

N NEW HORIZON

D2.5 Actions and Activities to Realize RRI in Excellent Science

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Authors	Erich Griessler, Helmut Hönigmayer (Eds.) Authors: Michael J. Bernstein, Tamara Brandstätter, Joshua Cohen, Anna Gerhardus, Erich Griessler, Raj Kumar Thapa, Anne Loeber, Ilse Marschalek, Lisa Marie Seebacher, Shauna Stack, Elisabeth Unterfrauner	
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1 Scope of this document

In 2017 The [NewHoRRizon](#) project started its courageous endeavor to promote the implementation of Responsible Research and Innovation (RRI) in Horizon 2020 (H2020) and beyond; on European, Member State and international level. The project invited a broad variety of stakeholders in research and innovation to work together in altogether 19 so-called Social Labs to co-create actions and activities that address the challenges of implementing RRI in terms of its keys of gender equality, public engagement, science education, open access, governance and ethics on the political, institutional and individual levels. The Social Labs were conceptualized as creative and communicative spaces in which different stakeholders were encouraged to identify the impediments of RRI and to start social experiments (Pilot Actions) to address these very challenges. The 19 Social Labs, one in each of the H2020 Program Lines, worked for more than two years to assemble altogether a total of 725 stakeholders from research, innovation, education, funding, policy making, education and CSOs.¹ They created altogether more than 60 pilot activities which tackle the challenges of RRI, identified by Social Lab participants, on the levels of e.g., awareness, training, career assessment, dissemination, policy making, funding. Pilot Actions addressed a range of RRI aspects and located them in many different fields ranging, e.g., from nuclear energy to health, autonomous mobility to artificial intelligence and philosophy. They address a variety of target groups ranging, e.g., from junior and senior researchers, funders, educators, high-school students, industry, graduate and undergraduate students and kindergarten children.

This Deliverable tells about the journey of the Social Labs from their very beginning, in which we struggled to first get an understanding of the particular Funding Line of H2020 and tried to “diagnose” its uptake of RRI, continuing with the identification of our stakeholders and our attempt to incentivize them to participate in the Social Labs. In this Deliverable, we explain which methods we used in our Social Lab Workshops to raise and discuss the question of responsibility in research and innovation and to generate ideas for Pilot Actions, which experiences we made with these group methods and, most importantly, which Pilot Actions the Social Lab participants created, developed, changed and implemented in order to realize their ambitions of RRI and a responsible research and innovation system.

This Deliverable is divided into several parts. The main sections are dedicated to individual Social Labs. Each description of a Social Lab starts with the state of RRI in the Programme Line when we started our Social Lab and continues with a description of the Social Lab workshops we carried out with details of the workshop participants. The report continues with the objectives of the Social Lab workshops, their design and the development of individual Pilot Actions. Thereafter, we reflect on critical moments and challenges during the Social Lab, achievement of our objectives, the potential impact Pilot Actions, issues of workshop methodology and group dynamics. Finally, the pilot activities are concisely described in individual “two-pagers”.

Readers interested in the NewHoRRizon Social Labs will find a description of the methodology of the Social Lab and supporting material in D7.3 (Griessler et al. 2021). Social Lab experiences generated across the 19 Social Labs are analyzed in D7.4 Marschalek et al. 2021).

¹ This number includes all 19 Social Labs and all Social Lab participants in three workshop.

Storylines and Narratives of the Social Labs are synthesized in D8.3 (Loeber and Cohen 2021). More information about the project and additional resources can be found at the [website](#) and, by May 2021, on the virtual exhibition RRI.EX.

We hope you enjoy reading about the Social Labs and what their participants experienced and achieved.

2 Basic information about WP2 and short summary

Table 1 provides an overview on the dates and the venues in which the workshops in the four Social Labs of WP2 were organized.

Table 1 - Workshop details (date and venue) for WP2

	Date	venue
Social Lab 1 (ERC)		
1 st workshop	May 22 nd /23 rd , 2018	Vienna, Austria
2 nd workshop	April 11 th /12 th , 2019	Vienna, Austria
3 rd workshop	January 23 rd /24 th , 2020	Vienna, Austria
Social Lab 2 (FET)		
1 st workshop	May 24 th /25 th , 2018	Tromsø, Norway
2 nd workshop	March 12 th /13 th , 2019	Tromsø, Norway
3 rd workshop	March 4 th /5 th , 2020	Tromsø, Norway
Social Lab 3 (MSCA)		
1 st workshop	June 8 th /9 th , 2018	Amsterdam, The Netherlands
2 nd workshop	May 10 th /11 th , 2019	Amsterdam, The Netherlands
3 rd workshop	February 28 th /29 th , 2020	Amsterdam, The Netherlands
Social Lab 4 (INFRA)		
1 st workshop	May 13 th /15 th , 2018	Vienna, Austria
2 nd workshop	April 10 th /11 th , 2019	Reichenau/Rax, Austria
3 rd workshop	October 24 th /25 th , 2019	Sant Feliu de Guíxols, Spain

Table 2 gives an overview on the total number of participants. In total 165 people participated in the Social Labs of WP2. Over the course of the three Social Lab cycles, a decline in participation is visible. The issue of drop-outs will be addressed individually in each section of this report.

Table 2 - Participant numbers for WP2

	1 st workshop	2 nd workshop	3 rd workshop
Social Lab 1	18	14	10
Social Lab 2	17	12	6
Social Lab 3	21	17	21
Social Lab 4	12	7	10
Totals	68	50	47

Table 3 - Participants per country of work for WP2

	SL1 – 1st Workshop	SL1 – 2nd Workshop	SL1 – 3rd Workshop	SL2 – 1st Workshop	SL2 – 2nd Workshop	SL2 – 3rd Workshop	SL3 – 1st Workshop	SL3 – 2nd Workshop	SL3 – 3rd Workshop	SL4 – 1st Workshop	SL4 – 2nd Workshop	SL4 – 3rd Workshop	Total per country
AUT	6	3	1							n/a			10
BEL	1	3	1	1					1				7
BGR													
BIH							1						1
CHE	1												1
CZE								1	1		2	3	7
DEU	1			3	2	2	1		1			1	11
DNK				1			1	1			1	1	5
ESP			1				3	3	3		1	1	12
EST	1												1
FRA				1	1	1	2	1	2				8
GBR	3	2	3	1	2		2	2				1	16
HUN	2												2
ISR	2	3	2										7
ITA		1	1				1						3
LVA							2	2	1				5
NLD	1			3	2	1	3	3	8		1	1	23
NOR				2	1	1	1	1	1				7
POL		1		1	1	1					2	2	8
PRT		1		1			4	3	3				12
SVN				1	1								2
SWE			1	2	2								5
Total	18	14	10	17	12	6	21	17	21	12	7	10	165

3 Social Lab 1 – ERC

Authors: Erich Griessler, Tamara Brandstätter, Joshua Cohen, Anna Gerhardus, Shauna Stack

3.1 State of RRI in ERC before NewHoRRizon

3.1.1 Method of diagnosis

We started our inquiry into the ERC and the current status of RRI therein with desktop research. We searched the internet for policy papers and working documents as well as evaluation reports in order to generate a basic understanding about the ERC, its mission, structure, processes, actors and their functions as well as the role RRI does and could play within the funding of the ERC. In addition, we explored literature on the ERC and the funding of basic research.

In addition, we did exploratory expert interviews. Interviewees were selected based on their intimate and internal knowledge about the formal and informal structures and processes of the ERC (e.g. the peer review process, proposal writing etc.). We selected the following categories of interviewees for the diagnosis, which later on could become members of the Social Lab by several strategies.

1. First, we asked an NCP we already had interviewed for suggestions of colleagues from other countries. NCPs should provide hands-on experience with application and funding of the ERC; on the one hand because they are involved in negotiations with the ERC on a political level, on the other hand because they support applicants who want to receive an ERC grant.
2. Second, we interviewed two representatives of the Austrian Academy of Science which recently addressed the issue of societal relevance of basic research in two funding schemes. Since the direct avenue to the ERC was blocked, we wanted to better understand how a research organization that is dedicated to funding and performing excellent basic research perceives and addresses societal relevance of research, RRI and the ERC.
3. Third, we asked the Austrian Research Funding Agency (FWF) for participation, a funding organization whose mission, like the ERC, is to fund excellent basic research. This contact led to an interview with a representative from Science Europe, an association of European Research Funding Organisations (RFO) and Research Performing Organisations (RPO), based in Brussels. Again, this strategy should remedy the lack of access to the ERC.
4. Fourth, with the help of a consortium partner we identified several CSOs which are dealing with issues of research and innovation (R&I). Interviewing them should provide us with information on how they perceive R&I and RRI. The recruitment of CSOs for the workshop was particularly difficult because of the limited resources these organizations face. Even when we explained that we would cover their travel costs, two CSOs were unable to participate because they lacked staff and time.

By the end of April, we interviewed altogether 15 interviewees who either have direct experiences with the ERC (as grantee, applicant, evaluators, NCP) and/or with basic research in general. Grantees came from the natural and social science as well as humanities; they either hold a „Starting“, „Consolidator“ or „Proof of Concept“ grant. We also interviewed unsuccessful applicants, NCP's, representatives from funding agencies, a EuroScience representative of CSO and one ERC panellist.

