan workshops**

The interview partners confirmed that within the second workshop round, there was the goal of bridging the results from the first phase of JERRI, where the description of barriers and enablers happened and a vision had been formulated for the four dimensions. The workshops should result in the formulation of a roadmap and concrete steps in order to reach a transformation within the organisation. There was a difference between the dimensions, as these are in different stages of maturity and for some (Societal Engagement and Open Access) it was a general discussion, visioning and elaboration of already formulated goals, for some (Gender and Ethics) it focused on one specific topic that had emerged within the first workshop and the subsequent definition and selection of pilot activities.

It was also intended that the participants should learn about the pilot activities which had already started at Fraunhofer within the framework of the JERRI project. Further, the workshops should provide a space where participants could give their feedback on and impression about the actions and also give new inputs from outside on the topic in general.



For the dimension of gender it was a specific case because with this second workshop, the discussion about *Gender in Content* was new and it needed some time to clarify the subject and to get a common understanding. There, it was the goal to receive the viewpoints of external people and enlarge the perspective about the topic. One specific pilot activity, the *Ethics Screening of the internal research programmes*, was also selected for the dimension of Ethics, so that the workshop served to discuss the details for a successful implementation. They chose to focus the workshop on only one pilot because the activity is undergoing a complex process involving the headquarters so it was decided to reserve more time for the discussion on these issues and to specify which stakeholders were needed to be involved, which next steps should be planned, etc.

It was stated that the theoretical concept behind the implementation of the pilot activities was the basis for the three levels of institutionalisation on which the participants should work to assign barriers and enablers to. This was meant not to be too theoretical and it also happened that things were re-moved and newly structured, so it does not totally fit the initial structure.

The workshop preparation was carried out in close collaboration between the facilitator of the workshop (who is also the core member of JERRI at Fraunhofer) and the dimension leaders, involving concrete goal setting for the workshop, providing content (e.g. dimension leaders giving presentations about their pilots) and inviting stakeholders. The selection of stakeholders was a core part of the preparation phase as this diverged for every dimension and the facilitators did not have contacts of all relevant people to invite. The criteria for the selection of stakeholders are described more in detail in the next chapter about *Stakeholder involvement at Fraunhofer*.

Some of the participants of the second workshop did already take part in the first workshop round. In general, fewer external stakeholders were invited than for the first round of workshops. Interview partners were satisfied to a different degree about the final sample of stakeholders. Some found the composition appropriate and sufficient to reach the goals and develop the action plans, others stated that central stakeholders (e.g. from the headquarters) were missing. Reasons for this were that they were not invited from the beginning, refused to take part or were absent because of illness (the latter was named a couple of times). Altogether, interview partners were quite satisfied with the final sample.

One interviewee stated that it was challenging to get all necessary people at the same time at one table. It was a capacity problem in terms of time and financial resources:

people would need to reserve at least one full day to take part in the workshop because it was scheduled for one day and included participants who were also travelling from different parts of the country.

Interviewees were in general very satisfied with the results of the single workshops and the outputs which were developed. They described the atmosphere as very good, constructive and productive. According to some interview partners, creating an atmosphere for all people to talk openly was a great achievement. One interviewee stated that it became clear what needs to be done in the future for every single pilot activity and where it was necessary to work on further.

One interviewee said that it remains to be seen what influences the results of the workshop have had on the JERRI project. In one interview there were also restraints about how realistic the discussed actions were. Another interview person was rather reluctant about the effect of the workshop on the organisation. The person stated that the workshop would have an effect on the development of certain aspects within the dimension, but for a change within Fraunhofer external developments, modifications, such as in the legal environments, would really make a change because this puts pressure on the organisation. This was confirmed by another person as well.

It was stated that a positive effect of the workshops was that they served as networking within Fraunhofer, but also with external people.

In general, the interview partners were satisfied that the topics were discussed within a diverse range of people from within Fraunhofer (and also from without to some extent), so that more people were aware that there were activities going on about the specific topic within the organisation. There is a positive perception that central people were involved who serve as change agents and could further push the topic within Fraunhofer and thus influence wider areas of the organisation.

#### **4.1.2.2.3. Participant observation at Fraunhofer**

At two out of four workshops that were held at Fraunhofer, the IHS team conducted participatory observations: at the workshop on Open Access in Stuttgart and the one about Societal Engagement in Oberhausen. At the two workshops a total of 17 people participated, eight (three female, five males) at the Societal Engagement workshop, nine (six females, three males) at the Open Access workshop.

JERRI team members facilitated the workshops (in a pair and a trio). The agenda, which was the same for both workshops, was sent out to the participants prior to the meeting, containing a short introduction to the JERRI project, the goals of the workshop and the expectations of the participant's role. The implementation of the workshop did not totally follow the set agenda, as the facilitator adapted the plan accordingly to the discussion. These deviations from the original plan were not communicated in a totally transparent way to the audience.

In the beginning of each workshop, there was a short input about the JERRI project, followed by a presentation about the results from the discussion on barriers and enablers and the interviews that were conducted therefore. Then, the actual statuses of the pilot activities were presented for the specific dimension. The next point on the agenda was the review of the vision on the dimension, which had already been elaborated by the project team (with a time frame of 2030). After this, there was a short plenary brainstorming about the possible impacts one could see if the vision was realised. For this purpose, one of the facilitators wrote the answers of the participants on sticky notes and pinned them on a pin board.

After the lunch break, the actual roadmapping exercise followed. This was happening through a plenary discussion which seemed to be directed though the facilitator (who also took notes on flipcharts and sticky notes). The facilitator was aware of the fact that their own involvement in the topic made a possible influence on the discussion and so, communicated this in an open way. Following the fact that the facilitator has multiple roles within the project, it would be good to consider an external person to take over this task.

Despite this fact, the discussion was very open and vivid and everybody had enough time to bring in their ideas and opinions. From an external view, it might be worth using different workshop methods, like a world café or group work, in order to guide the discussions and also to give all people the opportunity to raise their voices. Even though there were no constraints to anybody to speak, plenary discussions always leave the stage open to those who raise their voices more easily, so maybe not everybody receives the same attention.

Within the feedback round, all participants were quite satisfied with the results and also external stakeholders (especially in the case of Open Access) seemed positive about the insights made available on the specific topic, additionally for their own purpose. So it was not only an asset for JERRI to have external stakeholders involved, but also the stakeholders gained by learning about the project's results and discussion.



#### 4.1.2.2.4. Participant survey at Fraunhofer

At four workshops, the participants' feedback questionnaire was handed out and collected, twice through the organisation and facilitator team from Fraunhofer, twice through the team of the IHS. As the number of fully filled out surveys received is small at 31, results need to be read with caution and cannot be generalised.

Amongst the sample 23% (n=7) were external stakeholders, two of which TNO employees, 55% were stakeholders from within Fraunhofer, 22% did not give an answer to this question. 45% (n=14) of the sample was female, 23% (n=7) male, one participant self-identified as mismatching with the male or female gender, 29% refused to give any information on gender. Of the participants who answered the questionnaire, one third (32% or 10 people) indicated that they took part in an earlier workshop on the specific topic. Of these, one third (33% or 4 people) indicated that the defined goals from the first workshop were taken up and elaborated further, half of this group thought that this was done to some extent (50% or 6 people). 58% (n=7) were satisfied how earlier results had been taken up, 17% (n=2) to some extent.

From Table 10 it can be seen that the workshop worked out pretty well for the majority of the people that the views of all participants were heard (90% agreed), they could communicate in an open way (94% agreed) and that they were able to freely voice their concerns (94% agreed). 71% of the sample was satisfied with the results of the workshop, 29% to some extent.

Only 48% of the people indicated that the purpose of the workshop was made clear to them, for 36% this was the case to some extent. Looking at the open answers to the purpose of the event, one can see that the answers mostly refer to the definition of a roadmap for the implementation of the specific topic within Fraunhofer, so that the purpose seemed to be well communicated through the workshop.

81% of the respondents answered that the activities in the workshop were appropriate to achieve its purpose. Asking people in an open answer box if they had anything to add to the methods of the workshop, a few people indicated that they were asking for more alternative methods in the elaboration of the action plans within the workshop. Giving group work or world café as examples, they asked for the setting to be more structured. These results are highlighted as they are overlapping with the participant observations.

Only 45% (14 people) indicated that the next steps of JERRI were clear to them after the workshop, other 45% to some extent had clarity about the future of JERRI.

Table 10. RRI action plan workshops at Fraunhofer: Participants' survey, questions about workshop facilitation (row% rounded to full numbers, N=31).

Question	Yes	To some extent	No	Missing
Was the purpose of the workshop clear to you beforehand?	48%	36%	6%	10%
Did you encounter any difficulties in order to participate in the workshop?	6%	13%	81%	0%
Did you deal with the topic in your professional life before the workshop?	71%	19%	10%	0%
Do you think the relevant stakeholders were present at the workshop?	23%	58%	13%	6%
Were the tasks you had to do in the workshop clear to you?	81%	16%	3%	0%
Were the views of all participants listened to and respected?	90%	10%	0%	0%
Were you able to openly share your opinions?	94%	6%	0%	0%
Were you able to freely voice your concerns?	94%	6%	0%	0%
Did your input contribute to the achievement of the workshop goals?	48%	48%	0%	4%
Is the developed vision of relevance to your own work?	52%	42%	3%	3%
Were the activities in the workshop appropriate to achieve its purpose?	81%	19%	0%	0%
Are you satisfied with the results of the workshop?	71%	29%	0%	0%
Would you like to participate in similar workshops in the future?	90%	7%	3%	0%
Are the further steps of the JERRI project clear to you?	45%	45%	7%	3%

23% of the respondents indicated that the relevant stakeholders were present, 58% said that this was the case to some extent and 13% felt that important people were missing (6% or 2 people did not give an answer to this question). On the question if all relevant people for implementing the actions/action plans were taken into account, 3% (one person) strongly agreed, 23% (7 persons) agreed and 26% (8 persons) disagreed, 48% answers were missing in that case. Asking in an open question on who was missing at the workshops, the participants stated that a broad range of stakeholders with different backgrounds were needed:

- Representatives from civil society and business.
- Representatives from the human resource department.
- A more diverse representation of Fraunhofer institutes: e.g. more technology-oriented ones who are not confronted with RRI topics in their daily work.
- Science managers and scientists from various departments: those, who should use the tools and are affected by the measures.
- The higher and middle management was stated several times.

Asking people to assess several aspects, 3% strongly agree and 26% agree that all responsibilities are allocated in a way to best implement the actions/action plans. 26% strongly agree, 35% agree and 10% disagree that the defined actions/action plans will make a contribution for change of the specific dimension within Fraunhofer. Only 10% strongly agree that the defined actions/action plans will lead to an overall institutional change within their organisation towards more responsibility, 48% agree on this question, 16% disagree. As the numbers in Table 11 show, a high number of people did not respond to these questions either because they did not give any answer at all or because they indicated that they did not know the answer to this question or because they thought the question did not suit the purpose of the workshop.

Table 11. RRI action plan workshops at Fraunhofer: Participants´ survey, questions about workshop content (row % rounded to full numbers, N=31).

Question	Strongly agree	Agree	Disagree	Strongly disagree	Don´t know/question inappropriate	No answer
I am satisfied with the definition of the concrete actions/action plans.	19%	45%	7%	0%	10%	19%
All responsibilities are allocated in a way to best implement the actions/action plans.	3%	26%	10%	0%	35%	26%
All relevant people for implementing the actions/action plans are taken into account.	3%	23%	26%	0%	22%	26%
I think the defined actions/action plans will make a contribution for change of the specific	26%	35%	10%	3%	3%	23%

topic within Fraunhofer.						
I think the defined actions/action plans will lead to an overall institutional change within my organisation towards more responsibility.	10%	48%	16%	0%	0%	26%

Having a look at the open answers about further comments and recommendations, one can see that some participants have the opinion that the roadmap was not specific enough. Some doubt in general that the defined actions will lead to a change within their organisation and some have the opinion that a definition of actions was not sufficient in order to make a change within the organisation, but it would need more than this.

#### 4.1.2.3. Stakeholder involvement at Fraunhofer

The selection of stakeholders for the workshops was done in collaboration between the facilitators of the workshops, who are part of the core JERRI team at Fraunhofer, and the dimension leaders. According to the information from the interviews, the selection of stakeholders followed certain criteria (which were to some extent overlapping for the dimensions, but also diverging because the goals were not the same for all dimensions): external experts who are known to work on the topic (e.g. from other research organisations, but also from ministries); people who already dealt with the topic before from within the organisation; people from internal networks; contact persons, who were already included in the definition and implementation of the pilot activities; stakeholders who would be important to be included for next steps and people who would be affected by the implemented pilots.

In the proposal of JERRI it was outlined to invite the same stakeholders for the first and second workshop round. As the action plan workshops had different goals than the first workshops, the requirements were also different concerning the selection of stakeholders.

It was tried in most cases to include the researchers' side (also research managers) as well as the operational side, in some cases also external organisations who could give their input but also learn from the findings of JERRI, business and policy.

According to the dimension leaders, in most of the cases central stakeholders were sufficiently involved in the definition of the action plans, only some important stakeholders were missing in their opinion.

In most of the areas it was perceived as not important to the dimension leaders and the organisers of the workshops to include more external stakeholders, because the definition and implementation of the pilot activities was inherent in the organisation, so external expertise could not increase the results substantially. Nevertheless, in three out of four workshops externals were involved. In the workshop of Open Access, two representatives of TNO were present. This was appreciated as a clear benefit for the workshop.

As can be seen from the results of the survey, participants had the impression that a more diverse range of stakeholders would be needed in order to define and implement the actions. About the involvement of the higher management, it became clear from the interviews that interviewees had the impression that these representatives were missing at some point. On the other hand, there was also the concern of one interviewee that if high level management was included in the meetings, participants of the workshops would not speak as freely as they did in the case without them. In one dimension, this was the reason to include only internal stakeholders, as the topic was confidential and if external people had been invited, the discussion would have lacked in depth and openness.

To involve a great variety of stakeholders seems also to be related to a general problem of capacities: individual motivation, temporal and financial resources play a substantial role for people having the possibility to take part in workshops or not. Selection of stakeholders thus also followed spatial criteria, because in the case of Fraunhofer not only external but also internal stakeholders in some cases need to travel all over the country to participate.

The group of researchers is perceived to be very hard to involve: On the one hand to participate in the workshops because researchers do not see their immediate benefit and also because it is a matter of resources (in project work they need their supervisors to allow them to participate in activities which are not directly related to their work). On the other hand, it is difficult to motivate researchers to implement certain aspects in their daily work, as there is no reward for e.g. publishing open access or integrating gender aspects in projects.

## 4.2 JERRI WP6-WP7: Implementation process at Fraunhofer and TNO

In the centre of work packages six and seven are activities to realise the previously defined goals (WP2/WP3) and to implement the action plans (WP4/WP5) for the duration of the project. These activities will be evaluated, and the action plans should be adapted to fine-tune for further RRI institutionalisation beyond project time.

Within both organisations of TNO and Fraunhofer, for the five key dimensions certain actions were defined and pilot cases developed. Pilot cases and actions are differing very much between the organisations and also between the dimensions. The implementation of pilot activities proceeds in very different stages, depending on the organisation and dimension in which the activities are taking place.

The main task of WP8 in this report is to get an overview of the state-of-the art of the specific actions and the barriers and enablers in their way of implementation. WP8 also evaluates if the implementation reflects the general and specific RRI goals previously defined in WP2 and WP3. Several activities within WP8 were done to gather information and data for evaluating the first phase of the implementation process:

- Interviews with dimension leaders and the project coordinator.
- Group reflection workshop at TNO (December 2017).
- Written questionnaire about pilots (completed by dimension leaders).

The assessment and analysis are a first insight that will be further elaborated and evaluated in the last period of JERRI and reported in the final summative evaluation report D8.4. There, based on all evaluation data, IHS will describe the outputs and outcomes of the activities drawing on the previous work packages of goal settings and action plans (WP2 to WP5) and the alignment with the theoretical concept of JERRI (WP1).

Not only the pilot cases are different for each organisation and each dimension – meaning that the IHS needs to be flexible in evaluating these activities – but also the access to the involved departments and affected persons. For this report, dimension leaders are interviewed in order to assess the actual status of the implementation. In the next phase, people who are involved in the implementation of the activities as well as influenced by the actions will be in the centre of research. If and to which extent this is possible partly depends on inner-organisational logics and structures as the IHS might not be able to conduct evaluation activities in the same depth for all pilot cases and has to adapt to given circumstances.

For the moment, data has been gathered and analysed in respect to the following questions and aspects and we will answer them to the extent that is possible according to the current stage of data:

- Overview of the implementation of activities.
- Selection of the pilot activities: How are the pilot cases identified and selected?
- Reuptake of previous formulated goals: Are the goals which were formulated in earlier deliverables (D2.2/D3.2) taken up and elaborated further?
- Which people and departments of the organisations are or will be addressed by the activities?
- Involvement of stakeholders: Which stakeholders were involved in formulation of the pilots and which are involved in the implementation of the pilot activities?
- Barriers in the implementation: Which barriers have been found in the process so far?
- Intermediate impacts on the organisation: Which kind of impacts have been found so far and which ones can be anticipated?
- Internal monitoring within the organisation: Do the organisations monitor their activities for their own purposes?
- Other organisational insights.

The implementation at the two organisations of Fraunhofer and TNO are currently at very different levels, depending on the dimensions, but also on the single activities. Within the interviews and the written template to be filled out by the dimension leaders, a good overview of the single pilot activities could be gained. The summary presented here mainly relies on the interviews with the dimension leaders. The whole process of implementation of the pilots will be further reported in depth in the deliverables D6.1/D6.2 and D7.1/D7.2 as well as in the last summative evaluation report (D8.4).

It has to be emphasised that the interviews took place between December 2017 and April 2018, so the report only covers activities up to spring 2018. By the time of reporting (autumn 2018), all activities are in a later stage of implementation and have been elaborated further on.



#### 4.2.1. Implementation of activities and pilot cases at TNO

At TNO, within the topic of Gender, there was a clear focus on gender in the organisational change process in terms of human resources, raising the number of females within TNO and including females in the top activities. The pilot activities were a female talent database, a female leadership programme and an implicit bias training for the management level.

Within TNO, Science Education was in a nascent stage and started with a low level of maturation when the JERRI project commenced. So, for this dimension the most relevant activities were to show science and to invite society, thus make science more attractive to the outside world and to allow people to understand the practical use of science. The case developed to demonstrate how to show science to the public was a kind of practical assignment, to measure the stiffness of grass in the football stadium through different technical solutions. For this purpose, a box was created including all instruments and materials to be applied in different contexts. Furthermore, a lot of internal negotiations were undertaken about the topic of Science Education in regard to the overall organisational change process.

Ethics at TNO worked mainly on creating a canvas on how to make research more ethical and consider different kinds of stakeholders so that it also tackles the dimension of Societal Engagement. Another pilot activity developed in the dimension of Ethics was a game, which is at the moment in a very final stage and is about to reach the first feedback round where people from the organisation will apply it through workshops. The third activity, which was to raise awareness about the new Scientific Code, was elaborated less intensively, because external, national developments were still ongoing.

Societal Engagement is less institutionalised within TNO than, for example, Ethics or Gender. The canvas which was produced was a combined effort between the dimension of Ethics and Societal Engagement because they both had the goal to create a tool. The second pilot activity was to integrate unusual stakeholders in the development of the newly set-up strategy advisory councils.

The dimension of Open Access had not yet reached the level of institutionalisation by the time the goals were formulated, thus the goal setting process started at a very basic level and two very broad goals were formulated (establishing an Open Access platform and drawing up an annual Open Access plan for 2018, see D3.2, p.31). First and necessary steps had been taken by the time of the interviews; there were a lot of

activities on a meta-level, like getting the right people on board, discussing the topic with the right people and spreading the word in different settings. The topic was broken up into three topics: Open Access, Open Data and sharing of methods and models. Concrete actions for the stronger integration of Open Access into the institution of TNO were planned for the phase after autumn 2018.