An important source of information for identifying additional interviewees and Social Lab participants was the keyword research on CORDIS of ERC-projects our colleagues from CWTS did. A first key word search covered the six keys of RRI and resulted in eight top projects with regards to the key. We contacted all of them and interviewed many of the principal investigators.

After learning through informal conversations that the notion of interdisciplinary might be a potential opening for involving the ERC (because it is mentioned as excellence criterion), we asked our colleagues at the CWTS to identify ERC-projects which an emphasis on inter- and transdisciplinary. We also asked the ERC press office for data about such projects. Again, our request was declined, this time because of data protection. The CWTS key word search resulted in a list of 195 projects. In a next step we hand selected the abstracts and identified 39 projects which might be particularly relevant for RRI. We contacted all project leaders, or rather project members, and received two answers. Both of them joined our Social Lab and participated in the workshop. We speculate that low turnout of our request was due to the fact that we sent out the mail in late April, only three weeks before the Workshop.

3.1.2 The ERC

The ERC was established in 2007 in the 7th Framework Programme and was part of the “Ideas Programme” (Ferrari 2014). In the subsequent Horizon 2020 programme, the ERC became part of the first pillar “Excellent science”. The ERC’s objective is to “fund excellent scientists and their most creative ideas” (ERC 2018a). The ERC strongly emphasises a funding philosophy that differs in vital aspects from other Horizon 2020 programme lines. This philosophy can be summarised as:

- The ERC is “open to top researchers of any nationality, age and gender, from anywhere in the world to perform research in Europe” (ERC 2018a);
- It funds “bottom up, curiosity driven research”;
- It has “no thematic priorities; any field of research (life science (LS), physical sciences and engineering (PE), social science and humanities (SH))” is eligible.
- It provides long-term, individual grants for ground breaking, high-risk/high gain research;

The ERC stresses several principles of its governance² (ibid.):

- The sole selection criterion for funding is “scientific excellence”;
- The selection of proposals is based on international high-quality peer review;
- The ERC is a funding scheme “for scientists, by scientists”; its representatives are researchers, this includes the President, Vice Presidents and its Scientific Council;
- The ERCEA is responsible for the management of applications and grants.

The ERC philosophy and governance structures emphasise “independence of the scientific community in the governance” (Luukkonen 2014: 35). The ERC considers this as one of “the secrets of the success” (ERC 2018: 2) or, to put it differently, vital “for the achievement of its fundamental objectives” (Luukkonen 2014: 35).

The ERC provides five different forms of Grants:

- Starting Grants (up to € 1.5 million) “support researchers at the early stage of their careers, with the aim of providing working conditions enabling them to become independent leading researchers” (ERC 2018h).
- Consolidator Grants (up to € 2 million) support researchers “who are at the early stage of their careers but often already working with their own group” (ibid.).

² For a concise overview of the governance of the ERC see König 2016: 152 or <https://erc.europa.eu/>.

- Advanced Grants (up to € 2.5 million) “support outstanding and established research leaders by providing them with the resources necessary to continue the work of their teams in expanding frontiers of scientific knowledge” (ibid.).
- Proof of Concept Grants support the establishment of “the innovating potential of ideas stemming from (...) existing ERC grants, helping (ERC grantees) bridge the gap between research and social or commercial innovation” (ibid.).
- Synergy Grants (up to € 10 million) support “small teams of scientists who wish to jointly address ambitious research problems at the frontiers of knowledge, bringing together complementary skills, disciplines and resources” (ERC w.d.).

The ERC is entirely funded by Horizon 2020 of which it is a key component (ERC 2018a). It represents 17% of the overall budget of Horizon 2020 (ERC 2018b), i.e. € 13 billion (2014-2020). In 2018 the ERC has an annual budget of around € 1.9 billion.

3.1.3 State of RRI in ERC

Although the ERC never uses the term RRI in its documents, it deals with all RRI keys to different degrees and uses lesser or stronger means of governance to address them. The comparison of ERC documents and interviews

Table 4) shows similarities and differences in how various keys of RRI are addressed:

- Both ERC documents and interviews show a high awareness for **Open Access**. ERC documents and interviewees also show some awareness for **Science Education and Science Literacy** but no awareness for **Open Innovation**.
- There is higher awareness in interviews than in ERC documents for the topics of Ethics, **Gender Equality, Public Engagement** and **Reflexivity/Anticipation**.
- There is higher awareness in ERC documents than in the interviews for **Governance**.

Table 4 - Comparison Assessment of RRI ERC documents and interviews

Category	ERC Documents and Literature	Interviews
A	High awareness: <ul style="list-style-type: none"> • Open Access 	High awareness: <ul style="list-style-type: none"> • Open Access • Ethics • Gender
B	Some awareness <ul style="list-style-type: none"> • Gender • Ethics • Governance • Science Education and Science Literacy 	Some awareness <ul style="list-style-type: none"> • Public Engagement • Science Education and Science Literacy • Reflexivity / anticipation as responsible innovation concepts beyond the RRI keys
C	Limited awareness <ul style="list-style-type: none"> • Public Engagement 	Limited awareness <ul style="list-style-type: none"> • Governance
D	No awareness <ul style="list-style-type: none"> • Open Innovation • Reflexivity / anticipation as responsible innovation concepts beyond the RRI keys 	No awareness <ul style="list-style-type: none"> • Open Innovation

The central question, whether, how and to what extent the ERC is ready to take up RRI issues, is highly political. There is a serious friction between, on the one hand, the ERC's self-image and self-set tasks and funding philosophy, its understanding of how to do proper science, of what constitutes a right relationship between science and the wider society, about the autonomy from the European Commission it strives for, and, on the other hand, its understanding of RRI and its perceived implications for science and the ERC.

A strong call for "excellence only" is frequently used in basic research funding, not just the ERC, in order to reject the call for RRI. This rejection is particularly in regard to deeper forms of Public Engagement, Gender Equality not limited to counting numbers of staff, and ethics assessment not only understood as research ethics and research integrity, but also in consideration of the societal and environmental impact of research and its applications. Elements of RRI such as Gender Equality, Public Engagement, and Ethics are at times interpreted as being in conflict with the concepts of "excellence only" and "autonomy of science". They also lead to the delicate question of ownership of the ERC. The former president made her position clear: "The ERC has been a unique and bold experiment to put the scientific community in charge. It must safeguard this position" (Nowotny 2017: 997). Other elements of RRI such as Science Literacy and Science Education, Ethics and Governance are considered at times as burdens for researchers.

However, analysis showed numerous openings for RRI:

RRI can contribute to scientific excellence. As case study research showed, introducing RRI into research can have a positive impact on science, e.g., PE and asking gender sensitive research questions can lead to new research questions and insights, PE can provide access to previously unavailable data, diversity in research groups might increase performance (Wuketich et al. 2017). Also, a survey amongst European researchers showed a high share of researchers who either observed or expected scientific benefits from applying RRI keys in their work (Bührer et al. 2018).

The evaluation shows that interdisciplinary research can be a way to increase societal impact. Interdisciplinary research can also be a means of assessing societal impact of research. However, challenges of evaluating interdisciplinary research mentioned in interviews and the literature should be addressed.

At the ERC several initiatives already exist that address keys of RRI. There are Thematic Working Groups for Gender Balance and Open Access (including respective plans). Furthermore, there are guidelines for Science Literacy and Science Education and, in addition, assessment tools and governance mechanisms for Ethics.

A number of projects which deal with the question of Public Engagement (Citizen Science, stakeholder engagement) currently are or have been carried out. There are signs of certain awareness for citizen science within the ERC on an institutional level.

Currently, applicants and grantees are engaged in Public Engagement activities such as lectures, interviews, and popular articles. These are already supported by the ERC. These efforts could be strengthened if they received support by research institutions and recognition in evaluation. RRI should not create additional pressure and burdens for researchers (who are already heavily burdened by administration and teaching) and funders.

3.2 Social Lab and Social Lab Participants

Work on the Social Lab commenced in 2017 with the diagnosis phase. In this stage we assessed the state of RRI in the ERC (see section 3.1) and identified and recruited Social Lab participants. When it became clear that ERC and the ERCEA refused cooperation, we broadened the initial objective of our Social Lab from “RRI in the ERC” to “RRI and basic research”. Therefore, we started to involve stakeholders relevant for addressing this broader aim. These included research performing organizations (RPOs) and national research funding organisations (RFOs) that focus, like the ERC, on basic research. Nevertheless, we continued to primarily focus the ERC and RRI by involving ERC grantees, applicants, evaluators and National Contact Points (NCPs).

The series of Social Lab workshops went on from May 2018 to January 2020. All workshops were held in Vienna at the Social Lab Management’s premises because of practical reasons. Table 5 provides an overview on workshop dates.

Table 5 - Workshop Dates (date and venue) for ERC

	Date	Venue
1 st workshop	May 22nd/23rd, 2018	Vienna, Austria
2 nd workshop	April 11 th /12 th , 2019	Vienna, Austria
3 rd workshop	January 23 rd /24 th , 2020	Vienna, Austria

The number of workshop participants varied between 18 and 10 and the composition of the Social Lab was in constant flux; people left the Social Lab for various reasons and new invitees joined (see).

Table 6 - Participant numbers, gender, drop out and new recruited participants (ERC)

	Number of male participants	Number of female participants	Total number of participants	Number of drop outs	Number of newly recruited participants
1 st workshop	10	8	18		
2 nd workshop	6	8	14	8	9
3 rd workshop	6	4	10	6	6

The 1st workshop had 18 participants. In between the 1st and 2nd workshop, eight of them decided not to attend the 2nd workshop. The reasons they provided for stopping their engagement were lack of time, interest, institutional support for RRI, too little financial support for pilot activities and other commitments. To remedy the foreseeable decrease in participants and to include new people whose support would be critical for future Pilot Action implementation, we invited new people based on participants’ recommendations and information from relevant documents. Thus, nine new Social Lab participants from academia/research and CSOs joined the 2nd workshop. This workshop had altogether 14 participants. Our continued efforts to invite ERCEA representatives to the workshop remained unsuccessful. For the 3rd workshop, we limited invitation to participants who actively engaged in Pilot Action development or could support Pilot Action implementation after the end of NewHoRRizon. This workshop had ten participants including six new Social Lab participants. At this workshop we were also able to welcome an ERCEA representative. In general, participation in workshops involved fewer participants and became increasingly focused on concrete Pilot Action implementation as the Social Lab progressed.

The Social Lab had a good mixture in terms of gender. Eight women and ten men participated in the 1st workshop; in the 2nd workshop the composition was eight women and six men and in the 3rd workshop four women and six men.

The majority of participants came from academia and research; followed by RFOs, CSOs and other organizations (see Table 7).

Table 7 - Participants by stakeholder group (ERC)

Specification	Academia/Research	Business/ Industry	Policy				Other	
			EC	other	independent	CSO	funding	lay person
1 st workshop	13					1	4	
2 nd workshop	9					4	1	
3 rd workshop	6			3			1	
Totals	28			3		5	6	

The Social Lab was also very mixed in terms of participants' countries of residence. Participants came from all over Europe (Table 8). However, since the international research system is highly mobile, focusing on country of residence only provides part of the information. In the 1st workshop, e.g., participants residing in Austria had Austrian, Russian, Spanish or Swedish nationality.

Table 8- Participants of SL ERC (per country of residence)

Country	1 st Workshop	2 nd Workshop	3 rd Workshop
AUT	6	3	1
BEL	1	3	1
CHE	1		
DEU	1		
ESP			1
EST	1		
GBR	3	2	3
HUN	2		
ISR	2	3	2
ITA		1	1
NLD	1		
POL		1	
PRT		1	
SWE			1
Total	18	14	10

3.3 Workshop objectives

The general aim of the Social Lab, as stated in the invitation letter to potential participants was to “establish a creative space that allows you and other experts to share your experiences and to develop new approaches to accommodate and integrate aspects of responsibility into research and innovation.” The Social Labs would “consists of a series of three stakeholder workshops in which participants from science, research funding, intermediate organizations as well as civil society

organisations will develop and test measures that address issues they consider relevant in the context of responsibility and basic research.”

Within this general objective, each workshop had specific objectives.

- In the 1st workshop, participants should work on a shared understanding of responsibility in basic research in general and the ERC in particular and start to develop pilot activities to address responsibility/RRI issues in basic research and the ERC.
- The 2nd workshop should promote an atmosphere in which interaction between participants becomes more condensed. The group should integrate. The Social Lab management team should promote a feeling in the group that the Social Lab works together on a shared project. New participants should be able bring in their new perspectives and participants should increase their commitment, but can also make the decision to quit. After the 2nd workshop, the Social Lab should continue in a more engaged and coherent way. Design should provide the space to develop new activities, integrate the newcomers, to decide what to continue and stop, and have room for new things because of new experience and people.
- The objectives for the 3rd workshop was (1) to reflect and evaluate Pilot Actions; (2) to extract lessons learned to make it useful for the participants, the ERC and NewHoRRizon; (3) to conclude from the experience for future Pilot Action uptake.

3.4 Social Lab design

Before each workshop the Social Lab team worked out a detailed design that should help to achieve workshop objectives. In the following, we summarize this design for each workshop.

3.4.1 1st workshop

The 1st workshop was scheduled for two days. In order to give participants an option to fly in on the first day, the workshop commenced mid-morning. The event started with a welcome, an introductory- and ice-breaking session to acquaint people with one another and a conceptual input on RRI. Thereafter, participants shared in groups of four for the first-time ideas about RRI. They discussed, how RRI could enrich but also burden their work. The results of these small group discussion were presented in the plenum.

After lunch, the group came again together in a plenary session and engaged in a dialogue about the presentations of the small groups, their ideas about RRI and arising questions. Thereafter, the Social Lab Manager presented results from the diagnosis report. This was followed by a Q&A session.

After coffee, participants formed three small groups and discussed the question: “What are the potentials, visions and benefits of RRI for our work in the ERC”. The findings of the small group discussions were put on flip charts and presented to the entire group in a gallery walk. This presentation was followed by another exercise in small groups. The small groups discussed: “What is the current reality of RRI in ERC: reservations, difficulties and barriers?”. Again, the findings were summarized on flip charts and presented to the entire group in a gallery walk. The first day ended with a working dinner in which the topics of the day were deepened.

The second day was dedicated to actually generating Pilot Actions. The day started with a dialogue in which participants pondered the question “After experiencing yesterday’s information and conversations, what comes to my mind when seeing the gap between current reality and potential?” After this exchange, each participant wrote his/her first idea for a Pilot Action on a pin card and entered in a consecutive exchange with three other participants, explaining the idea. After that, participants

created a title for the Pilot Action, a very short description of the possible Pilot Action and put them on a flipchart. Next, all participants who have not produced a flipchart visited the Pilot Action ideas and talked with the creators of the Pilot Action idea. In the next step, every participant decided which Pilot Action idea he/she wanted to work on. Everybody walked to, and stood close to the respective flipchart. The two to three Pilot Action ideas with the most supporters were selected.

In the next session Social Lab participants formed three small groups and discussed several questions: (1) What is our shared intention and aspiration? (2) What is the name of our Pilot Action? (3) Which aspects of the visions and of current reality do we address? (3) Who is Pilot Action owner/driver, who is co-driver, and who is part of the team? (4) What support do we need from Social Lab Manager? (5) What are the initial and next actions?

The flip charts were presented to, and discussed with the entire group in a reflecting team approach, i.e. first, the small groups presented their ideas; then, other participants shared for 15 minutes their perspective on strength and weaknesses. Finally, the small group responded shortly to comments from the plenary. When each Pilot Action group had presented their ideas and received feedback, they integrated their insights on their flip charts. After that, the group reflected in a dialogue on the 1st workshop and addressed two questions: “How did I experience the first step of our Social Lab? How do I feel about continuing our work?” Answers were documented on flip chart. A farewell to the participants ended the 1st workshop.

3.4.2 2nd workshop

The 2nd workshop started midmorning with welcoming participants. Given the feedback from the 1st workshop that more information was needed about NewHoRRizon and RRI, a presentation at the beginning of the workshop focussed particularly these issues. Based on the assumption that Pilot Action development would strongly depend on participants’ personal engagement and passion for RRI, they were asked to ponder in couples in the next session three questions: “What interests me about RRI? What is my ambition regarding RRI? What is my aspiration regarding this workshop?” This session should remind participants about their personal ambition for RRI and spark motivation.

After lunch, participants were asked to review the 1st workshop and their experience since then. Each Pilot Action group worked out and documented responses to the following questions: (1) What were the motivations for engaging in the pilot? (2) What does the Pilot Action look like now compared to workshop 1? (3) What societal challenge does it address? (4) What kind of encouragement did you experience? (5) What kind of resistance did you experience? (6) What are our insights? (7) What questions do we ask to be addressed? Newcomers joined the Pilot Actions groups they want to listen to and learn about. The pilot groups presented their group findings in a plenary and then worked again on the seven previous questions. After a brief break the group discussed in a plenary dialogue the question: “How to develop relationships between science and society to better meet needs of society?”

After a working dinner in which the topics of the first day were reviewed and further discussed, the group commenced on the 2nd day to continue the discussion of Pilot Actions. First, the group decided which Pilot Action to continue and which to stop. Next, the groups worked on the Pilot Actions that were continued. Again, the groups addressed the following questions: (1) What is our shared intention and aspiration? (2) What is the name of our Pilot Action? (3) Which aspects of the visions of current reality do we address? (4) Who is Pilot Action owner/driver, who is co-driver, and who is part of the

team? (5) What support do we need from SL Manager? (6) What are the initial and next actions? (7) How and when do we stay in touch – email, skype, ...?

The Pilot Actions groups prepared the answers to the questions on flipcharts and presented them in the plenary. Like in the 1st workshop, the findings of the small groups were discussed in a reflecting team approach. Each small group integrated their learnings. The 2nd workshop ended with a reflection round. Participants put their answers to the following questions on pin cards and shared them in the plenary: “What was inspiring and engaging for me? What are my thoughts and feelings about fulfilling the purpose of the social lab?”

3.4.3 3rd workshop

The 3rd workshop started with a welcome, an outline of the agenda and an introductory round. Thereafter, the Pilot Action teams prepared a presentation of their own Pilot Actions and addressed the following questions: (1) What did we do? (2) What was our intention? (3) How was our energy level? (4) How did we deal with barriers? (5) What were our accomplishments? Following presentations, the entire group reflected on each of the Pilot Actions. After lunch, the group discussed the narratives provided by the NewHoRRizon team in Work Package 8. This session was followed by a plenary dialogue reflecting the challenges, lessons and suggestions for ERC. A working dinner concluded the first day by reviewing topics and planning ahead.