One milestone across different dimensions was the *New Netherlands Code of Conduct for Research Integrity* which was published in September 2018 (<https://www.tno.nl/en/about-tno/news/2018/9/new-netherlands-code-of-conduct-for-research-integrity/>) and where TNO was involved. It also shows what the value of science is, which is one of the Science Education dimension goals. From the email from the TNO partner, who shared the result with the JERRI consortium, one can read the following:

*“It is a pivotal piece of evidence that links to several activities of JERRI dimensions (ethics, open access and science education). It was quite hard work to get to this point and JERRI has played a defining influence in the preparation (because we were working on this topic, we were prepared, lined up and could engage constructively.”*

#### 4.2.1.1. Intermediate achievements at TNO

Within the group reflection workshop, which was performed with TNO dimension leaders, the TNO dimension leaders were asked about intermediate achievements, influences on the organisation and possible impact factors emerging from the first activities in 2017.

On the question of what were (three) of the most prominent achievements within the first phase of JERRI regarding your dimension, the dimension leaders gave the following answers<sup>5</sup>:

##### **Societal Engagement**

- *Obtaining support for our plan to include (unusual) societal stakeholders in the (newly to be formed) strategy advisory councils of TNO.*

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<sup>5</sup> The dimension leader for Open Access could not take part in the workshop, therefore only answers for Societal Engagement, Ethics, Gender and Science Education are presented.

- *Raising awareness of the need in TNO to articulate the desired outcomes/impacts of (longer, more complex) projects and to measure these.*

### **Ethics**

- *Cooperation with other dimensions/support for the JERRI approach.*
- *Acceptance of the development of a management game.*
- *Start/acceptance of a societal engagement/ethics tool.*

### **Gender:**

- *More discussion on gender diversity.*
- *Recognition that TNO should work on improving gender diversity.*
- *Board of Directors: decision on policy changes concerning recruitment/selection.*
- *Strategic plan incorporates normative goals.*

### **Science Education:**

- *Internal dialogue about ambitions and place of Science Education in TNO (first workshop).*
- *Participation in activities, e.g. open day at TNO, Jet-Net (Youth and Technology Network Netherlands).*
- *Workshop on institutionalisation with external stakeholders and interviews.*

On the question, how have the (pilot) activities so far influenced the organisation, the following answers emerged:

**Societal Engagement:** *The nine new units received recommendations (terms of reference) to include societal stakeholders in their strategy advisory councils – we will see how this works out in the first quarter of 2018.*

### **Ethics**

*Cooperation, learning from each other and from Fraunhofer; ideas about a long-term perspective: “positive wave”; personally: new inspiration.*

**Gender:** *Raising awareness about gender diversity; supporting female employees to “stand up” and strengthen themselves (e.g. female leadership programme).*

**Science Education:** *Need for institutionalisation is felt more deeply → as we are not alone! Other organisations ask similar questions → joint solutions?<sup>6</sup>*

#### 4.2.1.2. Selection of pilot cases at TNO

It can be confirmed for TNO that pilots were chosen as a way to achieve the goals that were formulated in WP3 and WP4.

Interviewees from TNO stated that in D3.2 they formulated goals for each dimension and subsequently defined goals. The pilots were chosen because they were realistic and ambitious, but not impossible to realise. It was perceived that now is the right time to change things, as the organisation changes as a whole. There was a defined need for action in some topics and this could now be done in a structured way, supported by JERRI, as one interviewee described it.

The focus for the dimension of Gender was on the topic of gender in research in relation to human resource planning, and not on gender in research content (this is more the case at Fraunhofer). Given the scarcity of women at the top, they focused on raising the number of women at the higher levels currently (from senior to principle level), but the measurements could continue to serve juniors in the future as TNO also wants to empower women at this level of the organisation. Selected pilot activities were chosen within the first workshop round and enablers and barriers were discussed during meetings and interviews with stakeholders. The begun pilots had been taken up in the second round of workshops and meetings, where already started activities were also discussed against the background of the formulated goals. Meetings and workshops served as a kind of confirmation that they were on the right track, not only on the topic of Gender, but also on Science Education, and a way to receive new insights and perspectives.

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<sup>6</sup> Note: The workshop took place directly after the second workshop on Science Education with internal and external stakeholders, so the statement is most likely influenced by the timing and setting.

The pilot cases in Ethics were selected because of pre discussed ideas on how to involve ethical problems in the daily routines of managers and scientists before JERRI (e.g. there were plans for the game, but not enough resources to implement it). The reason why to include development of the code was that the responsible people knew that there would be a new code within the Netherlands and so they put it into JERRI.

The selection of pilots for Societal Engagement arose from the first workshop, where different goals and ideas for reaching these goals were developed. Then, TNO dimension responsible people made the decision and gave the participants the chance to provide feedback on the results after the workshop (like a debriefing).

#### **4.2.1.3. Reuptake of previous goals at TNO**

In general, it needs to be mentioned that within TNO, for the dimensions of Gender, Science Education, Societal Engagement and Ethics, SMART goals were elaborated for nearly each formulated goal from the first workshop round (see D3.2). SMART goals are goals that are formulated according to the acronym SMART: Specific, Measurable, Achievable, Realistic, Time-bound and include very concrete steps on how to reach a goal.

For Gender at TNO, at the goal setting workshop it seemed that the priority was at the institutional part of gender equality, so no SMART goals were formulated for the third area of strengthening the gender dimension in research programmes in this earlier phase (see D3.2, p.14)<sup>7</sup>. According to the interviewee, for the dimension of Gender, all SMART goals could be taken up and followed until now.

The topic of Science Education needs to be considered in a different way, as there were hardly any activities before JERRI on this topic, so it started from scratch. For the moment the formulated goals could be taken up, they were discussed with the most important people and taken into account in the restructuring of the organisation. Now that the structure is more organised, the topic can be brought forward more concretely and as it is made clear in the interview, that the JERRI team members are having high ambitions how the topic can be pushed through to the next phase.

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<sup>7</sup> The other two areas were: removing barriers to the recruitment, retention and career progression of female researchers and addressing gender imbalances in decision making processes.

The Ethics game and the canvas are still on track and following the plans from D3.2. They now call it differently because they wanted to make it more appealing for the target group. For the game there were some difficulties in the development phase, but the dimension responsible persons are satisfied overall with the intermediate results. The third activity on scientific integrity was postponed because there were actual national developments on a new scientific integrity code. So TNO was adapting its JERRI activities to this new code, and as such the pilot should be elaborated in the next phase.

About the pilots on Societal Engagement, the interviewee was sure to be in line with the formulated goals and activities.

With regard to the goals defined in D3.2, an internal Open Access platform has not yet been set up, but the restructuring of the organisation has influenced the process both in a positive and negative way. The initial steps for taking up the topic of Open Access were challenging. Interview partners perceive themselves on a good track to give the topic a wider support within the organisation. Concretely, what should happen needs to be further evaluated in the next phase.

#### **4.2.1.4. People addressed by the activities at TNO**

Total TNO women to be trained with the female leadership training will be around 125 by the end of the year. For the female talent database it was planned to integrate one unit into the implementation and testing of the database. The implicit bias training should be targeted at the management level of the organisation.

For Science Education, at the moment it is more on a management level to get the most important people on the boat and to convince them that the topic is important and needs to be integrated. This seems to be achieved at the moment and now the next step is to get things on the ground and moving.

It was questioned by the interviewees if the canvas should already be promoted more, e.g. through the internal platform of the organisation. But it became clear that only developing and promoting a tool would not make people use it. It would need a culture which sees these kinds of tools as good and necessary to use and implement. There will be workshops on the code which should be followed by all scientists (so 2,000

people), but as they will be voluntary, not everybody will follow. In the end, the online tool should reach at least 400 people, which was the formulated goal for this pilot.

For the canvas there should be three main groups using it: the business developers, people working on IP&C (Intellectual property and contracting) and the project leaders. The successful implementation of the canvas would, according to one interview partner, depend on those people taking the initiative and using the canvas, so it spreads into the organisation.

The Ethics game should be applied primarily by all managers and should be introduced to them in workshops in the next stage. Finally, it should be made available to all TNO employees to make also visible for them the dilemmas that managers sometimes face (in terms of ethics and integrity).

#### **4.2.1.5. Involvement of stakeholders at TNO**

Within TNO for Gender, for the female leadership programme and the female talent database, there is no need to include further people at this stage, for the implicit bias training it is perceived as essential to involve the higher management and human resources department more in the next phase.

The dimension leaders stated that JERRI activities were focusing on internal stakeholders in the last phase. They were organising events that involved external stakeholders, who then integrated the opinion of externals into the internal discussions, but the opinion of externals is not part of the internal discussions at the moment. The diversity steering committee was perceived as an essential discussion partner in this phase of the project, which also took up the JERRI activities.

For Science Education, mainly the dimension leader and two people from the marketing and communication department were involved in the pilot activities in the first implementation stage. For the developed tool (the case with the box, see above) within Science Education, five to six people from different fields of expertise from TNO were instructed how to use the tool and thus they were also able to implement it. To talk about Science Education and foster it, the dimension leader above this is in regular contact with four main contact points, who are on different levels within the organisation.

For the development of the canvas, selected people who should later use it in their work were invited to meetings to test the tool for its usefulness. It was perceived as necessary to define and share goals to be reached together with those people who should finally use it, who were also critical thinkers and frontrunners in the organisation. It was important to have them integrated in the first stage of development. The management should be confronted with the tool in a later stage of advancement.

During the phases of development of the game, the right people were integrated according to the interviewees. They also already had a clear plan about who should be integrated in the next phase, so they could test the game with different stakeholders (e.g. trainees and managers) in order to receive feedback, improve the game and also disseminate it. Also, the human resource department should be involved, but it was not clear when this was possible.

For the involvement of unusual stakeholders for the strategy advisory council, most of the important stakeholders are involved, but it would need support from the top management in order to get things really into the organisation. For the canvas, according to the interview, it will be the most important success factor to involve the right people in the next phase (and also the most difficult thing). There were different paths, so that the canvas was disseminated and really used in the future, and it was now up to the dimension leaders which one to take. The interviewee also continued to receive insights from different stakeholders from within the organisation about whom to invite to participate later on.

Within the dimension of Open Access, the topic was discussed in meetings and workshops with different stakeholders from within the organisation, also from higher management levels (like the managing director for science and the market director). It was the intention of the dimension leaders for the two workshops that the management should address the arguments of the scientists (which are more in favour of the topic of Open Access than the management is). One difficulty was to organise these meetings where the most prominent stakeholders could come together at one table, but this was successfully managed. Who should be included in the implementation phase will evolve further on.

What helped a lot for the development of Open Access was that the dimension leaders were in contact with the responsible people from Fraunhofer and took part in the workshops in order to learn about their approach to the topic, to compare it with their own organisation and to see it from a broader perspective.

#### 4.2.1.6. Barriers in the implementation at TNO

For the dimension of Gender at TNO, there are no big resistances at the moment because TNO really wants to change something in regard to raising awareness and increasing the number of females within the organisation. The organisational change process is seen as the challenging part, as this needs a lot of effort and long-lasting actions.

About the topic of Science Education and the idea that people need to show science in different ways and more actively, the biggest challenge is to make this more in practice. The dimension leader says that, as TNO is a text-based organisation, it is demanding to show the scientists the asset of doing Science Education and to educate them how they can do it. Some of the researchers see it as an asset, but sometimes they see it as something unfamiliar and they are not trained in conveying the content of their research to a larger audience. Another hindering factor is that TNO mainly does contract based research. Clients are not prepared for this kind of action, as it is not part of a typical project. In general it is not planned to involve the scientists in the implementation. Thus, role models and people who are prepared for certain target groups are necessary, for example to address the different needs of young people compared to old people.

In relation to Ethics one interviewee said that there were so many other topics at TNO fighting for attention, especially in this phase of organisational change, so it was sometimes difficult to get their own topic on the ground and to a level of high priority. The development of the game turned out as not so easy because the technical structure of the game made it unfeasible to implement all the intended aspects, e.g. to connect different dilemmas to each other.

For the integration of unusual stakeholders in the strategic advisory councils, it turned out that people who were responsible for selecting stakeholders were struggling to do so. To support the colleagues of the strategy department, a workshop was set up in order to bring examples from other organisations and also people who could possibly be included in these councils. The responsible people working on the canvas are now very careful on planning the next steps in order to integrate the ready tool in the organisation. All interviewees who talked about the canvas were sure that it would need a highly elaborated strategy because only presenting the tool does not mean that people use it.

The dimension of Open Access had a challenging start. The management was not so easy to convince about the importance of the topic, but at the moment of the interview, the interview partners said that they were very satisfied that they brought together the main opponents in one meeting where solutions could be found. This was a confirmation for them that from now on they were able to make progress quite fast.

#### 4.2.1.7. Intermediate impacts on the organisation of TNO

Asking the dimension leaders about which measures could provide evidence for the success, they indicated the following in the written part within the group reflection workshop (status December 2017):

- Societal Engagement: *number and quality of societal stakeholders (NGOs, civil society organisations) in the new strategy advisory councils.*
- Ethics: *acceptance/success of different tools, e.g. acceptance of new year plans including integrity/ethics, workshops on management game, attendance and evaluation of the game.*
- Gender: *including the topic in the Yammer<sup>8</sup> group; satisfaction of participants in the female leadership programme.*
- Science Education: *not visible yet, only talking points within conversations with Chief Operating Officer.*

Interviews were done later, in spring 2018, and they showed that the activities had been elaborated further and that the dimension leaders could already report on more impacts.

For Gender, from this spring on, as it went really well and the employees appreciated it, the female leadership training was part of the standard training package of TNO. As TNO is taking it up for the normal training and also will provide resources, it is a confirmation for the dimension leader that it creates impact and also goes beyond JERRI.

Another evidence for change for the dimension is that now there is a lot more discussion and engagement on the topic within the organisation. This happened within the last years and was part of the achievement of JERRI, but also due to developments

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<sup>8</sup> Internal communication portal of TNO.

in general – outside and inside TNO – towards more sensitiveness on the topic of gender and diversity. This development is reflected by the topic being featured on the intranet and on the website of TNO, the involvement of different units in the pilots, and the recognition that diversity and gender is relevant and important for the organisation.

The long-time challenge is perceived as whether all these activities on diversity and gender create impact, so having the confirmation that these efforts are really changing something. The impact would not be visible within the next year, but after two to three years one should see the fruits of the labour. Just changing figures and numbers would not be enough for a dimension leader. The interviewee said: “Just for the sake of figures I would not be happy”, the culture needs to change, which at the moment seems to be happening for the respective dimension. In the future, cultural change should be more institutionalised, but this would also require more resources such as people, time and money. The interviewee’s vision for the future was that there would be one person who, together with the committee, commits to the goals. This person could serve as something like a diversity officer. Above this, more people are needed who are pushing the topic forward and spreading it into the organisation.

For Science Education, the dimension leaders stated that they use the case where they developed the box as a starting point to receive and develop ideas about appropriateness and usefulness. In general, there are two types of impacts on the topic: awareness raising and the implementation of activities. The first one has been reached through the new CRS (Corporate Social Responsibility) strategy, where the topic was integrated. Secondly, the goal was to make things more repeatable, more efficient and more reusable. It was important for the interviewee to create momentum and sustainability for the dimensions, so JERRI’S efforts and activities should evident even beyond the presence of individuals actively pushing things forward. The legacy would have to be the way they communicate and how they engage in the different topics. This would encourage people to be aware and more inclusive – this would make the change.

In relation to the dimension of Ethics at TNO, several measures would ensure an impact on the organisation: first, within the questionnaire on employee satisfaction (which is done every one to two years) questions on integrity are included. These could be evaluated and compared with earlier results. Further, if more questions from employees were raised about the new code and they wanted to know how to use it in practice, this would show that people are aware of it. Following the interview, another confirmation of creating impact was that there was more discussion in general about

the topic and that through the involvement of the integrity officer and CSR officer there was growing awareness.

For Societal Engagement, one indicator for the impact of JERRI will be that unusual stakeholders will be integrated in the strategic advisory councils. The original plan was, that within every strategic advisory council (there are nine within TNO, one for each of the units) one unusual stakeholder should be included. At the moment of the interview it was not clear how many would be finally institutionalised, but every head would be a success, according to the dimension leader.

For the canvas, success would be proved if it was owned by a certain group who was enthusiastic about it and would use it when applicable.

The change in the directors' perspective on Open Access from a quite sceptical to a more open point of view was a big step for the dimension leaders in this first phase of bringing the topic to the agenda of TNO. The interview partners for Open Access said that they found a way of measuring Open Access publications in the last years and would continue to do so. The results would show whether growth in numbers will continue and would be accelerated. Looking at best practice examples was also perceived by the interviewees as a way to evaluate and monitor. Having a look at how specific projects would deal with the topic may give insights about how to embed it in the organisation.

Another statement made by the interview partners was that they would not make a distinction between short and long-term impacts, but between hard and soft impacts, which they also discussed in their deliverable D5.2.

#### **4.2.1.8. Internal monitoring within the organisation at TNO**

For TNO, the project leader says that all dimension leaders should capture what they do and how they do it, so to make it available in WP7. It is up to the dimension leaders themselves to capture the development. The interviewee says that the other dimension leaders have a lot of freedom in defining ways to achieve and reach their goals. The documentation should also happen using the STAR method, which they already used in earlier reports and will use in WP7.

For Science Education, the interviewee so far captures some things: the open days, the experience with people occupying themselves with Science Education, etc., so keeping kind of a diary, things that had been done, results, lessons learned, etc.

For Gender at TNO, each quarter there is a look on the diversity figures (women and internationals in different contexts): on principles, second, first and third levels. They also capture the number of research potentials and the overall number of women and people with international background. Additionally to this, there is a yearly report to the top management about the figures which are compared to the international talent competitiveness index.

The dimension leaders of Ethics must report to the Integrity Advisory Board about their progress. The interviewees want to test the canvas with certain groups of people to monitor the usefulness and to receive feedback and recommendations about the tools. This should be done by principle and senior scientists. For the development of the game, they also had very concrete plans for whom to involve for further development. There are no concrete monitoring plans in terms of counting numbers about the pilots in the future. But the interview partners state that TNO in general monitors its activities, therefore the first implementation phase needs to be finalised.

For Open Access, it was hard to say at this stage of implementation which activities could be monitored. Since the departments needed a good publication policy, this was a motivation for the interview partners to be responsible for this issue in the first place. According to the interview, the management of TNO was planning to elaborate its own kind of monitoring and evaluation, as the management wanted to know the effects of open publishing from a business perspective and how it would affect business models.

One interview partner stated that the internal review of the JERRI activities worked in the form of reflection individually and with the other dimension leaders, but there was no structured reviewing within the organisation of certain activities.

#### **4.2.1.9. Other Organisational insights at TNO**

TNO was undergoing a big organisational change in the first months of 2018. The whole organisational structure changed; people changed as well as positions, tasks and responsibilities. In terms of administration, TNO is holding a new CSR strategy plan involving a new CSR manager in place and a new CSR steering group has been

set up. The new strategic plan involves two topics: the Sustainable Development Goals (SDG) on the one hand, and TNO becoming a responsible research and innovation organisation on the other hand.

This was the ideal opportunity to bring the ideas of RRI and JERRI into the new plans and put them into the new structure of the organisation. Additionally it helped to legitimize RRI and to name it as such in documents, which would facilitate to push things forward.

The whole restructuring took a lot of time and effort, so some of the activities related to JERRI could be implemented straight forward (e.g. for Gender), others were not as concrete in the moment, but very much related to a lot of strategic developments and would profit in the future (e.g. for Science Education, to discuss how science is done and how to show the value of science done at TNO).

According to the interviewees, changing organisations takes time. They are trying to make the best out of these changes, and now it was time for execution (people having in mind that they want to do it and that they are going to do it). However, they need the ability, funding and motivation (to understand why we need to do it) to implement activities.

It became clear from the interviews within TNO that the JERRI project leader was very much directing the dimension leaders to focus on the viability of JERRI. For example, priorities were to ensure that the actions would outlast the project time and to see what will be needed when JERRI was over or, for example, when individuals (dimension leaders, change agents) were gone.



#### 4.2.2. Implementation of activities and pilot cases at Fraunhofer<sup>9</sup>

As can be seen from the interview and the written questionnaire on the dimensions, the actual status of the pilots for Societal Engagement is diverging: the *Citizens Bureau*, *Fraunhofer Debatte* and *Umsicht Dash Button* are on track, it is planned to start activities (e.g. events) from March to June 2018 and to finalise them by the end of 2018. They started with the *Stakeholder Avatar* and have a concept in their hands, but the pilot was cancelled due to financial and personal reasons. It turned out that the programming of the avatar would need more time and attention from an individual dedicated to this task, but the JERRI budget is not sufficient for this. In general, through JERRI, the topic of Societal Engagement was considered more widely in relation to how it could be integrated into an entire institute.

For Gender, three pilots were formulated in D2.2: *Gender Diversity Toolbox*, *Role models* at Fraunhofer and *Gender in research content consciousness*. The toolbox, which was launched online in October 2018 in a totally newly elaborated and updated version<sup>10</sup>, existed in a smaller version before JERRI. It was only possible with the project to rework it, translate parts in English and also to make it available to the public (before it was only open to Fraunhofer employees). The other two pilots are in their conception and planning stages. For the role models, interviews were conducted and for gender in research content, desk research was finalised, information was integrated into the toolbox and a workshop on the topic was conducted.

The dimension of Ethics worked on three pilot activities: an ethical screening in internal research programmes, an ethics module in the research management qualification programme and setting up a discussion format in this field. So far in 2017, ethical screening guidelines were developed which should be tested in practice for the first time in 2018. The ethics module is conceptualised and prepared and should be first implemented in 2018 (at the time of the interview, it was planned to have a meeting where the module should be integrated in July 2018). The discussion formats were not

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<sup>9</sup> The dimension of Science Education is not elaborated separately within Fraunhofer as this topic is very well developed and institutionalised in the organisation and activities are aligned with the ones from Societal Engagement. The most responsible person for the topic of Science Education at Fraunhofer also was not interviewed, as the person did not see any learning for JERRI.

<sup>10</sup> The gender diversity toolbox is available here in German: <https://www.gender-diversity-toolbox.de/> and English: [http://www.gender-diversity-toolbox.de/?page\\_id=7763](http://www.gender-diversity-toolbox.de/?page_id=7763).

highly elaborated at the time of the interview, but there were plans on how to further develop them in the future and which steps to take if JERRI resources were sufficient.

For Open Access, four pilots were described in D2.2: Setting up and testing the open data infrastructure FORDATIS, Business model development and IP clarification support, Including open paragraphs in research contracts and communication of the marketing strategy for Open Access, Identifying and interviewing role models of scientists / Identifying best practices roadshow.

The first steps for initialising the data management system were successfully conducted and supported by higher levels of the management. The communication concept is finished and being distributed within Fraunhofer. About the business model, the dimension responsible person is in collaboration with the sections on Intellectual Property and Commercialising and the Corporate Legal Governance to develop a handout in order to give scientists an idea on how they could utilise their results (e.g. thinking about business models from project planning and not only afterwards). This should help the scientists to be able to make a decision on whether to open up or protect their results/data and in which way it can be exploited in a hybrid way through opening it partly. Furthermore, a workshop had been scheduled in June 2018 on developing possible business models for research data.

When working with the legal department about the inclusion of an open paragraph in research contracts, it became clear that the original plan could not be followed. It was not possible to change the contracts, because it would complicate the contracting process. As an alternative it was planned to develop an addendum in order to raise awareness on open access in regard to publication and data.

#### **4.2.2.1. Selection of pilot cases at Fraunhofer**

It can be confirmed by Fraunhofer that pilots were chosen as the way to achieve the goals that were formulated in WP3 and WP4.

According to the interview, in order to select the pilots for Societal Engagement, different questions were asked, such as what would be necessary and what would be useful to integrate the topic into the organisation. Within the first workshop there were four suggestions which then were selected to be pursued. Some ideas for these pilots already existed before, but never had enough budgeting to be elaborated. The

interviewee emphasised that a cultural change needs to go through the heads of a lot of people and only if they also implement certain things, the higher levels (of management) would follow. Therefore, the pilots should be aligned to the everyday life of scientists.

In selection of pilot activities for Gender, feasibility and usability were the most prominent factors. Two of the pilot cases emerged from the first workshop (gender in research content and role models).

The idea for the ethical screening was floated around before JERRI, but there were not enough resources to systematically follow the development. The other two pilot activities in regard to Ethics were identified in the first workshop. There were a couple of ideas emerging within the workshop, of which three of them were selected by the dimension team based on their feasibility and reasonability.

For the dimension of Open Access, pilot activities were formulated and selected within the first workshop (goal setting workshop). There, synergy effects were searched for in terms of: where synergy effects could be built with already existing activities on the topic of Open Access within Fraunhofer, what was needed, what was necessary to go further, what was reasonable to do and which activities would have the greatest potential enhancement of the topic and change within the organisation.

#### **4.2.2.2. Reuptake of previous goals at Fraunhofer**

The pilots of Societal Engagement are in their conceptual and planning phase and starting to implement the first activities in March to June 2018. So far, goals could be reached and are in adherence of the time frame.

Concerning Gender, two of the planned pilots, original goals and plans could be totally followed (toolbox and role models), however for the pilot on Gender in content, things turned out to be more difficult than expected (see also some paragraphs below about barriers for implementation).

The interviewees assessed the development and implementation of the Ethics pilots as very in line with what was proposed in the project proposal and the deliverables. Earlier formulated goals are suitable and applicable for the dimension.

For Open Access, the pilot on the development of an *open paragraph* in research contracts could not be followed as planned (see description in the latter chapter on the overview of the implementation activities). For all other pilots there were no deviations from the original plan except of timing. Goals and action plans are still perceived as applicable, doable, realisable and useful.

#### 4.2.2.3. People addressed by the activities at Fraunhofer

Regarding the topic of Societal Engagement, certain people are involved in the pilot activities at the moment (e.g. the sustainability management and the institute management are open to the topic). It would be ideal to involve the whole institute for specific activities and, in the end, to get all employees from the research areas to integrate these activities into their daily routines and projects.

In principle, all employees are able to access the gender diversity toolbox. Before JERRI, it could only be accessed if registered. The toolbox should be spread over mailing lists from the Equal Rights Officers (of whom one is integrated in each institute) and the human resource executives. Those two groups (and their representatives) are also the ones who should use the toolbox in the first stage. In general, all employees working on and people interested in the topic are the target groups (estimate: 25,000).

The toolbox should also be spread outside Fraunhofer, which – by the interviewee – is perceived as doable within Germany. Within Europe it is still open how to disseminate the tool. One way would definitely be through JERRI partners and JERRI events. For example, it was planned to attend a conference together with the Gender dimension leader of TNO in autumn 2018.

*Gender in research content*, in a long-term vision, would affect all academic staff, which is 2/3 of all Fraunhofer employees. The brochure on role models will also be made available for all Fraunhofer Institutes, particularly for new staff. There are several ideas from the dimension leaders on how to spread the information about the tools in the organisation.

The pilot activities from the Ethics dimension primarily address people in research positions. It was not mainly the goal to change the working atmosphere or the leadership style, so management and administration are not the main target groups, although managers from the fields of research, funding and staff qualification as well as

committee members (internal funding programme committee) are involved in the activities to different extents. In general, one interviewee said that it was the goal to change the perception and working practices of the researchers, so the researchers of the whole organisation should finally be targeted.

From the written update about pilot activities which was filled out by the dimension leaders it can be extracted: “The *Ethics Screening* activity reaches a total of about 100 people. This includes the programme managers, project managers, project team, applicants and the evaluation committee. If it were to be continued after JERRI, it would reach new people every year (project leader, project team, applicant), and would become a matter of course for other people (expert committee, programme manager). The pilot activity *Qualification Format* potentially could reach about 60 people every year, but not everyone in this group attended the workshop in 2018. In fact, there were about 25 participants in the workshops during the year in question. This group of specially trained executives (‘Forschungsmanager’) are distributed across all institutes and are also intended to be role models. When used in various other qualification programmes, more than 1,000 employees can be reached each year, which depends on the willingness to try this format.” (Quote extracted from the written update by the dimension leaders on pilot activities).

Regarding Open Access, at the time of the interview, the communication concept was spread. Due to the interview partner, the difficulty was that an comprehensive e-mail distribution service did not exist, so it was difficult to reach people (to get employees and, especially scientists, aware of the topic). The headquarters and Fraunhofer DIGITAL (a project currently running) know the technological repository and it’s relation to the activities so people involved in the project also know about the tool. More and more scientists get to know about it, e.g. they learn about the data management repository at science data management trainings (which are voluntary). For the other pilots it was difficult to say. The final goal of one of the dimension leaders would be to reach at least 50% of Fraunhofer scientists and as many multipliers as possible. This could be a number of 10,000-15,000.

#### **4.2.2.4. Involvement of stakeholders at Fraunhofer**

Following the interview for Societal Engagement, all relevant internal stakeholders were involved. For the formulation of the actions, within workshop one and two, all necessary stakeholders were invited and present. The Fraunhofer headquarters was

informed about the activities, but has not been involved so far. For them, at the moment JERRI is a research project, thus they do not feel much pressure for action from it. For summer, a strategic workshop was planned where a stakeholder from the ministry should also be invited. The interviewee said that if outside pressure increased to take on the topic of Societal Engagement more, then it would also be easier to change things within the organisation.

Pilot activities on Gender usually involve key stakeholders. The interviewee said that there was the wish to have more interest and engagement on the topic from some sides, e.g. from the higher management. It was unclear if the people did not have resources for occupying themselves with the topic of gender or if the responsible people were hindered for another reason. On a personal level, there is a good relationship between those responsible for the dimensions and those responsible for gender issues at the central office. In the opinion of another person involved in the dimension of Gender, the reason for this lack of interest from high management lies more in the fact that other topics are regarded as priorities.

The network of Equal Rights Officers (from which one is closely involved in JERRI activities) is perceived as a very important pool of stakeholders to promote the topic as well as a pool of diversity consultants. For example, many of the officers were involved in the elaboration of the toolbox as they provided practice examples and were updated about the general JERRI activities periodically.

For the dimension of Ethics, there was a selection process by the JERRI ethics project team in whom to invite for the workshops and for the definition of the pilots. It was a reasonable process that the activities were only discussed with internal stakeholders in a small group, as the topic is very sensible. At the workshops there were people from higher management and stakeholders who have a sound knowledge about the organisation of Fraunhofer and what is and is not feasible. In the implementation so far, all relevant stakeholders have been involved: the Board was informed, institutes (researchers, project managers, etc.) and central staff (programme managers, internal communication, science management, personnel managers etc.) were integrated in the planning. One of the responsible people from the JERRI team was very well interconnected to other parts of Fraunhofer and the headquarters. This was also perceived as helpful in bringing the topic into the organisation. One interviewee stated that it would be necessary for the next phase to involve higher management and the headquarter to a larger extent.

For the ethical screening, in the first phase project leaders were those to use the guidelines, so they also should multiply them and the ideas behind. In the qualification programme, research managers and alumni are taking part and should serve as multipliers (in future leadership positions) in order to disseminate the topic of ethics.

Within the first workshop on Open Access, the formulation of the pilot activities and also in the first implementation phase, the interview partners said that the necessary stakeholders took part and were involved. There were representatives from different departments of the organisation, which formed very interdisciplinary teams for some pilots (e.g. for the pilot on the *Including open paragraphs in research contracts*). There were people from the central office (*Zentrale*), the central service office (*Zentrale Dienste*) and also *normal* scientists, protective rights commissioners, lawyers, people from management and administration and stakeholders from departments dealing with intellectual property and commercialisation as well as senior corporate governance. “Due to the requirements for implementation of the pilot on *Business model development and IP clarification support* it was useful to bring together the experts of Fraunhofer in terms of Open Access (publications and research data) as well as IP and business model development together with scientists” (quoted from the written update about pilot activities).

In the next phase of implementation also other kinds of stakeholders will be needed: support for the technical implementation, representatives of the legal department and finally scientists who are willing to test the developed tools. Maybe at a later stage, after collecting experience with implementation, it would also need extra endorsement from the higher management, but at the current stage interview partners were quite satisfied.

#### 4.2.2.5. Barriers in the implementation at Fraunhofer

At the moment, within Societal Engagement, there are few applications for the citizens’ bureau. There are barriers which are not totally solved so far, e.g. to let visitors without permission enter the premises of Fraunhofer. These are more administrative hurdles because somebody needs to take the responsibility if something happens. But the interviewee is sure that it will work out, as “it’s not possible” would not be accepted.

For the stakeholder avatar, plans were too ambitious as technical barriers emerged and there were not enough resources to finally carry out the plans until the end.

Regarding Gender, the toolbox and the role model pilots were confronted only with minor barriers, e.g. temporal obstacles or technological difficulties. For Gender in research content, the picture is described a bit different. Even though the topic was highly elaborated some years ago (Fraunhofer played a pioneering role then), it diminished nearly entirely again and is almost at its beginning now. It seems a highly relevant topic, but it remains unclear at the moment who is responsible for the topic within the organisation and who could further it. According to one interviewee, this could only happen top-down. The team of JERRI could only elaborate it more in depth and lay the foundation.

Barriers in the development of the pilots on Ethics could be mainly found in the fact that there are very differing opinions from colleagues if the topic is perceived as relevant or not. Some see it as a very pertinent question how to make research ethically correct, others see it as a cut in their freedom of research. In general, there were no big resistances for the pilots, according to the written questionnaire (filled in by dimension leaders in the Excel sheet) on the dimension, it was sometimes hard to forward the pilot activities as there were various organisational changes (restructuring, new contacts, new managers) in the project period.

It was perceived as necessary by one interviewee to prescribe preliminary ethical standards for all Fraunhofer institutes (partly already existing, see conductive code of Fraunhofer) and at a second step to further outline, elaborate and translate these ethical standards for each single Fraunhofer institute and each research topic. Research topics were so different; therefore individual standards would be helpful.

For the pilots of Open Access, barriers in the development of the pilots differ greatly. For the data management infrastructure it became obvious that the technological implementation needed more resources, more skills and time, also the technological capacities were not sufficient within Fraunhofer. Therefore, it became necessary to tender this externally. Finally the team chose an open source software called DSpace where the system was set up and installed.

In regards to the inclusion of the paragraph in research contracts, a meeting with colleagues from Fraunhofer-R&D contract department “ended with the problem that these contracts include only certain paragraphs which are important to clear the collaboration. It became clear that it was not possible to include a paragraph on Open Access in the standard contracts” (quoted from the written update about pilot activities). So, it was planned to write an addendum to the standard text, which should raise the awareness of the researcher in accounting for questions about open or closed data and

publications. For the interview partner, it was not seen as a backlash that the pilot could not be followed as originally planned, because there are synergies between all pilot activities and all together it still serves the purpose of promoting the topic of Open Access.

#### **4.2.2.6. Intermediate impacts on the organisation of Fraunhofer**

Societal Engagement: so far there cannot be a lot said about intermediate impacts on the organisation, as the pilots will go into their implementation phase only from March on. There were meetings within the institute, infrastructure planning, and contacts with city government, which also can be seen as intermediate results on pushing the topic forward and bringing it on the agenda of Fraunhofer.

So far, short-term impacts on the organisation in regard to Gender cannot be assessed, as the activities are in their first stages of planning and conceptualisation and only will be implemented in the future.

On a long-term level it is expected that there will be an increase in measure for an improvement of equal opportunities in non-university research organisations, more Fraunhofer employees finding new ways to reconcile private and family life with work, and gender aspects should be considered more in research projects (it was the vision from one interviewee that Fraunhofer should be a best practice example on this).

So far, for the dimension of Ethics, no impacts can be assessed as the pilot activities just started. Summarised from the written questionnaire short term effects will be, “that the subject of ethics on this project and the planned activities remains on the agenda” and that “the different activities reinforce each other”, (quoted from the written update about pilot activities). It comes clear that Fraunhofer is focusing more on the term corporate responsibility when talking about the area of sustainability management. Thus, according to one interviewee, all RRI dimensions are integrated in the CR understanding, even though they are not named under the term RRI. Regarding Ethics, “JERRI wants to contribute to the fact that many Fraunhofer scientists deal with their ethical responsibility in the fields of research they are working on”, (quote from one of the dimension leaders from the written update about pilot activities). Thus, for the ethical screening it would be a success if it could be seen and felt that ethics is considered from the beginning of the research process. For example, ethics should be

in mind the idea when planning a project until its examination. For example, the time and resources dedicated to ethical work package in projects, was named as a possible impact indicator. “This will also have an impact on the projects and results, on the participants in the projects, the work packages, the questions and the recommendations for project completion” (quoted from the written update about pilot activities).

Additionally, a higher demand for ethical consultancy and requests about ethical questions would show that people are considering ethical aspects for their work. One could see it in the selection and description of positions and technological opportunities if a scientist would take into account ethical considerations. Also people that were convinced that this would enhance the quality of their work would show that measures were successful.

One interviewee stated that the cultural change is a desired long-term effect, which is judged as the most difficult one to reach. If some of the RRI topics (Ethics, Gender and Open Access) are already integrated in the organisation as strategic topics and reach most Fraunhofer employees (already existing and also new ones) on different levels, this would be perceived as a long-term effect. Additionally, a wider impact would be perceived if all RRI dimensions would be seen more closely and this would help to change the basic relationship between science and society.

One of the interview partners on Open Access said that the intermediate results were not totally satisfying. The data management infrastructure should finally be used by the researchers, so information about its existence and instructions on how to use it should be spread. There was also a written policy, which was addressed to the central office and included what needed to be done in order for everybody to use the data management repository.

On a long term, the following impact factors could be a confirmation of success about the repository and the Open Access dimension: increased Open Access publications within the organisation, higher awareness for publication of research data, usage of Fordatis by everybody (mainly researchers) and participation of researchers in the research data management system trainings.

The second interview partner on the Open Access dimension was more satisfied with the short-term impacts of the activities. “Awareness had been raised and different sections of Fraunhofer were working together which never knew their topics would have interfaces (e.g. open department and IP). Also on a long-term, there was



expected to be more awareness and knowledge about the possibilities of Open Access in the context of exploitation of research results”, (quoted from the written update about pilot activities. The decision about publishing open access or not should be standardised already in the phase of project planning. The vision of the one of the dimension leaders was that “Fraunhofer could be an RTO that established the use of Open Access on data and publications and that scientists knew about the potentials and possibilities to use it” (quote from one of the dimension leaders from the written update about pilot activities)..

#### **4.2.2.7. Internal monitoring within the organisation at Fraunhofer**

According to one interview, it was difficult to measure impacts of Societal Engagement, as there are, currently, not a lot of quantitative comparisons regarding the involvement of citizens or other societal groups. One suggestion that was named was that numbers could be counted about how many conversations were conducted with visitors. A monitoring could happen looking inward or outward: the attitude of Fraunhofer employees towards the engagement of civil society on the one hand, or the perception about the institute in engaging with civil society from the outside.

For Gender, the responsible people are reflecting on their actions, but a concrete monitoring (in a quantitative sense) is not happening within the organisation at the current stage. According to one interviewee, it was also not perceived as necessary so far. For the future, possible ways to measure the impact could be to count key figures on performance indicators (e.g. to compare numbers of women and men employed in the organisation), but the cultural change is perceived as being hard to determine.

Within one interview it also became clear that sometimes it was hard to assess the impact, because there was not enough awareness about certain measures. For example, the flexitime regulations were perceived as normal and thus not as an action to facilitate reconcilableness between work and private life.