On the 2nd day of the workshop an ERCEA representative presented the ERC’s perspective on RRI. Thereafter the group asked questions and discussed the future of RRI in ERC and how lessons from the Pilot Actions may support the incorporation of RRI in ERC. Then, the group reflected in three small groups how to implement the lessons learned and pilot activities in their own work. The small groups presented their findings in the plenary by addressing the following questions: “What are steps that could be taken individually or on organisational level?”. Next, the Pilot Action groups presented awards for particular accomplishments of group members. Each Pilot Action group decided what “Oscar” the other Pilot Action group is awarded, prepared a certificate and presented a short laudatory speech. The workshop ended in a plenary with a reflecting dialogue addressing the following questions: (1) What did I/we enjoy most about the Social Lab process as a whole and about the other Pilot Actions? (2) What have you learned during this journey? (3) How may the Narratives suggest appropriate repertoires for future RRI action? (4) What can you do now with RRI that you couldn’t do before? (5) What can be integrated from RRI in your work? (6) What can you do to extend the RRI paradigm in your organization after this experience?

3.5 Pilot Action Development

In this section we describe the development of Pilot Action. In the 1st workshop, the participants created altogether 11 Pilot Action ideas and started to work on four. Two of these Pilot Actions were stopped during, the 2nd workshop. In this workshop an additional Pilot Action was developed. At the end of the 3rd workshop the Social Lab had two Pilot Actions running. Table 9 provides an overview of the four Pilot Actions.

Table 9 - Overview on Pilot Actions worked on in Social Lab ERC

Number	Pilot Action Name	Created in	Status
1	EURO-Expert and RRI	1 st Workshop	Running
2	COR! – collaborative Open Research	1 st Workshop	stopped during 2 nd workshop
3	RRI to improve excellence of ERC	1 st Workshop	Stopped during 2 nd workshop
4	Quadralogue	2 nd Workshop	Running

In the next section we present in more detail how these four Pilot Actions developed during the Social Lab process.

3.5.1 Pilot Action 1: EURO-Expert and RRI

The idea for this Pilot Action originated in the 1st workshop. It focuses on public engagement in research and on dissemination of research results to different publics and interested users. By linking societal impact with scientific excellence, the Pilot Action tries to increase acceptance of RRI at the ERC and among researchers. It addressed the constraints of time and resources, researchers' experience as well as scepticism among them about research dissemination which inhibits public engagement. Moreover, it addressed a perceived gap between ERC and its grantees in these matters.

During the Social Lab, the Pilot Action changed several times. It became more specific and closely connected to a concrete ERC project. As a consequence, the Pilot Action name changed from a more general notion of combining "Excellent Research – Excellent Impact" and "Excellent Research and Stakeholder Engagement" to connecting a specific project and RRI ("EURO-Expert and RRI"). The Pilot Action group started to work in the 1st workshop under the presupposition that the ERC might in the future allocate a dedicated budget to RRI in each ERC grant.

Since the team still needed clarification at the end of the 1st workshop about roles, timelines, commitment and resources, the Pilot Action drivers and co-drivers were not yet appointed.

After the 1st workshop, the composition of the Pilot Action team changed. First, the number of its members decreased. Second, a new participant joined. Third, the most active participant, Livia Holden, principal investigator of the ERC funded project "Euro-Expert" and her project team became Pilot Action drivers. The Euro-Expert project studies the use of cultural expertise by legal decision-making authorities. The project already has a number of public engagement activities and wanted to stress, in addition, its RRI components.

In the time between the 1st and 2nd workshop, the content and design of the Pilot Action changed as well. The Pilot Action team decided to develop a project website template for basic research projects to generate public engagement and allow the public to follow/modify the project trajectory. The website should be interactive and address different stakeholder groups who might be interested in EuroExpert. A specific website should highlight the RRI aspects of Euro-Expert for a wider audience in an accessible, informative, and interactive way. The aim in the RRI website was to enter into a wider societal discussion about the project's findings and the experiences of those affected and to inform as well as interact with a wider audience about the role of cultural experts in the context of litigation. As one respondent of the ex-post evaluation of the 2nd workshop put it: "The website could provide a clear, replicable and scalable example (template) to understand how RRI could be linked to different ERC projects".

In the time between the 1st and 2nd workshop, a junior researcher in EuroExpert, developed a plan how to implement the RRI website. The Social Lab assistant supported her by analyzing more than forty RRI websites. It turned out that most of them only provide one-way communication and only a few had interactive elements. One website, however, provided a forum which could be an example to follow. To support the Pilot Action, the Social Lab manager became a co-driver as well. He should support the Pilot Action team in keeping the communication running, structuring feedback and contributing RRI

expertise. Other Pilot Action team participants decided that they will provide feedback and apply the concept to their own ERC project if they see fit.

In the months after the 1st workshop the Social Lab Management team organized four skype meetings with members of the Pilot Action working group in which different members participated.

During and after the 2nd workshop, the concept of the Pilot Action did not change at its core. However, the target group of the website was refined to legal professionals, as addressing the general public seemed to be a step that should be taken after that. Focusing on legal professionals, e.g. judges and prosecutors, should increase their knowledge about and engagement with the Euro-Expert project and spread the idea of RRI in the legal profession. Addressing the wider public can be achieved through this website e.g. with the blog posts provided by legal professionals. This website helps the Euro-Expert project to interact with and engage new possible stakeholders and make them aware of the project.

In between the 2nd and 3rd workshop, the Pilot Action team changed again. A new person from the Euro-Expert took over responsibilities as Pilot Action driver. The previous person, a junior researcher, concluded that engaging in other than her scientific activities was not part of a traditional academic career. Thus, a new person was included which, in addition to being strongly intrinsically motivated to public engagement also did not experience the conflict between having to peruse her academic career and public engagement activities. The junior researcher remained involved in the Pilot Action by providing content. The new person takes care of the website structure and administrative tasks connected with the website.

After the 3rd workshop, the aim of providing an interactive website has yet not been fully achieved. The Pilot Action team reflected that setting up the website and connecting with stakeholders was the largest challenge, especially with the “limited time” available, as the RRI website is a side task next to the Euro-Expert project. The Pilot Action team also experienced the translation of their work in non-academic language as challenging.

After the 3rd workshop, the Pilot Action driver will further develop the website until August 2021, the Social Lab team will support these activities and try to increase the degree of interactivity. By the end of the project, the team will reflect on the key elements of the website and how they can be translated to other context/websites of other ERC projects.

3.5.2 Pilot Action 2: COR! – collaborative Open Research

This Pilot Action was also developed in the 1st workshop, but in the 2nd workshop the decision was taken to stop it. The basic idea of the Pilot Action was to provide secondments to ERC projects from institutions that would be potentially affected by, and/or could be users of research results, e.g. policy makers. Bringing together researchers with potential users could lead to co-production of knowledge. This could help seeding research in institutions which deal with a problem that is being researched (e.g., the EU or the Organisation of African Unity). The objective/shared intention and aspiration of the Pilot Action is to break down barriers/open up research via multiple pathways (user/CSO <-> scientists/researcher <-> different disciplines) and to add reflexivity to project life-cycles. The Pilot Action addressed a vision of co-production, dissemination, cross-fertilization, against linear/closed model of knowledge production.

By the end of the 1st workshop, the question about Pilot Action driver and co-driver was unanswered because participants made it dependent on resources, timelines and expectations. The Pilot Action

team needed more information about these issues from the Social Lab Manager. Initial and next actions to be taken after the 1st workshop included the creation of a one pager/proposal to be submitted to NewHoRRizon. This did not happen in between the workshops. At the 2nd workshop, none of the members of Pilot Action team was present. The Pilot Action was displayed as a poster to allow the other participants adoption. Since none of the other Social Lab participants were interested, the Pilot Action stopped.

3.5.3 Pilot Action 3: RRI to improve excellence of ERC

The objective of this Pilot Action, developed in the 1st workshop, was to improve research excellence by implementing RRI in the ERC. The Pilot Action addressed the assumed lack of trust in the ERC in RRI and scattered evidence and practices of RRI inside/outside the ERC. The Pilot Action team made clear that dialogue and trust-building with ERC would be necessary to develop this Pilot Action.

At the end of the 1st workshop, the Pilot Action group asked the Social Lab Manager for background material about RRI, especially on best practices. Initial and next actions were to develop a “Matrix on RRI in ERC process” to identify openings for RRI in ERC practices without threatening the organisation.

After the 1st workshop, the Social Lab Manager organized a number of skype meetings. In these meetings it became clear that the initial idea was not feasible because of lack of access and support from the ERC. The team concluded that the Pilot Action might instead be carried out in a research funding organization with a similar mission like the ERC, i.e. to fund excellent basic research. This idea did not manifest because of lack of institutional support from potential institutions. The Pilot Action was ended in the 2nd workshop since the drivers of this Pilot Action did not participate and none of the other participants adopted the Pilot Action.

3.5.4 Pilot Action 4: Quadralogue

This Pilot Action was initiated at the 2nd workshop by a new participant. It addresses the observation that there is little exchange between researchers, administrators and laypeople about the wider impact of science and technology. Thus, the societal impact of research is little discussed. Nevertheless, the Pilot Action creator thought it is necessary to inclusively talk about these issues.

The Quadralogue is a structured and facilitated dialogue-game. Four people who would hardly meet in other contexts - a researcher, a lay person, a student, a representative of research administration/funding organization - meet for 45 minutes “over a cup of coffee” to discuss science and technology and “the bigger picture” of research. The Quadralogue is an inviting format for a relaxed dialogue to open research to society. In order to help the participants stay on topic, the Quadralogue provides a structured process; it follows a certain sequence and is moderated by a facilitator. Information on how to do a Quadralogue is provided in written material and an introduction video. Empowering students to take the role of a facilitator contributes to a discussion on eye level. Student facilitators are trained in order to support them in their role. The Quadralogue is short enough to fit in peoples’ busy everyday life. It can be organized almost everywhere, without much money and little organizational effort. At the 2nd workshop, a participant described the Quadralogue: “The Pilot Action contributes to public engagement and involvement in research. It is a meeting format for researchers, administrators, students and lay people for discussing research. It is an opportunity for people to learn about new research and contribute to it and an opportunity for researchers to explain their research in a way accessible to nonprofessional and to be contributed by them.”

During the 2nd workshop a Pilot Action team of five participants formed. The owner of the Pilot Action is Eli Lewis from Ben Gurion University, Israel. It was decided that the Social Lab manager should schedule meetings, and provide financial resources to produce the game and train facilitators. The Pilot Action team agreed to communicate via emails. Next steps were agreed upon in the 2nd workshop to receive feedback and to set a date for the first Quadralogue. Eli Lewis arranged a meeting with his dean. The latter was very supportive of the idea and a first Quadralogue was tried out. Thereafter, the activity was turned into a monthly event at Ben Gurion University where the game was played simultaneously at a number of tables on campus. Skype and physical meetings were arranged with the Pilot Action team in which first experiences and ideas for how to implement the Quadralogue in other settings and institutions were discussed.

During the 3rd workshop the format of the Quadralogue was not changed. The Pilot Action team confirmed that the Quadralogue had been successfully implemented at Ben Gurion University. The Pilot Action host reflected that the university's culture of openness towards the local community supported their activities. The "third mission" as it is called at European and North-American universities is an asset/strategy that is core to Israeli Universities. The staff can even approach the management if they feel that this aspect is being neglected. The uptake by the university and the additional testing by the Pilot Action host helped to develop the Quadralogue quite far. The Pilot Action team hopes to create a game that can be used in different contexts.

3.6 Reflection

3.6.1 Challenges and critical moments

We were able to set up and successfully run the Social Lab. Still and not unexpectedly, the Social Lab process was not without challenges. From hindsight, a challenge for the 1st workshop was to recruit the right number of suitable participants. Recruiting participants was time consuming, but finally we achieved this goal. The 2nd workshop posed several challenges in terms of providing sufficient information, motivation and emerging conflicts. There were no such critical moments in the 3rd workshop. While there were critical moments in the 1st and 2nd workshop in which participants worried about questions such as "why are we here" and "is this going in the right direction", the 3rd workshop was very smooth. Table 10 provides an overview of these challenges and when they were critical.

Table 10 - List of challenges and critical moments (ERC)

Nr.	Challenges and critical moments	Workshops
1	ERC rejects involvement in NewHoRRizon	WS 1, WS 2, WS 3
2	Involvement of participants proves difficult; Pilot Actions, as a consequence, are uncertain	WS 1, WS 2
3	Participants are uncertain about the concepts of Social Lab and RRI	WS 1, WS 2
4	Participants are uncertain about the concept of Pilot Actions	WS 1, WS 2
5	Some participants do not fulfill the tasks, they are asked for	WS 2
6	Some participants are dissatisfied with facilitation and methods	WS 2
7	Participant lack motivation to develop Pilot Actions	WS 2

Nr.	Challenges and critical moments	Workshops
8	Frictions about the role of the ERC	WS 3

This section describes the critical moments in the Pilot Action development, how they came up and how they were resolved.

3.6.2 ERC rejects involvement in NewHoRRizon

The main obstacle for the Social Lab was that the ERC and the ERCEA were not interested in cooperation. From the very start, both institutions rejected our recurring requests for interviews, information on interdisciplinary projects and participation in the Social Lab. Finally, an ERCEA representative was willing to join the 3rd workshop and engaged with Social Lab participants in a productive and lively discussion about ERC's perspective on RRI. Social Lab participants appreciated the participation of the ERCEA representative at the 3rd workshop.

A major finding of document analysis and interviews in the diagnosis phase was the ERC rejection of RRI because of conceptual and political arguments. It considers RRI as colliding with its core belief that in the ERC so-called scientific excellence must be the one and only criterion to decide on research funding. The ERC sees its task in defending its autonomy from, what it considers interference by programme research; a strict bottom up approach in research funding is perceived as the only way to safeguard scientific excellence. Stern defence of these two core beliefs might explain why the ERC rejected almost of our efforts to gain information and cooperation.

The ERC's refusal to support NewHoRRizon forced us to rethink our approach of planning and populating the Social Lab. We opened the initial question, "RRI in the ERC", to the broader question "RRI and basic research" which is not limited to a particular institution and involved stakeholders relevant to address this question. These included RPOs and RFO focussing on basic research. Still, we continued our efforts to involve ERC applicants and grantees, ERC evaluators and ERC NCPs. The underlying assumption was that NCPs know the ERC from two sides. On the one hand they are the vis-a-vis of the ERC in discussions of its policies. On the other hand, they support interested researchers in their applications. We involved grantees because of their experiences with evaluation, funding and openings for RRI in ERC projects. We included applicants to get their perspective on the ERC and its processes.

Workshop participants would have liked ERC participation and regretted its absence. Some participants questioned how to change ERCs institutional structure, in the absence of representatives. One participant of the 2nd workshop commented on the absence of the ERC in the ex-post evaluation that "a formal representative of the ERC was missing". A second one wrote "I discovered the strong opposition of ERC regarding RRI. This is something concerning, I guess, because RRI has probably been misunderstood as RRI tools and instruments, and not the core developed through its principles." A third participant remarked that "the workshop goal would benefit greatly if an ERC formal representative would participate." He and recommended the participation of a "high-level (executive, admin.) members of the ER" of course to the next workshop.

Participants were ambivalent about the ERC and RRI. Many of them perceived RRI as a good concept but were satisfied at the same time with the way the ERC works. They considered its work of the ERC

of high value and did not want to risk its funding rationale and autonomy. They were worried that the ERC might lose its scientific excellence and uniqueness if RRI is emphasised too strongly.

3.6.3 Involvement of participants proves difficult, Pilot Actions, as a consequence, are uncertain

Throughout the Social Lab, the involvement of stakeholders into pilot activities remained a delicate and critical topic. This challenge became already apparent during the 1st workshop when participants realized they should engage after the workshop in pilot activities. We assume that asking participants to continue to work after a workshop conflicts with the typical distribution of labour in workshop. From hindsight, we might have failed to provide enough information in advance about the concept of Pilot Actions and their implication for participants. This might have generated confusion. When participants realized that Pilot Actions would need further development in between workshops they became reluctant to engage. From that moment on, motivation of several participants dropped noticeably. As a result, it was impossible to start to work in Pilot Action 2 and the development of Pilot Action 3 was hampered. As a consequence, only those Pilot Actions were finalized which included participants who felt strong intrinsic motivation, institutional support and/or where able to connect and strengthen existing projects.

We tried to address the motivation problem with our design of the 2nd workshop. We tried to tap into and build upon participants' passion for research to motivate them to engage in RRI. We started from the assumption that basic researchers are intrinsically motivated and passionate about their work. They do their work, we assumed, not for financial reasons only, but to contribute to society as well. These passions and motivations are hardly promoted by funding agencies, however. Neither on a European nor on a national level. Therefore, we dedicated one hour of the morning of the first day of the second workshop to "active engagement and personal motivation" and asked participants to reflect in groups of two and later in the plenary on the following questions: (a) What interests me about RRI? (b) What is my ambition regarding RRI? (c) What is my aspiration about this workshop?

3.6.4 Participants are uncertain about the concepts of a Social Lab and RRI

After the 1st workshop, we realized that participants missed information about Social Labs and RRI. We tried to remedy this by sending additional information before the 2nd workshop about the NewHoRRizon project, the Social Lab concept, the Social Lab team and process, the meaning of pilot activity and the diagnosis report. In addition, we reserved 20 minutes of the 2nd workshop for a presentation which addressed the following questions: What is the purpose of workshop 2? What is the purpose of NewHoRRizon? What is the purpose of RRI? Why this may be of great value to you in your research endeavors and European society?

3.6.5 Participants are uncertain about the concept of Pilot Actions

Participants at the 2nd workshop were confused about the notion of Pilot Actions and wanted to talk about the objective of the workshop before they entered into developing pilot activities. They also wanted to discuss the general scope of the Social Lab given that the ERC did not cooperate. In order to address this unclarity the Social lab manager answered questions about the role of Pilot Actions, particularly in the context of ERC's un-cooperative attitude. We pointed out that because of this situation, it would be understandable if no Pilot Actions would have been developed. This reflects the situation of the ERC, basic research and RRI and illustrates the difficulties of implementing RRI in the area of ERC. He again repeated that Pilot Actions should be small, implementable, no extra burden for

participants and beneficial for them. Participants again started to discuss this issue which the facilitator inhibited. The facilitator permitted only one last question and insisted to start developing Pilot Actions.