For Ethics, there are key figures which are assessed and reported to the Board once a year. For the qualification module, a positive achievement would be reached if every institute would take it over and implement it. For the ethical screening programme, the application and questions on demand will show if the screening and consulting will be acknowledged or not.

It was perceived as hard to capture success factors in regards to the dimension of Open Access. One interviewee stated that there were so many activities over the years – within the organisation, but also external – that success indicators were already internalised. There has been a cultural change for years, so there were already different structures built to enable progress. According to one of the interviewees, to assess numbers, data and facts is difficult at the current stage. One possibility is to randomly query people about their knowledge of the developed tools. Another possibility would be to do a market analysis across Fraunhofer to measure if the concept or roll-out of the tools was successful.

About the data management repository Fordatis, there needs to be a permanent reporting channel to certain panels, an expert committee and the Change Advisory Board.

#### **4.2.2.8. Other Organisational insights at Fraunhofer**

What became clear again in the interviews was that it was sometimes difficult for the dimension leaders to spread their pilot activities and the tools developed because of the decentralised structure of the organisation. E.g. there is no central communication portal, so spreading and disseminating results and tools to a wide variety of people is very difficult.

Another point worth mentioning is that the structure of Fraunhofer is very heterogeneous. Institutes differ very much and sometimes act quite self-sufficiently with very different positions, working groups and content. For this reason, there would be the need to tailor measurement and tools to the specificities of the institutes, working content and conditions.

### 4.3 JERRI WP9: International mutual learning process

This work package on international mutual learning has the aim to analyse RRI-related practices in two international organisations through in-depth case studies, supported by primarily desk research and interviews. Above this, two international mutual learning workshops are included in the work package. The two selected organisations are the Chinese Academy of Sciences (CAS) and the Arizona State University (ASU).

The main aim of the evaluation in this case was to assess the deliverables that emerged from this work package and to take part in the first international mutual learning workshop, which was held in Munich on the 15<sup>th</sup> of December 2016. Moreover, an interview with the workshop organisers from Fraunhofer ISI was conducted directly after the workshop.

The assessment of the deliverable D9.1 should have been included in the earlier monitoring and evaluation report D8.2 in the previous phase of JERRI. Since submission for D9.1 was moved back, the deliverable and the evaluation of the workshop were promised at this point of reporting.

#### 4.3.1. First mutual learning workshop

The first mutual learning workshop took place in Munich in December 2016 as a whole day event and was organised and facilitated by the responsible people from Fraunhofer ISI. The setting was a mixture of presentations, plenary discussion and group work and the agenda is included in Annex IV: Workshop Agendas, part 2, p.123. 19 participants attended the workshop, which were representatives from the two international cases, dimension leaders from Fraunhofer and TNO and JERRI consortium members. The main goal of this workshop was bringing together participants of the four organisations and to exchange ideas and experiences for the further development of RRI in their own organisations. Especially TNO and Fraunhofer should learn from the international cases to include their learnings in the development of their RRI-related visions and goals in WP2 and WP3 and further. For a closer description of the workshop and the results see Deliverable 9.1, p.18ff and p.83ff.

The atmosphere at the workshop was very good and constructive. Participants engaged in the discussions and actively took part in the different workshop formats. The Chinese partners seemed to be restrained in the discussions in some way. It could

not be assessed directly from them what the reason for this was, but the impression the evaluation team had (which also was confirmed by informal talks) was that their reluctance was not due to the workshop setting, but is a result from their cultural background as well as structural and organisational habits and practices which they are used to.

#### 4.3.2. Assessment of the Deliverables D9.1 and D9.2

Deliverables D9.1 and D9.2 describe the case studies in depth; the first report contains the goals related to the European context of RRI and also includes good practices. The second deliverable reports on good practices for RRI instrumentalisation and also comprises barriers and enablers for institutionalisation. The findings should serve as examples and learnings for the European case and thus should be included also in the work of Fraunhofer and TNO.

Since submission of the Deliverable D9.1 was delayed, it was decided to include the review of the report in the present D8.3. If formative feedback would have been necessary, this could have also been given in between.

In *D9.1: Global RRI Goals and Practices*, the selection of the cases and the methodology of the case study in regard to desk research and conducted interviews were described in depth. A short summary of the results from the first international mutual learning workshop was included. The two cases, CAS and ASU, were outlined in respect to their organisational structure and potential links were made to the European concept of RRI, as it is defined also within the JERRI project.

As RRI is not a term or concept which is included in neither CAS nor ASU, aspects which are related to RRI and the five keys are extracted. Further, the cases are analysed more in relation to de-facto rri, as both institutions do function based on rationales which include high levels of responsibility, but "(I)in their operations however, there is no reference to the five key fields of action as in the European approach" (D9.1, p.9).

For the first analysis of cases, all together 16 interviews were conducted with CAS members and 15 people from ASU, mainly face-to-face, some via telephone. Interview partners were selected mainly via snowball system and it was intended to broaden the interviewee-pool in the second phase. The authors point out that the interview selection

– nor the analysis – was impossible without a bias, because only people who are more actively involved in responsibility issues could be contacted and also were willing to be interviewed.

The report contains a high level of information, but could have been structured in a clearer way. In the second last chapter (D9.1, 2.2.4, p.60ff), results are analysed only for ASU in reference to the theoretical concept from Randles 2017 (D1.2). This includes: building legitimacy for transformation, maturation process: everyday practices, organisational change and new incentive structures, systemic overflowing and external environment. The recap seems a bit outstanding as the conclusion for CAS is missing in that case. The analysis about the potential links between CAS and ASU and the European RRI approach could have been elaborated more thoroughly, as these aspects are most interesting for the JERRI organisations and the development of goals and pilot activities.

For *D9.2: Good Practices for RRI institutionalisation*, only the Arizona State University serves as a case (reasons why CAS was not included are given within the D9.2 within the first chapter). 39 persons served as interview partners to get a deeper empirical base for initial findings. Interview guidelines are attached in the Annex of the deliverable D9.2 and proved to be the same as for the first interview round. These guidelines were not sent to the IHS team before, so no feedback could be given upon them.

Besides the description of the methodology and the analysis of the results from the case study, there was also one chapter about the theoretical framework of deep institutionalisation. The analysis of the interviews happened in recourse to the framework and the levels of analysis were: evolution of dominant narratives in regarding rri, maturation process regarding rri, systemic consolidation of rri, and vertical multi-level alignment of rri.

The IHS team gave feedback on the deliverable, which were all respected and included in the final version of the report. It needs to be highlighted that the chapter about the links to the European RRI approach was revised in that case, so it could serve more for the understanding of the two participating JERRI organisations, Fraunhofer and TNO, and also beyond. The recourse to the theoretical framework of JERRI can also be positively accentuated. It makes it more feasible to make connections towards JERRI results and towards TNO and Fraunhofer and to generalise findings to other organisational contexts.

As the deliverables for work package nine were both moved back and not in time of the project plan, neither the planned uptake of findings from Deliverable D9.1 in work packages 2 and 3 and the development of RRI goals at Fraunhofer and TNO nor the integration of results from Deliverable D9.2 in the development of the transformative action plans in WP5/WP6, could be implemented to a degree as planned. The reason for the postponements was also because the most responsible person for implementing the case studies was absent for quite some time, but is back and covering the tasks again at this current stage.

Only in D4.1, Fraunhofer is doing a precise reference to the findings of the findings from D9.1 in linking the barriers and enablers to the three levels of institutionalisation. As was already stated in the report from D9.2, and became clear from the interview with responsible people for WP9 from Fraunhofer (see also the following chapter) and talks with the project lead, the second mutual learning workshop is judged as the best opportunity to exchange learnings and transfer knowledge about the two international case studies to the European context. At the moment of writing this report, the workshop is preliminarily scheduled for January 2019 and should include both international partners, ASU and CAS as well as Fraunhofer and TNO. The project coordinator and responsible people for WP9 from Fraunhofer are in close contact and planning to make the best possible use out of the event for JERRI and the involved organisations.

#### **4.3.3. Results from the qualitative interview for WP9: organisational aspects of the interviews conducts in China and the USA**

The following paragraphs are the outcomes from the interview which was conducted after the first mutual learning workshop with the two main case study conductors from Fraunhofer ISI in December 2016. The results are very much overlapping with the description of the process in the first interview round at CAS and ASU in D9.1 and cover mainly aspects regarding the organisation of the interviews, analysis and recruitment of interview partners.

The selection process for choosing the cases happened against the background of the call for to have international comparisons in relation to Europe. Different countries were

explicitly named, amongst those China, India, USA, and South Africa. It should be two very different cases, but comparable in regards to size with Fraunhofer and TNO. ASU and CAS are very large and heterogeneous organisations with a clear focus on STEM subjects and a connection to responsibility, but are not excellent in all areas. As it was clear that no organisation would be found outside Europe that does RRI like in the European context, organisations were chosen that were interesting for JERRI and have some relation to responsibility included in their mission.

The proposal phase involved a brainstorming session and following this, the two organisations were selected based motivated by the fact that there were already existing contacts in both and also agreement to participate. For CSA, the contact person was a research fellow for a long period; for ASU, Sally Randles (who is working in JERRI on WP1) already had contacts there. It was also clear from previous research that ASU had undergone a lot of changes and that the transformation resulted in a new vision and mission. It was known that this was a very successful process and that leadership had a big influence on the changes. So, it was clear that there could be a lot of learnings for JERRI.

Desk research was an iterative process, as the interview partners started by asking contact persons at the organisations for relevant documents, complemented by a search for specific documents (like ASU policies, strategic papers and annual reports or CAS important policy statements) and then, emerging from the interviews, more files like research papers and reports were recommended by the interview partners. It was the aim to understand the organisation as whole and also read scientific papers related to the topic of the project, which were published by the contact persons at the international partner organisations. Document analysis was more intense in the beginning to identify more interview partners and new documents and to be prepared for the interviews. This was done to countercheck if the written policies were also lived in the daily routines.

The selection of interview partners was primarily the task of the contact persons on-site. It became clear that it was quite difficult to reach out to new, unknown people and that it was mainly possible over existing contacts and recommendations to create a snowball effect. New appointments also could be made directly at sight.

For ASU, in order to search for names, documents were read and websites (like press releases) were searched for people who would either work on topics that were perceived as socially relevant, excellent or basic research. The contact person in China was very busy, so not as helpful as expected. It also turned out that people there have

a very high working moral and hierarchies are strong, so persons do not dare to recommend too many people, only one direct person is named every time. The case study conductor for CAS made personal contact to one employee at sight who was very supportive and also at the on-sight visit new contacts and interview appointments could be made. The interview partner stated that the sample was very biased; all recruited people have an ideal and are much the same. Contacting over email would never work for CAS because people would never answer to an unknown sender, so close personal contacts were indispensable.

It also became clear that even if there is a relation to people who are doing socially relevant research at first glance; people either do not answer to emails or state that they do not know how their work relates to societal relevance. One of the interviewees stated that it was a topic for a lot of people, but they have the opinion that they don't have to say anything about it.

Guidelines for the interviews were developed close to WP1, so the institutionalisation of RRI was in the focus. The first interview block was asking what responsibility means to the interviewees in general and what it does mean for their daily work. The last block was about RRI as the European concept of responsible research and innovation. On that basis, daily activities and which target groups were derived from researching the people. These questions served in searching for good practices, drivers and barriers.

The analysis of the interviews happened on a meta-level, summarising the results following the thematic blocks and clustering the answers. The next attempt was to also do also a translation step to make it usable for JERRI, also towards the five key elements. This was more difficult for science education and public engagement as it was, for example, for gender.

The sample was quite broad and diverse, as it was attempted to reach interview persons over all faculties. Researchers working on hand in laboratories were not recruited to participate; this was a goal for the second interview round. In their daily activities the interview people were very different, but they share similar characteristics: they have high ideals, a great passion about what they are doing and high expectations towards themselves.

Results from the interviews will be integrated in the deliverable for the work package, namely D9.1. There, it would also be tried to work out the specifications of the single dimensions and what the results would mean for their implementation. Although there was the written report, interviewees are sure that the most important result is the



workshop and the exchange that happens there. At the workshop, people were exchanging knowledge and contact details and asking the interview partners decisive details regarding single dimensions.

The interview partners were sure that it was important to draw conclusions for the second round of interviews in order to best serve the implementation of the pilot activities and inspire their elaboration and development. It needed to be made clear for the next phase if the focus should be on how the process and the activities could inspire barriers and enablers or if they should work on the level of practices and activities.

What interview partners learned from the workshop was that the basis of the topic was right. Many people and organisations are occupied with questions related to the subject of responsible research and innovation and the question of how can we enhance the relation between research and society. The openness to reflect and willingness of people to look beyond their own thematic scope was very evident and all had a high expectation for themselves to change something. Participants were thinking and talking in a greater context and were ready for exchange. The openness was also particularly surprising for the Chinese partners, as they are not used to having an exchange in this vein.



#### 4.4 JERRI WP10: Multi-level learning and Communication

JERRI WP10 aims to promote mutual-learning between FhG, TNO, and related stakeholders with regards to the activities and results of JERRI's WP1 to WP7. Thereby, the RRI goal development processes in FhG (WP2) and TNO (WP3) are analytically compared and good practices are identified for similar development processes in RTOs. Furthermore, a manual for organisational transformation in RTOs towards RRI will be developed in parallel to WP4 to WP7 (Deliverable 10.3, due in month 34). WP10 also comprises dissemination and exploitation activities, including participation in scientific conferences, elaboration of policy briefs, peer-reviewed open access journal articles, etc. The JERRI project proposal highlights open access to project deliverables and publications under CC-BY or CC-0 licence as intention of the JERRI project.

The objective of this work package is to leverage the good practice developed to further European RTOs and similar research organisations. This should be done through the systematisation of the exchange between Fraunhofer and TNO and to generate good practices for dissemination. The monitoring and evaluation of JERRI WP10 in the given time frame focused on ongoing dissemination activities; first, collecting the dissemination activities and, second, assessing their appropriateness. Further, the evaluation team was having a closer look on the mutual learning within the two organisations (and amongst dimensions) and between Fraunhofer and TNO across the dimensions. Therefore, within the interviews with dimension leaders, it was asked how the knowledge exchange takes place (within and between the organisations) and if there was the wish for enhancing this exchange in any form.

The process of multi-level learning started through continuous exchange between FhG and TNO in the analysis of the RRI goal development processes within these organisations. Deliverable D10.2 describes the lessons learned for goal development and is the result of a comparative analysis of the RRI goal development processes conducted in FhG and TNO. It gives procedural good practices for initiating the institutionalisation of RRI in RTOs. Due to its submission date (month 14, July 2017) close to that of the first evaluation report (month 15, August 2017), the review of this deliverable is part of the report in hand:



#### **4.4.1. Assessment of D10.2: Lessons learned for goal development**

This deliverable was reviewed by the IHS team, but due to the nature and elaboration of this deliverable, only little feedback was necessary:

The deliverable describes how Fraunhofer and TNO experienced the goal setting process. It emphasises that one of the key findings of both the practical and the theoretical investigation, is that adaptation of the goal setting process and the RRI goals themselves to the specific context of the organisation is very important. Therefore, open interaction with stakeholders should take place. Comparing D2.1, D3.1, D2.2 and D3.2 this is something the evaluation team can only confirm. It also goes together with the theoretical framework developed in WP1 (Deliverable 1.2).

In D10.2 the design, planning and conduction of the goal setting workshops are presented differently, as detailed in the TNO and in the Fraunhofer part. Fraunhofer describes high transparency regarding on which criteria the participants were selected and recruited, what the detailed agenda of the workshops was and which methods (e.g. visioning method) were applied in order to get to the RRI goals. Furthermore, the numbers of the participants and the gender distribution are described as well as the outcomes of the detailed reflection on the goal setting process. With regard to the workshop design, TNO indicates the Appreciative Inquiry and SMART definition of goals as applied method. D10.2 gives also a short insight how the workshops in the 5 RRI dimensions worked in this institution and why the dimension Open Access had to be dealt with in a different way. Also TNO described a detailed reflection on the process and emphasises that the concrete defined goals interact and support each other, and moreover, support mechanisms for institutionalization. From the monitoring perspective these differences in terms of description, depth and transparency, as well as the different type of institutionalisation, make it difficult to give concrete recommendations to other RTO for how to set internal RRI goals. Also the level of comparison is not very high, as specific steps of the process are not elucidated in detail, especially in the description of TNO.

TNO emphasises that the organisational internal reconstruction process influenced this phase of the JERRI project in the sense that it increased the complexity but also allowed opportunities to engage in important discussions. This goes hand in hand with the level and type of institutionalization. This is evidenced in TNO and Fraunhofer and goes along with the institutional theory in D1.2.

As described in D1.2, both organisations, TNO and Fraunhofer, stress the fact that an open interaction with internal and external key stakeholders at the right time is of help in the goal setting process. The monitoring team gave the advice to develop clear criteria for the (internal and external) stakeholder selection. Neither the D10.2 nor D2.1, D.2.2, D3.1 or D3.2 mention if such criteria were developed and/or applied. In order to have the appropriate stakeholders in the workshops (people who have a stake and influence in the changing process in a positive way) the WP8 team suggests developing and applying such selection criteria. As the different levels of management from change agents was assessed as problematic, the use of such detailed criteria could prevent people from different management levels from joining the same the workshop.

As it turned out that specific RRI dimensions differ in the way they can be integrated and strengthened within a RTO, the question occurs if one workshop design fits all needs of all RRI dimensions for different types of RTOs in order to develop realisable RRI goals.

The recommendations given to other RTOs who want to integrate RRI into their institution are valued as very helpful as they point out important aspects that then have to be concretised according to the circumstances of the respective organisation.

#### **4.4.2. Mutual learning within and between Fraunhofer and TNO**

As knowledge exchange within and between the two organisations is one prerequisite for mutual learning about the key aspects on the institutionalisation of RRI, the evaluation team was keen to have a closer look on how these exchanges have been taking place.

The results are based on the outcomes of the interviews with the dimension leaders and the reflection workshop at TNO.

##### **4.4.2.1. Exchange amongst dimension leaders within the two organisations**

The interviews show that there is no structured exchange between the dimension leaders in the two organisations. The exchange with other dimension-responsible persons differs very much between the Fraunhofer and TNO. Institutional dynamics

play out here: TNOs organisational structure is centralised and people are also spatially close to each other, so dimension leaders can more easily reach out to each other but also to other people who are responsible for the whole organisation. Fraunhofer organization structure is decentralised, so dimension leaders are spread all over Germany, which makes it more difficult for them to exchange.

The interviews with TNO persons in charge show that even though there is no structured exchange amongst them, they are holding meetings regularly (about every two months) in the whole team, and above that, there are specific bilateral interactions. The JERRI project leader from within TNO has regular contact with all dimension leaders.

The exchange varies in relation to the maturity of the dimension and to their interconnectedness. For example, the dimension of Open Access is at its very starting position compared to the other dimensions, which makes contact less interesting and relevant. At points where there are more commonalities, e.g. between Ethics and Societal Engagement, closer exchange results from their direct work on the elaboration of the pilots.

TNO partners perceive it as very fruitful to talk to other dimension leaders about their work. One interviewee stated that interaction helped the JERRI project because links between the different dimensions can be done, e.g. how gender could be part of an ethical dilemma.

Neither for Fraunhofer is there a formal exchange between the dimension leaders. There was one internal kick-off at the beginning [the project kick-off] in which most of the dimension leaders took part informally the exchange goes over the central office of the JERRI project, because information about all activities coalesces there.

People working on different pilots within one dimension are in regular exchange, which is also perceived as important. However, there is hardly any exchange between the leaders of the different dimensions. Fraunhofer dimension leaders do not see a big need for structured exchange amongst them as they are working on different topics and also at different locations. Some interviewees say that there is informal exchange, which was also present before JERRI and depended on spatial conditions, but also on personal relationships and sympathy (e.g. going for lunch together).

Regular and formal exchange is evaluated desirable in order to have information about the pilots of the others, how they are progressing and which things could be learned

from other dimensions. However, extra meetings seem unfeasible because this would require extra time that is not available. Interviewees also fear an extra workload if additional meetings and business trips would be scheduled.

One interview partner stated that the exchange will be more important in the next phase of JERRI, as the learning from the pilot activities should be shared and the pilots optimised.

Fraunhofer dimension leaders are expecting the workshop in The Hague in April 2019 as a good platform for exchanging within the organisation. There, it will turn out if the learnings and findings could be transferred above the dimensions.

In general, it seems that dimensions have very specific preconditions and problems, which are on the one hand inherent in the topic itself and on the other hand, differ according to the organisation, its structure and culture. The perception of most interview partners is that there is not too much intersection between the dimensions, but also exceptions are stated by the interviewees, e.g. overlappings between Open Access and Societal Engagement or between Ethics and Gender or Societal Engagement, e.g. the scientific integrity code (which included Ethic, Open Access and Societal Engagement) and also connections with external stakeholders and funders.

According to the project lead from Fraunhofer, after the mutual learning workshop in The Hague, the perception of the dimension leaders changed, as they realised that there were many connections between the dimensions and also planned to interact more closely.

#### **4.4.2.2. Exchange amongst dimension leaders between the two organisations**

As it turns out from the interviews, there is no structural exchange between Fraunhofer and TNO. Goals and pilot activities for the different dimensions vary very much between the two organisations, so exchange is required to a varied extent for each dimension. The following summaries are based on the interviews, which were conducted before the mutual learning and exchange workshop in The Hague in April 2018:

- For Gender, there had been exchange between the dimension leaders in the time before the interview. The feedback from the TNO dimension leader in the interview was that the two organisations are focusing on very different aspects of Gender within JERRI (TNO on increasing the number of women, Fraunhofer on the topic of gender in research content). The interview partner did not see too much need for a closer exchange at the moment. However, from the side of TNO, interaction is always perceived as enriching and helpful. Especially when tools are more elaborated, it would be interesting to see the results. From the side of Fraunhofer, exchange was sufficient for the moment. Dimension leaders planned a joint presentation about JERRI results at the STEM equality conference in autumn 2018.
- The topic of Open Access was elaborated on a different level of maturity in Fraunhofer and TNO, so there was a lot of exchange between the two organisations. Representatives from TNO took part in the workshops on the topic at Fraunhofer, and had an additional face-to-face meeting to prepare for the first mutual learning workshop together. Interaction was perceived as very beneficial in order to get an idea of which barriers should be anticipated, but also what would be needed in order to foster the topic within TNO. The fact that they [different people working on the same topic and problems] have been brought together over the JERRI project also accelerated the advancement of the dimension, one interview person said.
- For Science Education it emerged from the interview that there had been attempts from TNO side to get in contact with Fraunhofer. The TNO dimension leader struggled with the fact that there was no direct counterpart at Fraunhofer. This is in line with the general development within JERRI, as the dimension of Science Education at Fraunhofer is integrated into the Societal Engagement Dimension.
- The responsible people from Societal Engagement were in contact before, had Skype meetings and also prepared jointly for the workshop in The Hague in April. The dimension is anchored to a different degree in the organisations. Also, the diverging organisational structures are inherent in regard to the topic of Societal Engagement, which makes an extensive exchange not very obvious.
- Between the responsible people for the Ethics dimension, there was no personal exchange. There were attempts to communicate more closely, but this could not be realised. The responsible people are informed about each other's activities through the reports and deliverables. It is planned that they are meeting in the next mutual exchange workshop in November 2018.

The difference in the structures of the organisations also had an influence on the perception about mutual learning potential: in two interviews with TNO representatives it was clear that they assess the possibilities for influencing the organisational culture within their organisation as stronger than within Fraunhofer. Because Fraunhofer was organised in units, it was thought to be less easy for them to provide information about organisational structure and to transform the whole organisation with single actions. One interviewee thus concluded that the mutual exchange was not always an exchange between peers because the organisations were structured in a different way. Another person from TNO said that not only the organisation was centralised, but also the dimensions of JERRI were very centralised.

Another thing that came up was that the pilots were not transferable between the organisations, as they were very different for each dimension. One interview partner said that TNO would not start with the pilot, but with the policy. This difference was a fact that could have been discussed beforehand and helped create knowledge exchange on another level.

All interviewees were looking forward to the joint meeting that was held in The Hague in April 2018. This was expected to the moment to exchange in more depth amongst the responsible people within and between the organisations. At the workshop, constructive and informative exchange happened regarding different aspects and objectives of all the specific dimensions. Further, people attending the workshops could exchange their recent experiences since the implementation of the pilot activities.

Most of the interview partners say that extra meetings and an intensified exchange were a question of time. It was questioned how the knowledge about the specific dimensions could be used and generalised to each organisation, as they were varied and highly dependent on the organisational structure.

The general assumption is that people see the benefit of exchange (“There is always a learning from each other!”) and would be in favour of an intensified contact. However, with respect to time and resources, they are cautious to make this an obligatory, prescribed part of the work. One interviewee believes in not prescribing things, but letting things happen. Consequently, it would be more helpful to show people the benefits knowledge exchange could bring to them. Informal encounters were the most

fruitful ones, another interview partner said. Again another interviewed person stated that regular meetings amongst the dimension leaders and the project lead would be preferable; they would not need to be formalised, but could happen virtually, focusing on the exchange about the actual status of the progress, interesting insights and learnings as well as exchanging important contacts.

#### **4.4.2.3. Mutual learning workshop The Hague**

On the 19<sup>th</sup> of April 2018, a workshop was scheduled with the title: *Engagement and Impact: Participatory Workshop*. It was organised and facilitated by the JERRI project members of Manchester Metropolitan University (with the help of Fraunhofer and TNO) in order to serve as an impact case for their work.

Further, the workshop had the background to share experiences and lessons drawing on the two years of work under JERRI, which sought to connect theory and practice in order to institutionalise RRI in large RTOs. The invitation was addressed to all dimension leaders, additional people actively involved in the implementation of JERRI, the Advisory Board and the JERRI consortium.

Participants received a briefing package beforehand, which covered a general introduction, purpose and objectives of the day, the day programme, a list with contact details of all participants and mini-biographies and photos as well as details about the workshop venue and travel (the introductory text and agenda of the day can be found in Annex IV: Workshop Agendas, part 3, p.124).

The evaluation team took part in the workshop as participatory observers but did not actively engage in the discussions. At the end of the day, the written feedback questionnaire – which had been used earlier in the goal setting and action plan workshops – was handed out and collected afterwards.

After receiving the first draft of the agenda for the workshop, the evaluation team suggested in the preparatory phase, to specify the goals for each session of the workshop and also to clearly define questions that should be discussed in the breakout groups. The IHS team also pointed out the necessity for dimension leaders to

exchange not only within, but also between their dimensions and inside and across the organisations – as this was also asked for by the dimension leaders within the interviews. To some degree the suggestions were taken into account in the final programme.

At the workshop, 26 people attended of which 20 completely filled out the written feedback questionnaire. After analysing the answers for the employee status (see Figure 1) of the participants (separated in answers TNO and Fraunhofer employee or Advisory Board or other), the two answers referring to the category of *other* were excluded in the calculations in order to get a clear view of the people in focus, TNO and Fraunhofer employees and the Advisory Board.

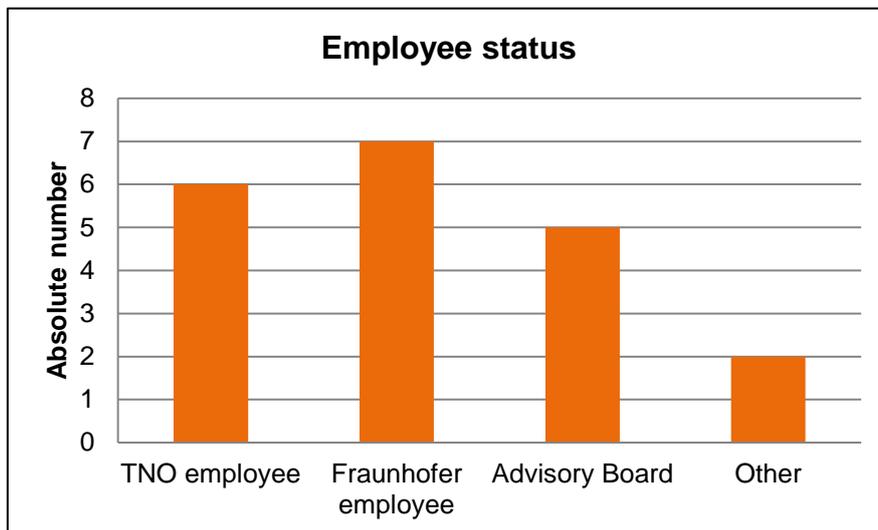


Figure 1. Distribution of answers regarding the employee status of participants at the mutual learning workshop in The Hague (N=20)

As could be recorded at the workshop by the evaluation team, the final agenda was to some degree quite open and sometimes goals of the sessions seemed not clear to some of the participants. Nevertheless, discussions were vivid and exchange happened on the different levels within and between the organisations but also with the external viewpoint of the Advisory Board.

As the results show, 62% (n=18) of the participants were satisfied with the results of the workshop. 50% (n=18) of the sample think that the relevant stakeholders were present at the workshop, 28% think that this is true to some extent and 22% do not

think that all relevant stakeholders took part. Asking whom they would invite else, people stated that decision makers from higher and middle management were missing (CEO from TNO, headquarter of Fraunhofer) and representatives from Science Education from Fraunhofer. These results go in line with the evaluation forms of the action plan and goal setting workshops, where participants also highlighted that some important stakeholders were missing. Also overlapping from all workshops are the calls which stakeholder to include, e.g. the higher and middle management.

Asking participants if they think the outputs of JERRI will make a contribution for change of the dimensions within the involved organisations (TNO/Fraunhofer), 72% strongly agreed and 28% agreed (see Figure 2). Asking if they think the outputs of JERRI will lead to an overall institutional change within the involved organisations towards more responsibility, people were slightly more sceptical: 11% disagreed, 67% agreed and 17% strongly agreed to this question (5% giving no answer; see Figure 3).

Due to the small number of answers, results should be taken with caution.

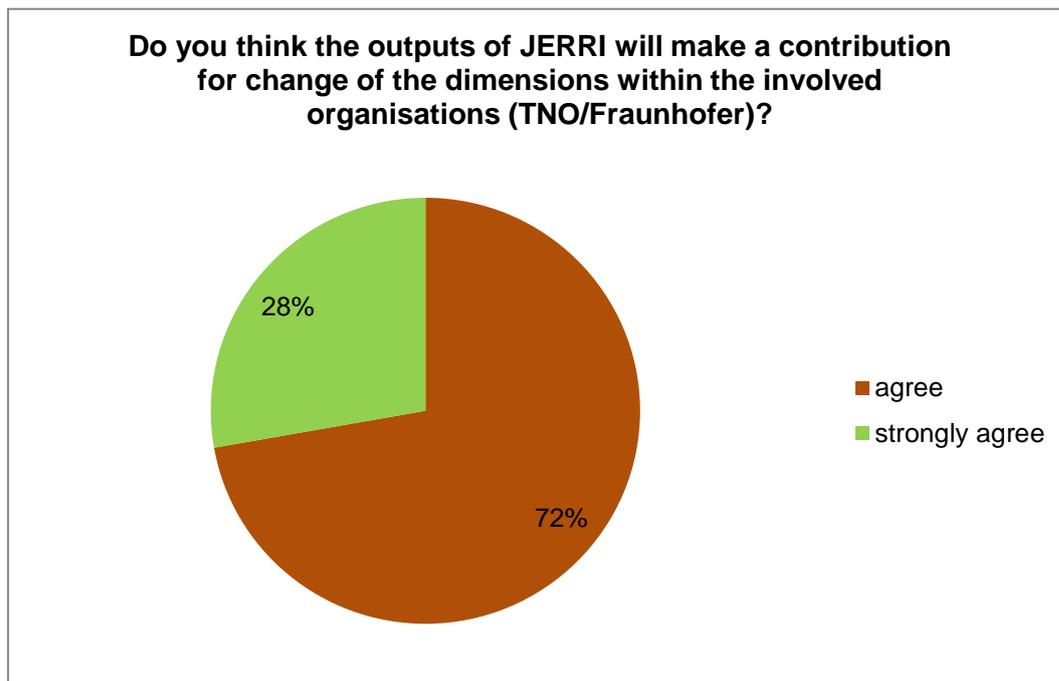


Figure 2. Distribution of answers from the participants of the The Hague mutual learning workshop about impacts of change, part I (n=18)

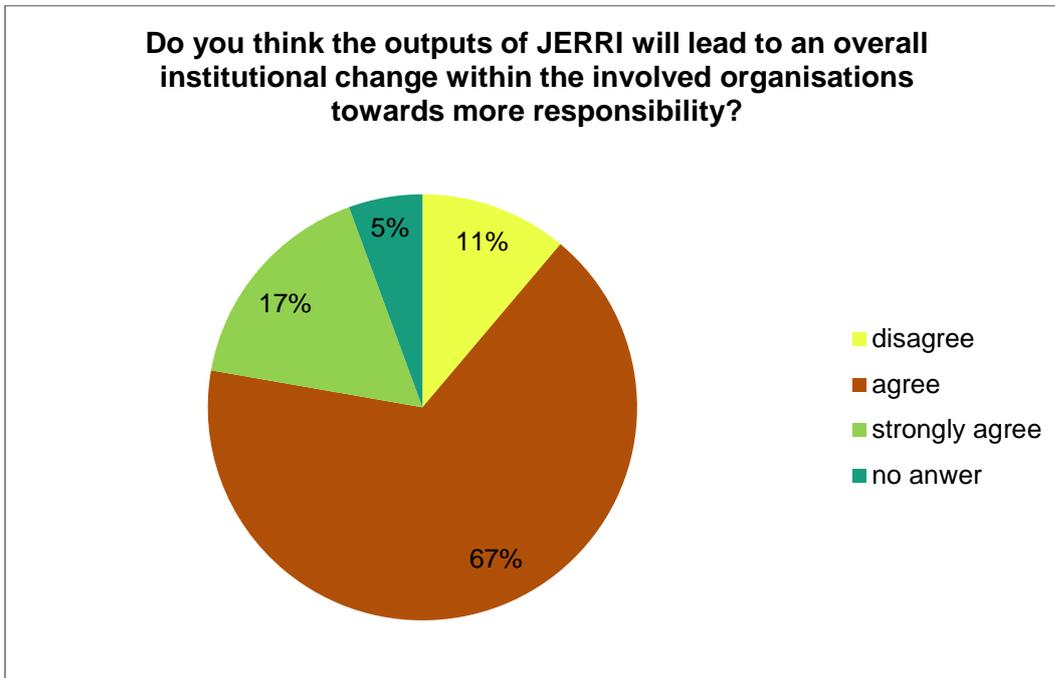


Figure 3. Distribution of answers from the participants of the The Hague mutual learning workshop about impacts of change, part II (n=18)

For 61% (n=18) the activities were appropriate for the workshop, for 39% to some extent. From peoples' comments in the open answers it could be extracted that there was a lack of time to discuss things in detail in the break-out groups. People also stated that the setting and the results could be more organised and structured. The plenary discussions were perceived as important, but quite general and also bear the danger that always the same people participate in the discussions and others do not feel as comfortable in raising their voice. Some participants wrote that for a sustainable change more actions would be needed and that the real change would come with follow up projects, thus the discussion is needed to continue. There was also the call for more exchange between the dimensions within the organisations.

Results from the written feedback were analysed by the IHS team and handed over in the form of a written summary to the JERRI consortium for internal use.

As the feedback about the possibility to exchange within a common setting was so positive and most dimension leaders also asked for more exchange (in the workshop and the interviews), it is planned to once more carry out a one-day WP10 mutual

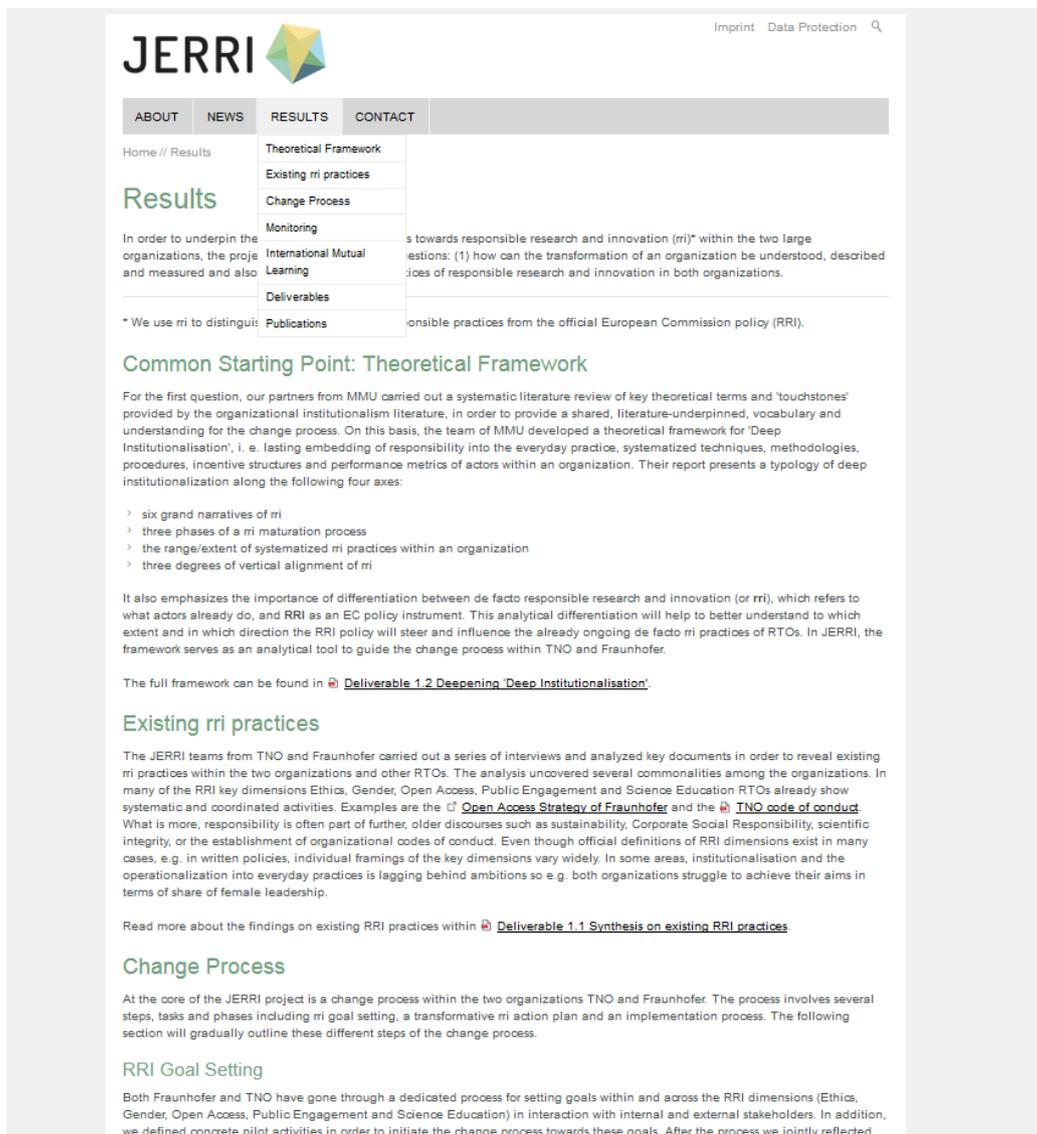
learning workshop in conjunction with the upcoming project meeting in November 2018. Again, the dimension leaders, the Advisory Board and the project consortium are invited to exchange here. The preliminary agenda can be found in Annex IV: Workshop Agendas, part 4, p.126-127. At the time of reporting it cannot be predicted whom of the dimension leaders will take part. This depends on their remaining budget and if the dimension leaders valued the effort to meet in person in the whole group highly enough. This will be part of the analysis for the next evaluation report, to look at the experiences, motivations and reasons for people to foster exchange in the most effective way.