3.6.6 Some participants do not fulfill the tasks, they are asked for

In several cases of the 2nd workshop it was difficult to motivate participants to fulfill the tasks they were asked for. As mentioned in the Social Lab design description (see 3.4.2), participants of the 2nd workshop were asked to ponder in one session specific questions about their Pilot Action to further develop the idea and involve newcomers. The latter were asked to join existing Pilot Actions groups they were interested in. During this session, participants distributed rather unevenly between the three Pilot Actions developed in the 1st workshop. Many participants gathered around Pilot Action 1, but none around Pilot Action 3. No team member of Pilot Action 2, which subsequently was abandoned, participated in the workshop and people who gathered around the Pilot Action did not know about the Pilot Action and its aims. As a consequence, many participants did not engage in the questions posed but talked about the Pilot Action in general (Pilot Action 1) and their understanding of and criticism of Pilot Action 2.

At the same workshop, the drivers of Pilot Action 1 did not want to address the questions posed to revise their pilot activity. They were already determined how to go about and did not want to open the Pilot Action for new ideas. In the ex-post evaluation of this workshop one respondent remarked that she had difficulties to get heard in the group because the driver already had very concrete ideas before the workshop how to proceed “We have a (Pilot Action) member with rather ready-made ideas how to proceed with the Pilot Action, so there was little chance to change the course of actions within the PA, even though we tried to provide other ideas for consideration.” In order to address this problem, the Social Lab assistant talked to one of the Pilot Action drivers during a break and clarified that it could be helpful to address the questions in order to involve other participants in the Pilot Action. In addition, the Social Lab manager participated in the discussion of Pilot Action 1, took minutes on the flip chart and motivated the drivers to take up suggestions, open up their Pilot Action to other participants and show others a place in the pilot activity.

3.6.7 Some participants are dissatisfied with facilitation and methods

The facilitator’s group moderation at the 2nd workshop was demanding, in the sense that he stuck to the agenda. He did not encourage and support participants when they wanted to divert and discuss the workshop objectives. A few participants expressed their dissatisfaction with his facilitation. One participant criticized the facilitation and started to take on the role as co-facilitator and tried to change the format of the plenary dialogue. On the second day, another participant was critical about moderation as well, the workshop objectives and the way the group worked and wanted to work differently. In the ex-post evaluation one participant remarked “Facilitating is professional but would benefit from more flexibility (sometimes good ideas are blocked because of the wish to stick to the workshop plan). At this stage participants have a better understanding of the workshop goals, expected involvement and support of the Pilot Actions, but at the beginning there was much ambiguity.” On the other hand, another, very active participant felt quite comfortable with the facilitation. He recounted his experiences with workshops in which nothing happened because a few participants disturbed the planned concept by engaging in futile discussions.

In comparison to the 1st workshop the facilitator was more insistent in the 2nd workshop that participants should stick to tasks. In a reflection round of the Social Lab team after the 2nd workshop he explained that he was aware that this attitude of pushing the process forward created resistance.

When one participant explicitly changed the way the dialogue was done, the facilitator did not intervene first, because it was only five minutes to go until the session was over. After the break he explained again the dialogue method. Thereafter, the participant wanted to discuss the situation but the facilitator stopped the exchange and returned to the programme. In a reflection round of the Social Lab team after the workshop the facilitator explained that in situations of frustration it is the facilitator's task to manage resistance against his facilitation on his own. He said that because of his experience of facilitation for more than 20 years he is aware of the difference between supporting or rather leading a discussion and a social lab and a U-process. In discussions, he explained, it is important to give participants space for their opinions and aspirations. Within a social lab the main objective is to start actions. A U-process is not only about talking and discussions and to understand each other, as a result, in a better way, but about starting actions and develop common activities. Therefore, the facilitator decided to be more demanding. This is quite challenging for participants because not every participant wants to be active.

3.6.8 Participants lack of motivation to develop Pilot Actions

Some participants were rather listless during the 2nd workshop to engage in Pilot Action development. One participant who participated already in 1st workshop did not actively engage in these activities. A few others were not active as well because they did not see a role for them or their organization or perceived their role in the workshop in providing advice to those participants who thought about a pilot activity. In order to address this problem, the Social Lab manager joined the pilot activity in which many participants were passive or critical of the process. He tried to involve and engage these participants by encouraging them to provide feedback to the drivers of the pilot activity in the months to come. On the other hand, we also learned to accept that it is impossible to convince people and make them contribute to the pilot activity if they are not interested in the topic. As a consequence, we decided to invite only participants to the 3rd workshop who actively engaged in Pilot Action development.

3.6.9 Friction about the relationship of ERC and RRI

At the 3rd workshop we were able to welcome a representative of the ERCEA at the workshop. During this workshop there was a bit of heated feedback about the ERC narrative because an ERC grantee did not feel that it reflected his experience with the ERC, but the design of the workshop was such that the narrative reflection provided him the time and space to share his thoughts and reaction.

3.7 Achievement of objectives

In this section we reflect to what extent the aim of the Social Lab was accomplished.

3.7.1 1st workshop

The objectives achieved at the 1st workshop included motivating 18 stakeholders to participate. All of them had either direct experiences with ERC (applicants, principal investigators or team members of starting, consolidator and proof of concept grants, panel members, NCPs) or with comparable funding organizations or CSOs dealing in research and innovation. Participants came from the natural and social sciences. Participants commented positively on the group's diversity. The group was of sufficient size and diversity to work well.

Participants had meaningful and differentiated exchanges about RRI in small group discussions, plenary dialogues and plenary discussions. They were able to generate potentials, visions and benefits of RRI but also identified reservations, difficulties and barriers. In summary, participants were positive

about RRI and saw benefits of RRI for their research, for researchers and society. However, they also identified a number of potential burdens for researchers because of RRI. In a dialogue, participants deepened their discussion on RRI. They questioned the concept of RRI (What is responsibility? To whom are we responsible? Is science democratic or meritocratic? Who is responsible? Is responsibility clear cut? What about interests?). They stressed the importance of public engagement but also saw its burdens. Participants pleaded for interdisciplinarity and were ambiguous about Open Access. Finally, participants were keen to keep the particular benefits of ERC, i.e., science driven and bottom up research funding.

The group created 11 Ideas and drafted three Pilot Actions (“Excellent Research – Excellent Impact”; “Collaborative Open Research”; “RRI to Improve Excellence of ERC”), formed provisional teams and defined very first steps.

Participants were in general highly appreciative of the workshop. They mentioned positive experiences with the group, learning results, the workshop process, methods and facilitator. The methods worked. The Social Management team prepared a CV-folder of all participants for the participants. This created a feeling of a group and it was supportive to get to know each other faster and in a nice way. The Social Lab created an interactive atmosphere between participants.

The majority of participants were positive about continuing the process, explicit answers in this respect ranged from cautious optimism to high commitment.

However, there were also a number of objectives which were only partly achieved. First, the number of participants did not entirely match the target of 20. Second, we did not succeed in getting participation from ERC officials. Third, some participants were also critical about some methods. Critique included more input on theory and context of RRI, more information material in advance, individual preparation of the tasks before entering the group process, more clarity about the task of developing a pilot and the Social Lab process and more time and structure during the workshop. Finally, the insecurity about available resources hampered the creation of two teams that could start to work immediately.

After the workshop, nobody stated that he/she was planning to terminate participation in the Social Lab. A few participants indicated some reservation to continue with the Social Lab depending on ERC’s willingness to participate, available resources and the amount of work expected from them.

3.7.2 2nd workshop

At the 2nd workshop, the objective to develop Pilot Actions had been achieved. Prior the 2nd workshop, the Social Lab team was unsure whether we would be able to implement enough Pilot Actions because several social lab participants did not respond to emails; one Pilot Action developed only very slowly and one was stopped altogether. In the 2nd workshop we continued Pilot Action 1 “Excellent Research and Stakeholder Engagement”, abandoned Pilot Action 2 and 3 which participants did not support and created Pilot Action 4 “Quadralogue”. After the workshop we were very satisfied with the development of Pilot Action 1. The new Pilot Action “Quadralogue” was appealing to the other workshop participants and had a very enthusiastic Pilot Action driver. We were confident that we had two very promising Pilot Actions under development.

3.7.3 3rd workshop

The objective of the 3rd workshop, (1) to reflect and evaluate the Pilot Actions; (2) to extract lessons learned to make it useful for the participants, the ERC and NewHorRIzon; (3) to conclude from the experience for future Pilot Action uptake, were fully achieved.

3.8 Potential impact

Already after the 2nd workshop we reflected that both Pilot Actions were sensible and workable additions to ERC projects and/or other public engagement activities.

Because the two Pilot Actions were small add-ons in a particular niche, they would not threaten the ERC as an institution. Both Pilot Actions could work because they were small and did not question the ERC rationale of funding (excellence only) and *raison d'être* (autonomy). This allows experimentation but also limits impact. Both Pilot Actions depend on the high intrinsic motivation of their drivers and Pilot Action team members. We considered this another weak point. Alas, the entire Social Lab's Achilles heel is lack of institutional support by the ERC.