#### **4.4.3. Dissemination activities**

Dissemination activities in the reporting period have been collected up to date, including all kinds of dissemination like press releases and online publishing, presentations at scientific conferences or other events, as well as publications of any kind. Informal activities regarding reaching out to other RTOs and EARTO are reported to the evaluation team by the project leader and are not covered by the official reporting on dissemination activities at this stage.

A major effort within the time reporting was the launch of the project website, which went online in December 2017. On the website, the JERRI project is described and all partners, including the Advisory Board and links to the broader network of JERRI, are presented. There is a section on news and also one preliminary results, which provides deliverables and special texts with summaries of the intermediate outcomes for download. The latter is structured in the following chapters: theoretical framework, existing rri practices, change process, monitoring, international mutual learning, deliverables and publications (see also Figure 4). The website is an appropriate first contact point for people interested in the JERRI project.

At the current state there is no possibility to depict how many times the website has been accessed. Due to the information of the project partners and because of the new GDPR (General Data Protection Regulation) it is not possible for Fraunhofer to document these data any longer.



The screenshot shows the JERRI website interface. At the top, there is a navigation menu with 'ABOUT', 'NEWS', 'RESULTS', and 'CONTACT'. The 'RESULTS' section is active, displaying a list of sub-topics: 'Theoretical Framework', 'Existing rri practices', 'Change Process', 'Monitoring', 'International Mutual Learning', 'Deliverables', and 'Publications'. The main content area features a heading 'Results' and a sub-heading 'Common Starting Point: Theoretical Framework'. Below this, there is a paragraph explaining the first question of the project and a list of six grand narratives of rri. Further down, there are sections for 'Existing rri practices' and 'Change Process', each with a brief description of the project's findings and goals.

Figure 4. Screenshot of the JERRI website (29<sup>th</sup> of September 2018)

The total list of dissemination activities can be found in Annex V. Dissemination activities, from p.128. The dissemination activities deal with the project in different ways and highlight certain aspects:

- Presentations given at scientific conferences
- Online activities on websites of the two organisations
- Presentations given for stakeholders inside, but also outside the organisations



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A task that is also foreseen in WP10 is the RRI transition symposium at the end of the project (due in month 34), which is at the current stage scheduled for March 2019 and to be held following a conference from EARTO in Helsinki. The project leader reported to the evaluation team that there were intensive efforts from JERRI side to get in contact with responsible people from EARTO and that it was a big achievement to receive an official confirmation from the current EARTO leader that the JERRI project could be integrated at a certain point of the conference. It was planned to involve other RTOs in the event, and also to make it more open by inviting stakeholders which were missing to some degree so far in JERRI, like upper management of TNO and Fraunhofer.



## 5 Conclusions and recommendations

The aim of the present report within work package 8 was to evaluate the activities from JERRI within the time frame of September 2017 and September 2018. The main focus therein was on the assessment of the development of RRI action plans within Fraunhofer and TNO (WP4 and WP5) and to give a first insight in the implementation of the pilot activities which were defined in the first phase of the project and have begun their execution within the given time frame (WP 6 and WP7). In the following sections, key conclusions are drawn and recommendations given for the last project phase (October 2018 to May 2019).

### 5.1 Aligning the JERRI activities with the RRI concept

Within the first period of JERRI, a comprehensive and advanced concept of deep insitutionalisation of RRI was elaborated (Randles 2017, D1.2). Within this piece of work the author elaborated a concept and developed a typology to analyse and contrast the institutionalisation of de-facto responsible research and innovation (rri) and H2020 RRI in RTOs<sup>11</sup>. The concept can be seen as an essential starting point for JERRI and also for other RTOs who want to change their organisation towards more responsibility.

As could be learned by the evaluation team from the reports, the discussions within the mutual learning workshop in The Hague and the interviews, partners from Fraunhofer and TNO both occupied themselves with the framework. There were attempts to see how they could utilise it optimally in their organisational preconditions.

The concept has been considered to a different extent in the development of RRI goals at Fraunhofer and TNO (WP2 and WP3, see evaluation on this in D8.2) and in the following definition of transformative RRI action plans within Fraunhofer and TNO (WP4 and WP5, evaluation see this report).

The RRI key dimensions, as also integrated in the framework, were followed by both organisations according to the earlier defined plans and set goals. In the description of the barriers and enablers of insitutionalisation, both organisations have varying

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<sup>11</sup> RRI is referring to Responsible Research and Innovation as defined by the European Commission and mainly building on the five key dimensions. De-facto rri refers to what actors already do in order to institutionalise responsible behaviour (practices, processes, organisational structures and outcomes of research and innovation (Randles 2017).



reference to the theoretical framework. Also in developing and elaborating the RRI action plans, the theoretical concept was taken into account by TNO and Fraunhofer in different ways. For example, Fraunhofer presented the organisation in regard to the establishment of the grand RRI narratives and the location of deep institutionalisation (state of the maturation process, systemic consolidation and vertical alignment) of the five RRI dimension within Fraunhofer (D4.1, p.9-10). Within the report of TNO it was made clear that the dimensions of RRI have different levels of maturity (institutionalisation) at TNO (e.g. in D3.2, p.10 and D5.1. p.7) and a classification of TNO in regard to the narratives A to F (D5.1, p.5) was described. Within the second part of the work package deliverables (D4.2 and D5.2), Fraunhofer set their results in relation to the three levels of institutionalisation, while TNO again made reference to the narratives. The reports from WP9 are also making a recourse to the theoretical framework in terms of dominant narratives in regard to de-facto rri.

Thus, both organisations use different reference points for their position in respect to the theoretical framework. As the reports are planned in the proposal of the JERRI project as individual work pieces and as organisations are very different, it is hard to compare the references and the decisions on how and why to integrate them in the performed manner. What turned out in the evaluation was that even if it was hard to align the theoretical concept to the daily practice and the implementation of actions, both organisations used the framework and adapted it to their specific conditions.

For the last period of JERRI, we recommend the following:

- For both organisations, to take into account earlier references to the theoretical framework, make clear why this was suitable for the specific case and further elaborate on the same aspects as was done before (in earlier reports).
- Integrate room for reflection on why it is challenging to follow the framework and where and how it can be useful. Also a critical reflection about which aspects are not useful and why could also be helpful to enriching the theoretical as well as practical elaboration.
- Make clear why each of the two organisations took out different aspects from the framework to adapt their case to specific parts of the theoretical background. Leave room to elaborate how it can be best used for other organisations who are only beginning their implementation of RRI (also suitable for WP10).
- It could be worth trying to discuss which reference points from the theoretical framework could serve for both organisations. So commonalities between the

dimensions as well as between the two organisations would become more obvious.

It would also be fruitful to create space for a reflection with the author of the framework, Sally Randles, before finalising the last deliverables. We would recommend to discuss with her the previous use of the framework, its applicability, blind spots and appropriate application of the framework and how it can be integrated even more in the implementation and description of the process of insitutionalisation.

Within the summative parts of the reports of TNO and Fraunhofer (e.g. in the conclusions and discussions of D4.2, D5.2 and D9.2), comparisons of the key dimensions are drawn. From the perspective of the evaluation, these are the essential aspects of how to make insitutionalisation visible and also transferable to other (organisational and structural) conditions. We would encourage in the next reports to elaborate these aspects even more.

It became clear again in the evaluation that on the one hand, dimensions have specific challenges, which are inherent in the topic, but also specific to the organisation. On the other hand, there are intersections between the dimensions that are crucial to institutionalisation. It is desired that commonalities across and differences between all dimensions are considered more closely – within the organisations but also across Fraunhofer and TNO.

## 5.2 Development of transformative action plans

The evaluation of the action plan workshops showed that the process was assessed positively by the participants. Results from deliverables D4.2 and D5.2 indicated that identified barriers and enablers inherent in the organisations and for the specific dimensions were taken into account in formulating the action plans.

The development of the transformative action plans happened in very different ways in the two organisations. This can be ascribed to the different organisational structures and also to the different levels of maturity of each dimensions. At Fraunhofer the formulation happened in the same way for all dimensions (with the same workshop concept applied for the four dimensions), at TNO the process was aligned with the characteristics of each dimension and the organisation and required different formats. The different approaches are ascribable to the differing organisational structures and

can be traced back by the evaluation team because we can make use of the different data resources which are available for this purpose. For external people, who only have insights in the process over the reports, it would be valuable to make the next steps and future activities as transparent as possible. We would recommend describing things as detailed as possible in the reports in order to make the processes comprehensible for organisations that also want to implement RRI. We know that this is a matter of resources and we value every attempt to reach this goal.

Regarding the time frame of the transformative action plans, the described actions seem very detailed for the short-term in most cases; for the long-term, visions and activities sometimes seem to be very general assumptions in what should be done for both organisations. This fact can be ascribed to the efforts of the organisations in implementing the defined pilot activities within the project time of JERRI and it is easier to follow up with the next steps after the end of the project time in May 2019, than to think in detail about long-term actions. Nevertheless, the evaluation team would like to encourage the project teams to question themselves on how the long-term visions and the goals could be elaborated more concretely and finally reached (e.g. how to set standards or to raise awareness building on the JERRI pilots). We know that strong efforts are made in setting steps for the institutionalisation to last after JERRI, but we again would like to emphasise that the more concrete actions are defined, the more possibilities arise in taking steps that will last after 2019.

### **5.3 Implementation process**

Within both organisations, there are high efforts to implement the pilot activities which they defined in the earlier project phase (work packages 2 and 3) and it can be concluded from the first, intermediate results that Fraunhofer and TNO are doing well in following their goals and visions. The implementation process of the defined pilot activities in work packages 3 and 4 is in full progress. The intermediate evaluation, which was mainly taking into account activities up to spring 2018, could show that the majority of the actions are in line with earlier defined RRI goals and action plans. From the interviews it also became clear that described goals and actions could not be implemented without the project. It was a matter of resources that made implementation possible, but also the fact that a lot of people from different angles

were working on the same topic of responsible research and innovation, giving a bigger voice for all and single dimensions.

It becomes clear in the reports and even more from the interviews that within both organisations, a high number of actions are happening and dimension leaders and responsible people do a lot of lobbying or *political work* – as one of the interviewees stated it – within their organisation and beyond. Most of these actions are difficult to grasp and put down on paper, because they are happening in emails, informal meetings and talks over coffee. Nevertheless, it is vital to the learnings of other RTOs that the process is made as structured and transparent as possible (e.g. for 5.1 the interview guidelines are missing and the process for identifying the barriers and enablers is not totally clear or for WP10, it is not transparent at the moment how other RTOs will systematically learn from the findings within WP4-7). The evaluation team would like to encourage the partners to describe processes as detailed as possible, and to note if deviations occur or intended plans turn out to be different than expected. Deviances from original plans and hindering factors provide key insights in process developments. To describe which aspects could not be followed, why plans occurred to be not suitable, how alternative paths were opened up and pursued can enrich the learning process.

Even if the process of institutionalisation of RRI needs to be adapted and tailored to each single RTO, it is helpful for them to learn, for example, which questions were asked when defining, choosing and implementing the actions, which obstacles arose during the process, how participants for workshops were selected and how and why stakeholders were involved or excluded.

One crucial factor in implementing the pilot activities is that sometimes it has shown that the produced tools and actions did not totally succeed in aligning the topics of RRI to what people do in their daily life. It will be on the one hand essential that researchers (or at least research managers and project leaders) are on board with using the tools, and on the other hand, to have higher management on board to push things from top-down.

What also becomes clear from the results is that in some cases, (for some actions) it is not clear how the internal evaluation, monitoring and further documentation (in the last phase of JERRI, but also above) is done and guaranteed for the future. We would like to recommend to the dimension leaders to create room for (a common) reflection how

this can be realised – not only for the time of JERRI and the evidence of impacts that needs to be reported there, but also for the time after the project. It gives RRI a strong voice if it can be clear, e.g. to the management or other change agents in the organisation (or beyond) that efforts were successful at making a change.

In regard to the assessment of (impact) indicators for the dimensions and activities, for some interviewed people it is not obvious which factors would prove evidence for a successful implementation. For the single dimensions this is sometimes easier to tell than for the overall insitutional change. People perceive it very difficult to ascribed impacts to JERRI, as a lot of activities are happening in different dimensions, are sometimes overlapping with other dimensions and also with other external and/or internal developments.

The assessment of impacts will play a part in the summative evaluation report and also within the next meeting and mutual learning workshop within JERRI, which are schedule one month after delivering the present report. There, the application of already existing indicators (like the ones developed in the MORRI project), but also those tailored to the specific organisational preconditions, will be discussed.

## 5.4 Involvement of different types of stakeholders

The inclusion of stakeholders from within and outside the organisations happened in different ways in the formulation of action plans and in the elaboration and implementation of pilot activities. Fraunhofer and TNO made great efforts to reflect on the process of stakeholder involvement and to integrate the most relevant people for defining and implementing the RRI actions. Nevertheless, the results of the evaluation showed that up to 50% of the participants of the RRI action plan workshops thought that not all relevant stakeholders were present at the events. The perceived absence of certain stakeholders was also noticed within the interviews and could be confirmed by the evaluation team.

Overlapping from all data sources is the result of which stakeholders were missing: the group perceived to be missing the most is the (higher) management. This is true for both organisations and over different dimensions. Additionally, there is a call to include (representatives of) civil society, business and industry in JERRI actions. One group that will be essential for the successful implementation of the pilot activities is the group of *normal* researchers, who in the end, will be confronted by certain measures in their

daily routines. For the execution of the pilot activities, dimension responsible people had very strong pictures which stakeholders would be needed for a further and successful implementation and also confirmed that they will do their best to integrate them.

The evaluation team acknowledges the efforts made by the dimension leaders in involving the most important stakeholders in the process. We encourage the responsible dimension leaders, and people involved in the pilot activities, to further stay on track and adapt the upcoming activities even more with the focus of getting the most diverse group of people. Although actions are very aligned with the organisational structures, we would again like to reinforce the integration of external people to broaden the view within the implementation phase and receive external feedback.

Both organisations made strong efforts in describing their stakeholder selection process within the deliverables. We see the structures inherent in the organisations, which make it sometimes difficult to describe processes in detail or make clear statements about internal stakeholders or decision makers. To make it the even more transparent and also traceable for other organisations, we would recommend to make the process of stakeholder selection and involvement as open as possible in the last reports.

## 5.5 Mutual exchange and multi-level learning

With regard to work package 9, the international mutual learning, it can be summarised that deliverables took into account the conceptual framework developed within JERRI and identified RRI goals and practices as well as good practices for RRI institutionalisation within two international organisations, the Arizona State University and the Chinese Academy of Sciences. The first international mutual learning workshop was perceived as suitable for the purpose, the second workshop is scheduled for the last phase of JERRI.

Within the reports from Fraunhofer and TNO, references to learnings from the activities in WP9 are not made totally clear. From other evaluation data sources it can be concluded that people are reflecting on how they could take into account the results from work package 9. As the international organisations in their structure and also their environments are very much differing from the European context, it is perceived as hard to apply these findings to the specific organisational contexts of Fraunhofer and

TNO. It will be the goal to best use the second workshop for integrating the findings and making them useable for JERRI. People responsible for this work package are aware of this fact and will also plan the last event according to these purposes.

The evaluation of the mutual exchange process in this reporting period mainly focused on the knowledge exchange between and within the two involved organisations of Fraunhofer and TNO. It became clear that there is no structured or planned knowledge exchange, neither between dimension leaders from within the organisation, nor above organisations. Exchange happens, but it very much depends on different factors: (motivation of and perceived necessity for exchange by) the people responsible for the dimensions, the levels of maturity of the dimensions, defined goals and chosen pilot activities for the dimensions (they are very much differing between Fraunhofer and TNO) and the organisational structure (the centralised organisational structure and location of TNO makes it much easier for dimension leaders to exchange than for those from Fraunhofer, who are spread all over Germany and associated to different departments).

Most of the dimension leaders would favour more exchange, but it is a question of time and resources, as there is no dedicated budget for this and people do not want to have extra (obligatory) meetings scheduled for that purpose. The next possibility for dimension leaders to meet will be a workshop and meeting, which is planned in November 2018. Above this, we would recommend dimension leaders from the same organisation to meet regularly (e.g. every other month) for an exchange (this is already happening for TNO). This interaction does not need to be in person, but we would propose to schedule an informal meeting online where the most recent findings, barriers and enablers could be exchanged (e.g. also to receive information about important people, networks or other channels which could be used to further the JERRI activities).

This format could also be chosen for dimension leaders between the two RTOs to share their experiences. The evaluation team acknowledges that the need for exchange depends very much on the dimensions. But, as the different organisational structures generally limit learning from each other, it will be even more vital to exchange in order to – in the end – compile results in a way that other RTOs (with even different organisational structures) can learn from the JERRI findings. We are aware that this will be one of the challenges for the last phase of the project.

## 5.6 Next steps of JERRI

The evaluation team recognises the different attempts from all partners to make the institutionalisation of RRI happen within their organisations. TNO was undergoing a big organisational restructuring, which opened a window of opportunity for bringing in new topics and changing things also for the future, but also made the processes of JERRI less predictable and thus needed higher flexibility by the involved people. For Fraunhofer, the decentralised structure often makes it difficult to bring topics on the agenda and to join forces.

The continuation of JERRI after the official project times seems to be in the minds of all involved people: pilot activities are in their implementation and there is further budget and resources for the activities from JERRI. The key will be to receive and keep attention after the first implementation phase in order to get activities integrated into the organisations and institutionalised, and also to reach the goals of deep institutionalisation and of cultural change.

One important factor to guarantee the viability of JERRI will be the institutionalisation of RRI in Fraunhofer and TNO. Another aspect is the reproducibility of the results so they can be transferred to other RTOs.

Reports are often very much focused on the specific organisation and thus, in the last phase of JERRI, we would like the project team to draw attention to how other organisations can learn from the presentation of their results: which structures, patterns and developments could be made more clear in order to guarantee a replicability of the JERRI project and actions that had been taken there? Collaboration and knowledge sharing with other RTOs is a decisive task within the project.

As joint deliverables from both organisations are not foreseen (except for WP10, which includes publications targeted at other RTOs), we would highly recommend the two organisations to align the presentation of their findings, learnings and results in a comparable manner. Integration of a joint chapter in each of the deliverables on the implementation process could also be considered, (e.g. in D6.1 and D7.1) in order to compare results and reflect on a meta-level. This would also enhance knowledge exchange and mutual learning within the organisations but also beyond.