The 3rd workshop confirmed that the ERC is unlikely to be a fruitful avenue by which to disseminate RRI, however the Pilot Actions themselves, as well as their teams, seem energized and willing to continue to practice RRI in the continuation of the Pilot Actions and beyond. The ERCEA representative made it clear that the ERC considers itself as adhering to the keys of RRI without using the concept of RRI.

At the 2nd workshop, respondents of the ex-post evaluation were unsure whether their "Pilot Action is properly suited to fit the institutional context in which you are currently working". Only one of the six respondents who addressed this question answered with "yes"; three with maybe and, two with no. The latter explained their assessment with their personal situation as independent researchers (therefore it was not suited). Moreover, was questioned whether the Pilot Actions can be implemented in the ERC.

3.8.1 Euro-Expert and RRI

We assume that the Pilot Action "Euro-Expert and RRI" does have transformative potential. The Pilot Action team develops this Pilot Action autonomously in the context of their ERC project. If they succeed in motivating other ERC projects to do the same, the Pilot Action might contribute to system transformation. The RRI website can be a tool for institutional change, yet the interactive part needs to be further developed.

The Pilot Action has helped to introduce RRI to legal professionals in Europe and to researchers in the field of cultural expertise/legal scholars. The legal professionals present at the 3rd workshop reflected positively that they would be able to take aspects of RRI into their future work ("I realized the cross cuttingness of their project"). With the Pilot Action, the Euro-Expert project was able to engage with a wider group of stakeholders and more actively engage with legal professionals.

The website is yet only in its beginnings and needs to be further developed. Communicating and engaging a wider audience seems to be a challenge for all stakeholders. Writing about their project in non-academic language will be the first step toward opening up. Making the information on their project accessible to a greater audience (in Europe) and also allowing them to respond might be the next.

3.8.2 Quadralogue

The Pilot Action “Quadralogue” has transformative potential. It happens without little organizational support and doesn’t compete it with a university’s organizational structure and culture.

The Quadralogue was taken up by the president of the Ben Gurion University, Israel and is now organized once a month on campus. There is a person (not part of the Social Lab) who took over the administrative tasks connected to the organization. The Pilot Action driver reports that this is very helpful as the administrative tasks are time Intensive. However, there are attempts to change the game as some subgroups are less motivated to join such an event. Therefore, the Pilot Action host has stuck to his structure and often justify the reasons for the structure.

The Pilot Action was implemented, especially in the field of medical research RRI was discussed. Yet we do not know if all keys of RRI are discussed or If the main focus is on open science. The uptake by the university and the additional testing by the Pilot Action host helped to develop the Pilot Action quite far and we therefore hope to create a game that can be used in all kinds of context.

By regularly playing the game, the Ben Gurion university opened up to their community. The Pilot Action host reported that "most participants entered with fears and left with excitement" this activity is regarded as beneficial for all subgroups and might strengthen the institutional bonds.

The Pilot Action host reflected that the universities culture of openness towards the local community supported their activities. In an informal conversation, it was said that the "third mission" as it is called In European and North American universities, is an asset/strategy that is core in Israeli Universities. University staff can even approach the university management if they have the feeling that this aspect is neglected.

3.9 Lessons for Pilot Action development and implementation

We derived several lessons from Pilot Action development and implementation (see Table 11)

Table 11 - Lessons learned (ERC)

Lessons	
1	Intrinsic motivation is key
2	Being open for new participants is important
3	Balance between flexibility and sticking to planned methods
4	Stop Pilot Actions that don't work
5	Cellular phones distract
6	Conflict is not necessarily bad
7	We cannot reach all participants
8	Unexpectedly, individual people appear as allies, even if institutions are closed

3.9.1 Intrinsic motivation is key

We found intrinsic motivation to be one of the most essential ingredients to Pilot Action development and implementation. Throughout the process, it is necessary to find a common language and common grounds of understanding and this takes time. Also, it takes time to find the right person both for the Social Lab and the Pilot Action teams. Lastly, and most relevant to other fields is that institutional change requires connection through and from multipliers, or individuals who are enthusiastic about an initiative and who can use their enthusiasm to help initiatives get picked up. This person was characterized as an intrinsically motivated person who is less concerned about excellence and impact

factors (“other team members were strongly connected to their carrier”). Finding this person takes time but it will be of greater value for the project.

The Social Lab showed that intrinsic motivation pays off and that individual's with institutional power can serve as "multipliers" when they engage with and actively promote participation in Pilot Actions. Additionally, and on the other hand, the Pilot Action showed that RRI can be picked up more readily when students are empowered and engaged in the activity.

It turned out that motivated participants are important drivers! The drivers of Pilot Action 1 “excellent research and stakeholder engagement” were very committed to their activity and take the action further. The creative energy and communication skills of the owner of Pilot Action “Quadrilogue” motivated other participants.

3.9.2 Being open for new participants in important

In the beginning, we were unsure whether we should accept one researcher who has been suggested by another participant of the 1st workshop because he was not involved in an ERC grant. It turned out that this person was very innovative and enthusiastic about the NewHoRRizon and RRI and contributed new ideas, visions and energy to the Social lab. We learned to trust participants’ advice and to accept participants which seem to be slightly off the target group.

3.9.3 Balance between flexibility and sticking to planned methods

In workshop implementation there was a delicate balance between strictness and laissez faire. On the one hand we had to make sure that people don’t stray and address the workshop topic.

On the other hand, when the facilitator mentioned in the plenary that Pilot Action 1 participant did not address the questions answered one participant addressed them ad hoc. It turned out that the group covered these questions in their discussion.

3.9.4 Stop Pilot Actions that don’t work

It was important to be ready to accept not to cling to Pilot Actions that are not supported. It turned out to be okay to stop a Pilot Action.

3.9.5 Cellular phones distract

Cellular phones distract people from workshop participation. Maybe a no device policy would be good. But this might be too strong an intervention.

3.9.6 Conflict is not necessarily bad

Conflict will occur in workshops and is not necessarily bad. We learned that there will be differences of opinion with regard to content and process. We learned to keep in focus the workshop, the project objectives and the methods to be applied to reach these ends. It turned out that a person who was critical about facilitation was less interested in content but in getting to know the Social Lab method. She did not participate on the second day. Whether this was connected to the conflict is unclear. People who were critical of facilitation and method limited their role to providing advice and did not actively engage in Pilot Action development.

3.9.7 We cannot reach all participants

We tried as much as possible to involve and support all participants. But we also had to accept that some participants are not interested and have different goals.

3.9.8 Unexpectedly, individual people might appear as allies even if institutions are closed

Social Lab participants mentioned that there had been institutional barriers towards implementing RRI. One participant reflected that she “found allies where you would not have thought of”, especially with legal professionals she had the experience that personal motivation and shared values are key to engaging with cultural expertise and RRI. She concluded that even if the institution seems to be closed there might be a way to engage with individuals.

3.10 Workshop methodology

In this section we reflect on the workshop methodology in terms of what worked, what did not work.

3.10.1 2nd workshop

Workshop methods applied in the 2nd workshop worked in general well, although several participants were critical about some of them. Reflecting on existing pilots was important - although some participants were resistant to engage in this activity. It was also important to reflect on participants’ passion about research and RRI in order to motivate them to develop new activities. Moreover, it was important to provide space to think about the design of the pilot activity - although some participants did not engage in the activity, looked at their mobile phone and limited their role to counselling.

Within the U-process it is important not to get into discussions about the process itself, but to enter into action. Otherwise participants run out of energy and no concrete actions start. This is difficult for both the facilitator and participants. Participants might feel lost and the facilitator has to resist their inclination to go off the track.

- In the ex-post online evaluation six of the eight respondents answered the question whether the workshop “did (...) help you to increase your knowledge on Responsible Research and Innovation (RRI)”. Two answered in the affirmative, two “maybe” and two “no”.
- Another respondent stated that the presentation at the 1st workshops was helpful as well as the material sent out and “the fruitful discussions during the workshop which highlighted different aspects of RRI”.
- One respondent mentioned that it was good to participate for the second time, this helped the information sink in.
- One respondent said that his/her knowledge was already high.

Five of the six participants who responded to the question whether the workshop helped them “to reflect on (their) ideas and values regarding responsibility in research and innovation” answered in the affirmative. They explained this with the group that helped them to reflect:

- “When you get confronted with other peoples' assumptions and let them speak, you have to reflect on your own assumptions. It is the personal best reward from these workshops: seeing others' assumptions as well as your own.”
- “The discussions made me reflect on my own research work and ask myself whether I am doing enough in this area. I feel it influences my work especially making effort to involve as many stakeholders as I can and make research more accessible to the public.”
- “it perhaps helped me articulate certain RRI elements, but I think most have already been considered in my research (just by virtue of the type of work I do).”
- “It definitely helped that there was a wide pool of people involved in many initiatives, and there was a tendency to involve each other in potential activities, so it was a great networking

opportunity. This is how research should be done. Unfortunately, I heard a lot about the overall issues early-career researchers face, and that is a rather gloomy picture.”

One respondent mentioned that his/her understanding of RRI changed. Previously for him/her RRI was mainly research ethics and integrity, now it also involves public engagement.