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## ABBREVIATIONS

CSR	Corporate Social Responsibility
FhG	Fraunhofer-Gesellschaft
FhG ISI	Fraunhofer-Institut für System- und Innovationsforschung
GDPR	General Data Protection Regulation
IHS	Institute for Advanced Studies
ISSI	Integrating Society in Science and Innovation
JERRI	Acronym for the project <i>Joining Efforts for Responsible Research and Innovation</i>
KPI	Key Performance Indicator
MMU	Manchester Metropolitan University
NGO	Non-Governmental Organisation
R&I	Research and Innovation
RRI	Responsible Research and Innovation
RTO	Research and Technology Organisation
TNO	The Netherlands Organisation for applied scientific research

## ANNEX I. PARTICIPANT FEEDBACK QUESTIONNAIRE

**Action Plan Workshop:  
Participant Feedback  
[Date], [Venue] [Topic]**

	Yes	To some extend	No
Did you participate in the first workshop about [topic]?	<input type="checkbox"/>		<input type="checkbox"/>
If yes: Were the goals that were defined in the first workshop taken up and elaborated further?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes: Are you satisfied how the results of the first workshop had been taken up?			
Was the purpose of the workshop clear to you beforehand?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>In your opinion, <b>what</b> was the aim of the workshop:</i>			
Did you encounter any difficulties in order to participate in the workshop?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>If yes, which difficulties:</i>			
Did you deal with the topic of [topic] in your professional life before the workshop?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you think the relevant stakeholders were present at the workshop?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Who was missing in your opinion:</i>			
Were the tasks you had to do in the workshop clear to you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>If no, what was not clear to you:</i>			
Were the views of all participants listened to and respected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were you able to openly share your opinions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Were you able to freely voice your concerns?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>If not, what prevented you from doing so:</i>			
	<b>Yes</b>	<b>To some extend</b>	<b>No</b>
Did your input contribute to the achievement of the workshop goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the developed goals of relevance to your own work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Please elaborate:</i>			
Were the activities in the workshop appropriate to achieve its purpose?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>If no, why:</i>			
Are you satisfied with the overall results of the workshop?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Please elaborate:</i>			
Would you like to participate in similar workshops in the future?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the further steps of the JERRI project clear to you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate your (dis)agreement on a range between 4 (strongly agree) and 1 (strongly disagree) the following statements:

	4 strongly agree	3 agree	2 disagree	1 strongly disagree	I do not know/question does not suit the purpose of the workshop.
I am satisfied with the definition of the concrete actions/ action plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All responsibilities are allocated in a way to best implement the actions/ action plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All relevant people for implementing the actions/ action plans are taken into account.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think the defined actions/ action plans will make a contribution for change of [topic] within [TNO/FhG].	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think the defined actions/ action plans will lead to an overall institutional change within my organization towards more responsibility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Further comments and recommendations:

<b>Personal information</b>		
TNO employee <input type="checkbox"/>		External stakeholder <input type="checkbox"/>
Female <input type="checkbox"/>	Male <input type="checkbox"/>	Other <input type="checkbox"/>



## ANNEX II. INTERVIEW GUIDELINES

### *Annex II, part 1: Interview guidelines for action plan workshops*

1. How was the workshop? What is your impression about the workshop?
2. What did you expect from the workshop beforehand?
3. In your perspective, what were the goals of the workshop?
  - a. Which goals were reached? Which goals were not reached? Why?
4. Were all relevant stakeholders taking part in the workshop?
  - a. If no, who was missing in your opinion?
  - b. If stakeholders did not take part in the first [Goal setting workshop], how did you select the participants for the workshop?
5. Could you get new perspectives on your dimension from the workshop? Which ones?
6. Were you involved in the first workshop on [topic] as well?
  - a. If yes: Were there any differences to the first workshop [regarding the following aspects: selection of participants, the process, the outcomes, the satisfaction of the participants]
7. Could you take up and work on the results from the first workshop on [topic]?
  - a. If no, why not?
  - b. Which possible (short-term and long-term) effects do you expect from the action plans/activities [that were elaborated in the workshop] on your organisation?

***Annex II, part 2: Implementation of actions (action plans), pilot cases and other RRI activities (process) interview guidelines***

1. Could you give an overview of the actual status of actions (pilot activities) regarding [topic] within your organisation that are connected to the JERRI project?
  - a. How are they going? What worked out well? Where did problems occur? Were you confronted with resistance when implementing the activities? If yes, can you tell about these problems? If not, why do you think everything worked that well?
  - b. What are the outputs and outcomes of the activities so far? Are you satisfied with the intermediary results? What is still *missing*/needs to be achieved?
  - c. Who (which members and departments) of your organisation are addressed/not addressed by the activities?
2. How were the pilot activities/cases identified and selected? Why did you chose to exactly do this pilots?
3. Were the most important stakeholders involved in the formulation of the action plans/pilot cases?
4. Are the most important stakeholders involved in the implementation of the action plans/pilot activities? If not: why not? If yes: how?
5. When implementing the activities, can you stick to the previous goals formulated within the workshops and described within the reports (Goal Setting and Action Plan)?
6. Is there an internal reviewing/monitoring process of the pilot activities within your organisation?
  - a. If yes, how does this take place?
  - b. If no, how to you want to measure the impacts and make impacts visible?
7. Is there an exchange between dimension leaders **within** TNO/FhG?
  - a. If yes, how does this take place?

- b. If no, would you wish to exchange with the other dimension leaders? In which format?
8. Is there an exchange amongst dimension leaders **between** TNO and FhG?
  - a. If yes, how does this take place?
  - b. If no, would you wish to exchange with the other dimension leaders? In which format?
9. Which possible effects do you expect from the planned activities on your organisation regarding (short/long-term):
  - a. the [topic]?
  - b. an overall systemic change towards more responsibility within your organisation?
10. Are there any people from within your organisation regarding your dimension which you could name to take interviews with? This could be people involved in the implementation of the activities, so called *change agents*, as well as people profiting from this measures (e.g. *normal* scientists).

***Annex II, part 3: Interview guidelines for first international mutual learning process and workshop, WP9***

1) International partner organisations

- Why and how where CAS/ASU chosen as international partner organisations?
- What does them make relevant for the JERRI project?
- What and how can JERRI learn from them?

2) Desk research

- Which and how many documents were analysed? How were they selected? How were they analysed? How did they feed into the interviews, WP9 and the overall JERRI project?

3) Interview process

- Which interview partners where selected at CAS/ASU?
- Why were they selected and how?
- How did the interview process look like? Please describe:
  - Interview preparation, interview guidelines, informed consent?, recording mechanisms, length, analysis and further processing
  - Content of interviews
- Were the interviews in the respective organisations coherent regarding their statements and ideas?
- How do the interviews feed into WP9 and the overall JERRI project?
- What are your conclusions for the next round of interviews?

4) Workshop

- What were the intentions and goals of the workshop?
- Are you satisfied with the outcome?

5) Case studies

- How are the case studies conceptualised?
- How is desk research/are the interviews/is the workshop processed into the case studies?

6) WP9

- What are the next steps in WP9?

## ANNEX III. WRITTEN TEMPLATE ON RRI IMPLEMENTATION<sup>12</sup>

Questions included in the excel template for written update about implemented workshops and pilot activities through the dimension leaders.

### Sheet on workshops

- Organisation: TNO or Fraunhofer
- Dimension: gender, ethics, open access, societal engagement, science education
- Did you do a first workshop round (goal setting workshop) within your dimension?  
Yes-no
- If you did a format alternative for a workshop, please indicate exactly what is was (e.g. 4 face-to-face meetings with board members)
- WS1: date, time (duration of the workshop), location
- WS1: organiser of the workshop (who organised the workshop from your team)
- WS1: facilitator of the workshop (who facilitated the workshop, if it was somebody not from your team, just state "external")
- WS1: Was there any preparatory information given to the participants (e.g. what the WS was about, did you name JERRI in your invitation, etc.)? If yes, please describe shortly.
- WS1: number of participants
- WS1: number of internal stakeholders
- WS1: number of external stakeholders, please also classify external stakeholders according to the following sectors:
  - Policy
  - Citizens
  - NGO, CSO
  - Business/Industry
  - University/Research
  - Education
  - Other (professional group stakeholder)
- WS1: number of other stakeholders
- WS1: female participants
- WS1: male participants
- WS1: selection criteria for the selection of participants/selection process (please describe shortly the process on how you selected your participants for the

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<sup>12</sup> Questions are depicted at this place in a list, not in the excel format, in order to save space.

workshop; did you chose only internal people, if so, why; how did you make your choices for internal/external people to be invited). How many of the participants have you already known before the WS?

- WS1: Main outputs/achievements of the workshop (wrapped up in just a few words): How did you assess the achievements of the workshop? What was (in your words) the main output? Please describe the goals of the workshop, and how they could be reached. Is there anything that - in your opinion - you have not achieved? Why not? Consequenes....?

### Sheet on pilot activities

- Name of pilot activity:
- Actual status of the implementation of the action: please describe shortly what has been done so far to implement the action, what´s your progress?
- Start of action: give a certain date/month
- Expected end of action: indicate if there is a specific date/month or if it has an open end
- People involved in implementation (besides the dimension leaders): please describe which kind of people are involved: managers (what kind of managers), committees members (from which kind of committees), researchers, administrative staff, whole organisation, etc.
- Main target group: managers (what kind of managers), committees members (from which kind of committees), researchers, administrative staff, whole organisation
- Why exactly this action was chosen?
- Did the activity start before Jerri? Yes or no
  - If the activity started before JERRI, how does JERRI contribute to the action? Please make clear if the action would take place without the JERRI project or not and why
- Actual status of results of the action: please describe your main achievements regarding the activity at the actual moment (March 2018), this can be definite implementation steps, meetings with management, etc.
- Please give an estimate of how many people your pilot activity will reach (within your organisation): a) in the short run (within the activity) b) in the long run (after official activity period ends)
- Is the implementation of the action going in line with your goals (D3.2)? Yes-no
  - If implementation is not going as planned: why are there deviations? Due to which reasons did you have to change your plans? What could help you to overcome the deviations?
- Short-term impact on your dimension: In which regard and how did you already achieve a short-term impact on your dimension? Which possible short-term effects do you further expect from the planned activities on your specific topic (dimension)?

- Short-term impact regarding an overall institutional change: In which regard and how did you already achieve a short-term impact on your institution? Which possible short-term effects do you further expect from the planned activities for an overall institutional change within your organisation?
- Long-term impact on your dimension: How would you describe a long-term success of the action? Which possible long-term effects do you expect from the planned activities on your specific topic (dimension)?
- Long-term impact regarding an overall institutional change: How would you describe a long-term success of the action? Which possible long-term effects do you expect from the planned activities on your organisation regarding an overall institutional change within your organisation?

## ANNEX IV: WORKSHOP AGENDAS

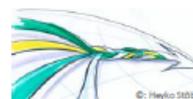
### *Annex IV, part 1: Reflection workshop agenda and guidelines*

#### **Guidelines: Reflection Workshop with Dimension leaders TNO, 12<sup>th</sup> of December 2017**

Time	What/Aim	Who	How	Additional info
13.10-13.20	Short overview of the participants	All, plenary	Very short introductory round covering the following points: <ul style="list-style-type: none"> <li>Name</li> <li>Role within TNO</li> <li>Role within JERRI</li> </ul>	Ask whether dimension leaders have contact between each other. Is there any kind of knowledge exchange (on a regular basis) between them?
13.20-13.30	Update about already started/implemented actions	All, single reflection	People think on their own about the following questions	Provide template with the questions for each participant (to be collected for documentation by the moderator)
	<ul style="list-style-type: none"> <li>In your opinion, what were the three most prominent achievements within the first phase of JERRI regarding your dimension?</li> <li>How did the (pilot) activities so far influence your organisation?</li> <li>What measures can provide evidence of this success?</li> </ul>			
13.30-14.00	Reporting back	All, plenary	plenary	Take notes
14.00-14.25	Reflection about short-term wins and supporting factors as well as hindering factors	All, small groups of two/three	Discussion in groups of two/three	Post its in three colours (supporting/hindering factors, future helping); questions printed on paper for each group
	<ul style="list-style-type: none"> <li>What worked well? Which factors were supportive in implementing the activities?</li> <li>Which factors were hindering implementing the activities? On which level (e.g. managerial, individual, institutional organisational, etc.)?</li> <li>If you have met barriers in implementing the activities, how have you handled these? What were the consequences (e.g. change of measures(s), aims, persons involved etc.)?</li> <li>If you have met barriers when implementing the activities, but did not overcome these yet, what could help/support you?</li> <li>Is there anything else that comes to your mind in regards to the implementation of the activities?</li> </ul>			
14.25-14.55	Reporting back and clustering of results	All	Plenary	Collect post-its on wall/flip chart and try to cluster them
14.50-15.00	Closing and next steps	Magdalena		
	<ul style="list-style-type: none"> <li>Give information about the next steps: telephone interviews with the dimension leaders, interviews and survey of people responsible for implementing the actions/action plans</li> <li>Ask the participants to inform IHS about upcoming activities and workshops</li> <li>Advisory board meeting and workshop 19<sup>th</sup>-20<sup>th</sup> of April</li> </ul>			

**Annex IV, part 2: Agenda from the first international mutual learning WS**

Project JERRI – Joining Efforts for Responsible Research and Innovation



**The 1st international mutual learning workshop**

December 15th, 2016

**Preliminary Agenda**

Venue: tbd, Munich

09:00 – 09:30	<b>Arrival</b>	
09:30 – 09:40	<b>Welcome and introduction</b>	Fraunhofer ISI
09:40 – 10:00	<b>Round of introductions in an initial RRI „cosmos“</b>	all
10:00 – 10:40	<b>Presentation of state of the art RRI at Fraunhofer and TNO (20 min for each organization)</b>	Fraunhofer ISI and TNO
10:40 – 10:50	<b>Coffee break</b>	all
10:50 – 11:20	<b>Presentation of the results of 1<sup>st</sup> round case study of CAS + Discussion (20 min presentation, 10 min discussion)</b>	Fraunhofer ISI, CAS
11:20 – 11:50	<b>Presentation of the results of 1<sup>st</sup> round case study of ASU + Discussion (20 min presentation, 10 min discussion)</b>	Fraunhofer ISI, ASU
11:50 – 12:30	<b>Group work: Mapping of a global RRI “cosmos” and implications for the goal development for Fraunhofer and TNO</b>	all
12:30 – 13:30	<b>Lunch break</b>	all
13:30 – 14:20	<b>Group work: Good practices according to 5 dimensions and beyond: towards deep institutionalization of RRI (link to WP1)</b>	all
14:20 – 14:35	<b>Coffee break</b>	all
14:35 – 15:25	<b>Presentation of the discussion about good practices (10 min pro dimension)</b>	Group moderators
15:25 – 15:35	<b>Coffee break</b>	all
15:35 – 16:00	<b>Conclusion and feedback round</b>	all
16:00	<b>End of the workshop</b>	

**Annex IV, part 3: Agenda from the engagement and impact participatory (mutual learning workshop)**



Deep Institutionalisation of RRI in Theory and  
Practice: Bringing it all together

Engagement & Impact: Participatory Workshop,

19 April 2018

TNO Offices, Den Hague, Netherlands

With thanks to our sponsors: The European Commission & Manchester Metropolitan University



Briefing Pack for Participants



Dear Participants,

We would like to welcome you to the workshop we have planned for you on 19 April 2018, at the TNO Offices, Den Hague, Netherlands. Here, we will be delighted to bring colleagues from Fraunhofer, TNO, the JERRI Experts Advisory Board and the JERRI Consortium partners together. Our purpose is to interactively share experiences and lessons drawing on the last 2 years of work under the H2020 JERRI project which sought to connect theory and practice in order to institutionalise RRI in large Research and Technology Organisations (RTOs). In these latter stages of the JERRI project, we aim to evaluate the impact we have had; systematically capture the legacy of 'where we are at' and reflect on the next steps to maintain and continue commitments to RRI in a post-JERRI future.

Specifically our objectives for the day are:

- i) To briefly recap the fundamentals of the Deep Institutionalisation of RRI theoretical framework and connect it to implications for practice.
- ii) To learn from experiences of its adaptation and application to Fraunhofer, TNO and the two JERRI international case studies: Arizona State University (ASU) and the Chinese Academy of Sciences (CAS).
- iii) To provide a forum to maximise opportunities for interactive sharing of experiences and lessons across the Fraunhofer and TNO five thematic leads, and to profit from the insights and experience of the JERRI Experts Advisory Board, and inputs from the JERRI consortium partners.
- iv) To systematically contribute to, evaluate and gain evidence of impact. Better to understand what that impact has been, its transformative capacity and the contribution of various constituent parts and steps of the JERRI project.
- v) To reflect on the next steps to maintain and continue commitments to RRI in a post-JERRI future.

JERRI 

The **Day Programme** mirrors these objectives:

**9:00-9:30** *Welcome with coffee, juice and pastries.*

9.30-10:00 Roundtable welcome and introductions.

**10:00-11:00 Short Underpinning Presentations (15mins each) – Chair Eniko Demeny? (CEU, Budapest)**

1) Deep Institutionalisation of RRI:Theoretical Fundamentals. *Sally Randles, Manchester Metropolitan University.*

2) Adapting and Applying the Concept to TNO : An Overview of Findings, Experiences and Lessons. *Joram Naute/Marc Stein, TNO*

3) Adapting and Applying the Concept to Fraunhofer: An Overview of Findings, Experiences and Lessons. *Philine Wauk, Fraunhofer*

4) Adapting and Applying the Concept to ASU and CAS: An Overview of Findings, Experiences and Lessons. *Stephanie Daimler, Fraunhofer*

11:00-11:30 Q&A/Discussion

11:30 – 12:30 **First Break-out Session – Chair TNO**

*3 Groups (TNO, Fraunhofer, AB) – reflecting on the presentations and bringing-in insights from practice: extrapolating convergences and differences across the two RTOs, and seeking to characterise, explain and learn from the similarities/differences. (45 mins) .Feedback to plenary and discussion (15 mins).*

**12:30-13.45 Lunch**

13:45-14:45 **Second Break-out Session- Chair Fraunhofer**

*5 x ‘Triad’ Groups (TNO/Fraunhofer/AB member, by 5 RRI themes) . Cross-organisational learning and sharing: successes, tips, challenges, lessons and advice to take forwards(30 minutes) Feedback to plenary and discussion (30 mins)*

**14:45-15:00** Formative Evaluation and Impact of the JERRI project (IHS)(15mins) Q&A& discussion on parameters and findings of impact and evaluation (15mins)

**15:00-15:15 Tea**

15:15- 16:15 **Third Break-out Session – Legacy Commitments: Deepening Deep Institutionalisation ‘Life After JERRI’. Chair – Manchester Metropolitan University)**

*3 Groups (TNO, Fraunhofer, AB) (30mins). What are the critical factors, risks and challenges to continuing to deepen RRI institutionalisation in Fraunhofer and TNO? and what general lessons can we draw for maintaining or losing momentum, or evolving/adapting the institutionalisation of RRI in large RTOs? Feedback to plenary & discussion (30mins)*

16:15: 17:00 **Bringing it together – discussion, thoughts and insights from the day (All)**

17:00- 17:15 **Next steps and follow-on actions (TNO/Fraunhofer)**

**Thanks, Close, arrangements for walk and dinner (TNO)**

**Annex IV, part 4: Agenda for project meeting, second mutual learning and impact workshop (scheduled in November 2018)**



**JERRI Project & AB Meeting  
November 28/29 2018**

Fraunhofer-Zentrale, Hansastraße 27c, Munich, Room H20.EG.03

**Agenda**

**Day I Wednesday 28.11.2018, WP10 Learning&Impact Workshop**

9.00 - 9.30 Coffee, Welcome & Introduction

Introduction of WP10 and specifically user briefs and RTO engagement manual overall concept, shared lessons learned

9.30-11.30 **Mutual Learning within Dimensions** (*Dimension Leaders work in small groups with AB and core team*)

- Open exchange on what we did and what we learned
- What can we learn from each other, what would we want to pass on to other RTOs, what does it imply for our target stakeholders (clients, collaborators)?
  - Joint work on key messages for user briefs (1-2 shared ones per dimension) & RTO manual with support from AB

11.30-12.30 **Consolidating** (*Plenary*)

Sharing Dimension results & work on overarching conclusions for user briefs and RTO manual  
Review of the shared lessons in the light of the findings

12.30-13.30 **Lunch**

13.30-17.00 **Joint work on understanding JERRI impact** (Coffee break in-between)  
(*Plenary/Groupwork*)

- Introduction - How can we monitor impact of the change? (IHS)
- Workings session: What are visible impacts of the JERRI change process? How could it be measured?

17.00-17.30 **Implications for WP 10**

Brief recap with AB on implications of session for the user briefs and RTO engagement manual

*Evening Activities (including Dinner)*

**DAY II Thursday 29.11.2018 AB & Management Meeting**

**9.00-10.30 Formal AB meeting**

- Review round: Advice for Dissemination & Impact Maximisation
- Planning of contributions of the AB for the remaining time of JERRI

**10.30-11.00 Coffee Break (Departure of AB)**

**11.00-16.00 Project/Management Meeting**

**11.00-13.00 Review state of work and steps to finalisation I:**

- WP 6,7 (Streamlining work on final deliverables) ≈ 0,5h
- WP 8 ≈ 0,5h
- WP 9 (including planning of mutual learning workshop) ≈ 1h

**13.00 - 13.30 Lunch**

**13.30-16.00 Review state of work and steps to finalisation II:**

- Helsinki Conference/Interaction with EARTO ≈ 1h
- Publication Planning ≈ 0,5
- Formalities/final review ≈ 0,5

**16.00 End of meeting**



INSTITUT FÜR HÖHERE STUDIEN  
INSTITUTE FOR ADVANCED STUDIES  
Vienna



## **ANNEX V. DISSEMINATION ACTIVITIES**

Dissemination Activities from July 2018 to Sept 2019 are comprised for all JERRI organisations and presented in the form of a multipage table.



Who? Partner institution	Who? Person(s) involved	What? Name of activity; title	What? Type of activity:	When? Date/period of activity	Where? Localisation	Conference/Journal/Website	For whom? Target group	How many people?	other comments
			networking, training, written (paper, article), oral presentation (conference, other events), publication, encounter with stakeholder, fair,...	(date of event, conference, submission,...)			<b>Target group:</b> academic, young people, public, business, industry, stakeholder/experts within/outside the organisation,...)	<b>How many people did/ do you reach with your activity?</b>	
TNO/Fraunhofer	Katarina Putnik, Michaela Friedrich, Anne Spitzley	Poster presentation during STEMM equality congress in Amsterdam. Title: Joining Efforts for Responsible Research & Innovation: Improving gender equality	Poster	11-12 October 2018	Amsterdam (Netherlands)	<a href="https://stemm-equality.com/">https://stemm-equality.com/</a>	Academic and business, experts on topic of diversity	Hundreds-it will be on display throughout the 2 day congress	
Fraunhofer-ISI (Karlsruhe)	Philine Warnke, Andreas Röß	Conference Presentation: "RTOs as emerging nodes of quadrupel helix innovation systems?"	oral presentation	6-8 June 2018	Paris (France)	<a href="https://euspri2018.paris/">https://euspri2018.paris/</a>	academics, experts and practitioner on governance and policymaking	150 (total conference, the session was about 15 people)	
Fraunhofer ISI	Andreas Röß, Philine Warnke	Conference Presentation: "Meeting between the scientist and the public: RRI as a challenging transformation of scientists' identity."	oral presentation	25-28 July 2018	Lancaster (England)	<a href="https://easst2018.easst.net/">https://easst2018.easst.net/</a>	academics and researchers	about 30 people	
Fraunhofer ISI	Andreas Röß, Philine Warnke and colleagues from Fraunhofer ISI, Cornelia Reimoser (Fraunhofer headquarters), Prof. Thomas Potthast (University of Tübingen/International Center for Ethics in Sciences and Humanities)	Consultation and exchange of experience on the topic of: " Integration of Ethics into the research process"	Meeting, oral presentation	9 March 2018	at Fraunhofer-ISI (Karlsruhe, Germany)	<a href="https://uni-tuebingen.de/en/facilities/central-institutions/international-center-for-ethics-in-the-sciences-and-humanities/the-izew/news/">https://uni-tuebingen.de/en/facilities/central-institutions/international-center-for-ethics-in-the-sciences-and-humanities/the-izew/news/</a>	JERRI Ethic Team, other Fraunhofer colleagues who work on similar topics/project	JERRI Ethic Team and two other Fraunhofer-ISI colleagues who work on similar projects	
Fraunhofer ISI	Andreas Röß & INTEGRAM project team	Exchange of experience and results on the topic of: " Integrated research: a critical analysis and practical scientific exchange on the example of the research field Human-Computer Interaction", especially presentation of the developed concept called 'INTENT' which is about the integration of ethical, legal, social and economic aspects to be integrated into the technology development process.	networking, exchange of experience and results, oral presentations	8 February 2018	at Fraunhofer-ISI (Karlsruhe, Germany)	<a href="https://www.isi.fraunhofer.de/en/competence-center/neue-technologien/projekte/integram.html">https://www.isi.fraunhofer.de/en/competence-center/neue-technologien/projekte/integram.html</a>	for the JERRI Ethic Team & INTEGRAM Project Team	about 10 people participated in the project meeting	
Fraunhofer-ISI / Fraunhofer headquarters / Fraunhofer	Andreas Röß	short oral presentation and introduction into the topic: 'RRI as a way of integrating ethics into science and the research process'	oral presentation, encounter with researchers within Fraunhofer (here: graduates of the research management qualification programme called 'Forschungsmanager')	18 July 2018	at Fraunhofer ICT (Pfinztal, Germany), annual meeting of the graduates of	<a href="https://www.academy.fraunhofer.de/de/partner_kooperationen/fraunhofer-">https://www.academy.fraunhofer.de/de/partner_kooperationen/fraunhofer-</a>	Fraunhofer researchers across different research topics & executive staff	about 25 alumnis/graduates of the 'Forschungsmanager-programme', it	



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			networking, training, written (paper, article), oral presentation (conference, other events), publication, encounter with stakeholder, fair,...	(date of event, conference, submission,...)			<b>Target group:</b> academic, young people, public, business, industry, stakeholder/experts within/outside the organisation,...)	<b>How many people did/ do you reach with your activity?</b>	
academy					the management qualifications programme called 'Forschungsmanager'	forschungsmanager.html		is intended to repeat this at next years graduate meeting again	
Fraunhofer-ISI / Fraunhofer headquarters / Fraunhofer academy	Philine Warnke, Andreas Röß (Fraunhofer ISI), Cornelia Reimoser Fraunhofer (Fraunhofer headquarters), Marija Jovanoska (Fraunhofer Academy)	Testing a new ethics module for multiplying and systemizing orientational knowledge on research ethics in the research management qualification programme 'Forschungsmanager'	training with and for academic staff of Fraunhofer, Multiplying the ethic topic within Fraunhofer	July 18 (further similar workshops are planned)	First pilot workshop took place at Fraunhofer ICT (Pfinztal) at 18th July 2018	academic staff within Fraunhofer, especially future executive staff	Fraunhofer researchers & executive staff	pilot workshop reached about 25 Fraunhofer people, it is intended to repeat this at next years graduate meeting again	
Fraunhofer ISI	Philine Warnke, Andreas Röß	launching the JERRI website, constantly updating the news	website design and continuous content development including posting of news	November 2018 - ongoing activity		<a href="https://www.jerriproject.eu/jerrindex.php">https://www.jerriproject.eu/jerrindex.php</a>	academics & researchers within and outside of the organisation, interested public		
Fraunhofer ISI	Philine Warnke	RTO RRI networking	several phone calls with RTO representatives to spread the JERRI experience and enable them to adopt similar measures	spring 2018			RTOs		
Fraunhofer ISI/TNO	Philine Warnke/Joram Nauta	EARTO RRI Dialogue	Development of briefing paper to feed into EARTO CEO meeting in preparation to EARTO annual conference and complementary phone calls and email conversations	1st half of 2018			RTOs		
Fraunhofer IAO	Anne Spitzley, Michaela Friedrich	launching the new gender diversity toolbox	website design and continuous content development including posting of news	ongoing		website	academics & researchers within and outside of the organisation, interested public		
Fraunhofer IAO	Anne Spitzley, Michaela Friedrich	newsletter to launch the new gender diversity toolbox	email newsletter	summer 2018		email newsletter	disseminators	more than 200 disseminators -> by using their networks thousands of people	
Fraunhofer IAO	Anne Spitzley, Michaela Friedrich	dissemination of the publication "Equal Opportunities in researchers everyday work" in German	publication	summer 2018			stakeholders within the organisation	every employee of the Fraunhofer-Gesellschaft	



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			networking, training, written (paper, article), oral presentation (conference, other events), publication, encounter with stakeholder, fair,...	(date of event, conference, submission,...)			<b>Target group:</b> academic, young people, public, business, industry, stakeholder/experts within/outside the organisation,...	<b>How many people did/ do you reach with your activity?</b>	
								(approx. 25.000)	
Fraunhofer IAO	Anne Spitzley, Michaela Friedrich	dissemination of the gender diversity toolbox	email newsletter	summer 2018		website	stakeholders within the organisation	every employee of the Fraunhofer-Gesellschaft (approx. 25.000)	
Fraunhofer IAO	Anne Spitzley, Michaela Friedrich	dissemination of the publication "Equal Opportunities in researchers everyday work" in Englisch	publication	autumn 2018		company website and email newsletter	stakeholders within the organisation	every employee of the Fraunhofer-Gesellschaft (approx. 25.000)	
Fraunhofer IAO	Anne Spitzley, Michaela Friedrich	dissemination of the publication "Equal Opportunities in researchers everyday work" in Englisch	publication	autumn 2018		website	stakeholders outside the organisation, project consortium	50-100	
Fraunhofer UMSICHT	Venkat Aryan/ Jürgen Bertling	Piloting societal engagement - This SE activity was conducted by a scientific staff not related to the JERRI project	Citizen office @ UMSICHT	17 July 2018 - Ongoing activity	Oberhausen, Germany		General public	6 people stayed throughout the event; while 2 left half-way due to other commitments	
Fraunhofer UMSICHT	Venkat Aryan/ Jürgen Bertling	Piloting societal engagement	Fraunhofer debatte Topic: Co-designing urban environments Problem areas: Particulate matter, Sound pollution and Urban structures	Winter 2018	Oberhausen, Germany		General public	from past experiences at least 50 citizens are expected	
Fraunhofer UMSICHT	Venkat Aryan/ Jürgen Bertling Fraunhofer (UMSICHT) Management, Business developers and managerial staff	Collaborative work and societal engagement in science	-Meeting, Poster presentation, experiences from conducting SE pilot activities, deliberative discussions - Survey data was collected from around 35 Managerial staff	8 October 2018	Oberhausen, Germany		Fraunhofer (UMSICHT) researchers across different research topics, executive staff, human resources staff	35 Fraunhofer (UMSICHT) Management and managerial staff	
Fraunhofer UMSICHT	Venkat Aryan/ Jürgen Bertling Fraunhofer (UMSICHT) Scientific and administration staff	Collaborative work and societal engagement in science	-Oral presentation on SE pilot activities, deliberative discussions - Survey data will be collected from UMSICHT researchers	Autumn-Winter 2018	Oberhausen, Germany		Fraunhofer (UMSICHT) researchers across different research topics, human resources staff	At least 100 staff expected	
Fraunhofer IRB	Tina Klages/Andrea Wuchner	Paper/Conference Presentation: Open Science bei Fraunhofer - Serviceentwicklung und Realisierung einer Forschungsdateninfrastruktur für Open Data	Paper/Conference Presentation	2nd half of 2017	Heidelberg/Germany	Konferenzband Forschungsdaten managen	German Research Data Community	presentation reached 50 people, PDF of conference	



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			networking, training, written (paper, article), oral presentation (conference, other events), publication, encounter with stakeholder, fair,...	(date of event, conference, submission,...)			<b>Target group:</b> academic, young people, public, business, industry, stakeholder/experts within/outside the organisation,...)	<b>How many people did/ do you reach with your activity?</b>	
						<a href="http://dx.doi.org/10.11588/eibooks.285.377">http://dx.doi.org/10.11588/eibooks.285.377</a>		proceedings has 572 Downloads	
Fraunhofer IRB	Tina Klages	Presentation JERRI Project EU-Network Fraunhofer-Gesellschaft		1st half of 2018	Brussels/Belgium		EU-Network Meeting Fraunhofer	presentation reached 35 people	
Fraunhofer IRB	Ulrike Küsters/Tina Klages	Conference Presentation and Paper: Fostering Open Science at Fraunhofer	Paper (under peer review)/ Conference Presentation	June 2018	Umea, Sweden	Conference: <a href="https://www.eurocris.org/activities/conferences/cris-2018">https://www.eurocris.org/activities/conferences/cris-2018</a> proceedings: <a href="https://www.journals.elsevier.com/procedia-computer-science">https://www.journals.elsevier.com/procedia-computer-science</a>	CRIS 2018 FAIRness of Research Information 14th International Conference on Current Research Information Systems <a href="https://www.eurocris.org/activities/conferences/cris-2018">https://www.eurocris.org/activities/conferences/cris-2018</a>	Conference presentation reached 250 people and was mentioned within Twitter feeds #CRIS2018 Paper will reach whole academic community	
Fraunhofer IRB	Andrea Wuchner	Article in internal Fraunhofer-Journal "Quersumme"	Article FORDATIS – Speicherraum für Fraunhofer-Forschungsdaten	Nov 17			Employees of Fraunhofer	Journal reaches 24000 employees	
Fraunhofer IRB	Andrea Wuchner	Oral Presentations on Fordatis at Fraunhofer-specific stakeholder-groups like information managers or it manager	Oral Presentation	Autum 2017/2018			Fraunhofer Stakeholders like information manager or it manager	presentation reached 250 persons	
TNO/Fraunhofer	Katarina Putnik, Michaela Friedrich, Anne Spitzley	Poster presentation during STEMM equality congress in Amsterdam. Title: Joining efforts for Responsible research innovation:Improving gender equality	Poster	11-12 October 2018	Amsterdam, The Netherlands	<a href="https://stemmequality.com/">https://stemmequality.com/</a>	Academic and business, experts on topic of diversity	Hundreds-it will be on display throughout the 2 day congress	(next period)
TNO	Joram Nauta/Suzanne Ogier	Annual Report; inclusion of JERRI	Annual Report	n/a	website	<a href="https://www.tno.nl/media/11429/tno_jaarverslag_2017.pdf">https://www.tno.nl/media/11429/tno_jaarverslag_2017.pdf</a>	TNO stakeholders	?	public document
TNO	Joram Nauta	Lunch Colloquium: CSR@TNO	Lunch colloquium	24 June 2018	TNO location Petten		ECN part of TNO	20 directly about 400 indirectly	internal, JERRI is part of wider presentation
TNO	Joram Nauta	JERRI explanation & progress; internal CSR website	Internal CSR website	since July 2018	intranet	n/a/	TNO staff	all interested staff	
TNO	Joram Nauta/ Marc Steen/ Suzanne Ogier	Societal Impact Canvas	Yammer/CSR website	2017	YAMMER	n/a	TNO Staff	~80	promoted in PL-Guild/Yammer



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			networking, training, written (paper, article), oral presentation (conference, other events), publication, encounter with stakeholder, fair,...	(date of event, conference, submission,...)			<b>Target group:</b> academic, young people, public, business, industry, stakeholder/experts within/outside the organisation,...	<b>How many people</b> did/ do you reach with your activity?	
									-followers
TNO	Reijer Gaasterland	New Code on Scientific Integrity	Scientific Code on Integrity	14th september 2018	website	<a href="https://www.tno.nl/en/about-tno/news/2018/9/new-netherlands-code-of-conduct-for-research-integrity/">https://www.tno.nl/en/about-tno/news/2018/9/new-netherlands-code-of-conduct-for-research-integrity/</a>	TNO stakeholders		TNO is signatory (as are all universities, higher education institutes and other Dutch RTO's)
TNO	Marc Steen, Suzanne Ogier en Reijer Gaasterland	Societal and Ethical Impact Canvas	Meetings and Workshops within TNO	20 Feb and 22 Feb with [ICT]; 25 June with Projectleidersgilde; 26 June with [Traffic]; 26 June with [Data Science]; 28 June [Health]; 29 June [Facilitators]; 3 July [Data Science]; 4 July [Innovation for Development]; 17 July [Traffic];					
MMU	Valeria Vargas and also see columns "for whom" and "how many people"	School of Science and the Environment, Manchester Metropolitan University Away afternoon meeting	Dissemination and staff engagement in international research projects. JERRI project was disseminated and website link provided.	13th December 2017	Manchester Metropolitan University, Business School Building		Chemistry, Geography, Environmental Science and Biology academic staff	150	
MMU	Sally Randles, Valeria Vargas and also see columns "for whom" and "how many people"	Colombian Ambassador visit to Manchester Metropolitan University	Meeting with Colombian Ambassador in the UK and Embassy colleague focused on education. Research activity related to Colombian priorities was disseminated by Manchester Met staff. JERRI project was disseminated.	14th February	Manchester Metropolitan University, Business School Building		Colombian Ambassador in London, Embassy staff focused on Education, and Manchester Metropolitan University senior international office staff and research staff.	10	
MMU	Valeria Vargas and also see columns "for whom" and "how many people"	Global Challenges Research Fund Workshop	Research and Knowledge Exchange Workshop for internal staff at Manchester Metropolitan University (Faculty of Health, Psychology and Social Care and Faculty of Education) aimed at engaging colleagues in Global Challenges Research Funding bid	12th June 2018	Manchester Metropolitan University, Brooks Building, UK		Academic Early Career Researchers based at Manchester Metropolitan University	15	



Who? Partner institution	Who? Person(s) involved	What? Name of activity; title	What? Type of activity:	When? Date/period of activity	Where? Localisation	Conference/Journal/Website	For whom? Target group	How many people?	other comments
			networking, training, written (paper, article), oral presentation (conference, other events), publication, encounter with stakeholder, fair,...	(date of event, conference, submission,...)			<b>Target group:</b> academic, young people, public, business, industry, stakeholder/experts within/outside the organisation,...)	<b>How many people</b> did/ do you reach with your activity?	
			development. JERRI project was disseminated and link to the website provided.						
MMU	Valeria Vargas and also see columns "for whom" and "how many people"	MMU-panel on research funding insights for sustainable and inclusive development research	The workshop specifically focused on (1) co-designing South-led transnational research; (2) co-research towards solving mobility challenges for sustainable and inclusive development in ODA-eligible countries with specific attention to in-country priorities of Bangladesh, Cambodia, China, Nepal, Nigeria, Senegal, and South Africa; and (3) co-writing a competitive proposal for research funding. JERRI project was disseminated and link to the website provided.	18th July 2018	Manchester Metropolitan University, Brooks Building, UK		Collaborators from different disciplines and domains (e.g., academic, NGO, government, education, women's health, geography, and media arts) from Bangladesh, Cambodia, Colombia, China, Nepal, Nigeria, Senegal, and South Africa	25	
MMU	Valeria Vargas and also see columns "for whom" and "how many people"	Air Quality Forum	Forum aimed at discussing different options for EAFIT to lead activity to support Air Quality regulation within the University and at City Level. JERRI project was disseminated and website link provided.	1st October 2018	EAFIT University, Medellin-Colombia		Mainly students and staff working on Environmental Law in EAFIT University, although it was open to colleagues and students from across the whole EAFIT University.	40	
IHS	Magdalena Wicher, Elisabeth Frankus	Session at the Annual STS Conference Graz 2018 – Critical Issues in Science, Technology and Society Studies: Understanding, monitoring, evaluating and assessing the impacts of RRI	Conference Session	7th-8th of May 2018	Graz, Austria	<a href="https://conference.aau.at/event/137/">https://conference.aau.at/event/137/</a>	academic	approx. 35	The session was organised together with Richard Woolley, who was involved in the MORRI project
IHS	Magdalena Wicher	Evaluating and monitoring RRI in research technology organisations: experiences and challenges from the EU project JERRI	Conference Presentation	7th-8th of May 2018	Graz, Austria	<a href="https://conference.aau.at/event/137/">https://conference.aau.at/event/137/</a>	academic	approx. 35	
IHS	Magdalena Wicher, Elisabeth Frankus	Presenting JERRI within the panel on "Working on a framework for RRI and its relationship with teaching"	2nd HEIRRI conference	27th of April 2018	Vienna, Austria	<a href="http://heirri.eu/2nd-heirri-conference/">http://heirri.eu/2nd-heirri-conference/</a>	academic	approx. 60	Magdalena Wicher & Elisabeth Frankus were acting as substitutes for Philine Warnke & Andreas Röß