3.10.2 3rd workshop

In the 3rd workshop, small group activities were very useful to stimulate reflection and discuss the pilot activities. They provided moments in which Pilot Action drivers can get positive feedback. For example, outside of the workshop setting the Pilot Action drivers can feel unsure if they are going in the right direction with their activities, however when they come back to the workshop settings and share their experience it seems to create a confidence in the driver that is very motivating to them. This also worked well with critical feedback.

All workshop activities contributed to stimulating reflections about participants’ knowledge and personal views: insight in, and values, assumptions and beliefs about responsibility in research and innovation. As we chose to offer a variety of activities, we have experienced that this helped to foster engagement with all participants, giving each personality a chance to connect.

Many insights happen in between the workshops and outside the social lab setting as well as in the informal parts of the workshop. As in this workshop the main foci were (1) reflect on pilot activities and (2) discuss about the uptake and inclusion of RRI in the ERC. Generally, all activities resulted in a greater understanding of the variety of aspects of responsibility that are relevant for research (funding).

Given the success of the workshop, it seemed that all of the activities were successful in stimulating these reflections, even if they differed and were sometimes in conflict. In fact, it was due to the success of the activities that the conflict was able to arise as participants clearly followed the topic and debated these exact questions (values, beliefs, etc. in R&I).

While the conflict between NewHoRRizon and the ERC was useful in stimulating some reflection and discussion on network dynamics required for RRI-uptake, there was still some confusion about why the ERC was so resistant to RRI. In light of the successful Pilot Actions, the potential for institutional endorsement is clear, so the conflict between the ERC and the RRI seemed to be more of a political one. One interpretation of this could be that the social lab process was successful in identifying which institutions are not best suited for funding RRI-heavy projects. There was an agreement that motivation, particularly intrinsic motivation, is very important to the social lab process. One way this was phrased by the participants was that RRI uptake “will always be a selection of the willing”.

One important enabler of RRI in basic research is the ERC. At the 1st and 2nd workshop, several participants regretted the absence of ERC representatives. They thought that the workshop would have benefited from such participation.

Participants mentioned institutional barriers of RRI such as lack of time and money as well as too much work. It is difficult to encourage researchers not to limit their activity to research only but to think as well about the societal impact of their work. It is also challenging to point out that RRI is a way to do that.

During the 2nd workshop, a participant mentioned that seniors are more motivated to foster RRI but junior researchers are not interested in RRI or rather public engagement activities. They focus on their research and less on the societal impact of their work. The Social Lab reflected the inhibiting factors for RRI and for the institutionalization of RRI in the ERC and the research system. Such hindering factors are “it does not make sense”, “we do not have money” “we do not have time for such activities”, “please tell us what we should do”, “we do not want to change the existing system entirely”, “it is not part of evaluation and career assessment”. These issues were also important for failed Pilot Action development.

At the 3rd workshop it was very helpful to have a ERCEA representative present. However, it also would have been good to have an ERC evaluator who could shed some light on the critique of the evaluation system. Having an institutional representative was great for understanding the political position, but having the evaluator perspective also present would have been good to substantiate a need for systemic change.

3.11 Group dynamics and diversity

3.11.1 1st workshop

The group at the 1st workshop was diverse in terms of gender, disciplines, age, professional background and countries. It comprised of eight women and ten men; natural and social scientists; junior and senior researchers; researchers (applicants, grantees), representatives of CSO, RFO and policy maker; participants from old and new Member States, participants from Non-Member States, from countries with high share of ERC grantees and from countries with a low share. Participants commented positively on the diversity of the group, e.g., “I enjoyed the experience to work with different people” (Participant Nr. 3). “The diversity of the group was fantastic” (Participant Nr. 5); “diverse group, very nice group” (Participant Nr. 7). Although there might have been differences between native English speakers and people who are not (in terms of ease communicating in English), as well as between ERC grantees and applicants and professional status, these did not hamper the group process in a serious way.

3.11.2 2nd workshop

The group at the 2nd workshop was a good mixture of old and new participants, man and women, stakeholder groups and countries. The ex-post evaluation revealed positive and critical voices about group composition and process. Several respondents were rather positive and observed:

- “The openness of the participants made constructive dialogue possible. The structured format of the discussions made it more productive”
- “The participants were indeed a diverse and interesting group of RRI stakeholders (...) Our group did develop a creative and feasible idea that we hope to implement”.
- “The interaction, openness among the participants was amazing, really appreciate the organization of this as well, the chemistry of the teams seems to just simply work.”
- “Great! Very nice people and good exchange of ideas ☺”

But there were also critical comments:

- “The methodology exposed on the Social Lab did not vary from other workshops, and little scope was devoted to actual social impact or societal transformations”
- “the facilitator didn't describe the process”

Many aspects of group dynamics have been already addressed already in Section I. Narrative reflection on Process (see the reflections in point a), b) and c) for critical moment 2, 3, 4 and 5). Most of the critical moments refer to group dynamics. Please refer to these sections.

One respondent remarked: “the rate of this progress over the 2nd workshop was slower than expected, I think in part because: (a) new people were brought in to help with the Pilot Action, (b) the 2nd workshop was set up much like the 1st, where lots of time was given to developing entirely new ideas for Pilot Actions (considering new ideas, perspectives, etc. on Pilot Actions that were already underway”.

Another aspect of group dynamic is that the U process puts participants in uncomfortable situations. At a certain point there is great uncertainty how to proceed further in terms of content. Participants’ previous aspirations and expectations of a workshop disappear and nothing seems to make sense. At this point people feel uncomfortable and dissatisfied, have a feeling of powerlessness and ask for more guidance and help. This situation also might involve conflict. In this situation the facilitator has to keep on track. This happened also in the workshop.

3.11.3 3rd workshop

One of the main factors of the group dynamic, and in terms of professional diversity, was the presence of several judges. These are societal actors that one does not often encounter in everyday life and their presence had a ‘final word’ effect on the group. For example, the judges quickly picked up the power issues at stake with regards to ERC and RRI and often were turned towards for their input from a fairness perspective. This was different from the other workshops which had more natural scientists in attendance. The group dynamic was energized by the conflict between RRI and the ERC, as it promoted much discussion and as previously stated, was often mediated by the presence of judges (implicitly). Overall, it was good to have both positions there (in terms of institutional representatives and grantees of both RRI and the ERC) in order to present and defend their experiences. The group dynamic could have benefited from more diversity in terms of age, as having some (but not many) young people seemed to broaden the perspective of the group.

4 Social Lab 2 – FET

Authors: Raj Kumar Thapa, Michael J. Bernstein, Joshua Cohen

4.1 State of RRI in FET before NewHoRRizon

In this section we present the state of Responsible Research and Innovation (RRI) and the concept of Open Science, Open to the world, Open Innovation (3Os) in Future and Emerging Technologies (FET) programming before NewHoRRizon, based on the diagnosis and expert interviews with different stakeholders in the programme line that we conducted.

FET pursues the objective of fostering radically new technologies with the potential to open new fields of scientific knowledge and contribute to the European next generation industries, by exploring novel and high-risk ideas that build on scientific foundations. The programme focuses on Open, Proactive, and Flagship initiatives and calls that are devoted to the topic of High-Performance Computing.

The document analysis showed that FET adoption of RRI and the Open Agenda increased markedly over time. FET has increasingly featured RRI not only in programme introductory texts, but also in specific call texts and some evaluation criteria. FET support of Open Innovation was visible in the way interdisciplinary and cross-sector collaborations were encouraged. Regarding the Open Agenda, FET support of Open Innovation was evident in the way interdisciplinary and cross-sector collaboration were encouraged. Open to the World is expressed more marginally, but also consistently, as an interest in global collaboration related to excellent research. Some procedural elements of RRI (anticipation, inclusion, reflexivity and responsiveness) could also be perceived. For instance, there was evidence that the FET Advisory Group (FETAG) worked to integrate diverse disciplines into FET agenda setting.

Despite the progress in adopting and integrating RRI and Open Agenda practices, stakeholder engagement in FET projects is mainly dominated by physical and life science, engineering research communities, and industry sectors, with very little evidence of efforts to include CSO/NGOs and public interest groups in the shaping of Flagships. Moreover, at its core, FET's structure reflects a linear vision of technological advancement progression driven by fundamental scientific understanding. In terms of Public Engagement, FET seems to advance a deficit model of communication. Engagement is "Disseminating the project results and attracting large public support", rather than spurring genuine two-way engagement to discern public values.

The interviews with 19 (7 female, 12 male) FET stakeholders revealed that awareness of some of the RRI six keys was relatively high, yet conceptualised in a narrow way. In line with the document analysis, interviewees considered public engagement mostly as a unidirectional undertaking. An area of ongoing difficulty in FET relates to open innovation and broader involvement of CSOs in projects and agenda setting. This challenge is often framed as a difficulty identifying relevant societal stakeholders related to future technologies. Gender Equality is more focused on the gender balance of personnel rather than the gender dimensions of research. Ethics, especially related to data management issues, were often viewed as necessary compliance activities.

An overall perception seemed to be that larger projects, like Flagships, were more amenable to including RRI considerations as opposed to investigator-driven, FET Open projects. Furthermore, interviewees actively engaged in RRI components of FET projects noted that cultures of RRI take time, consistent interaction, and the capacity development of teams. These are features not usually found in the funding of 2 - 4-year projects. Opportunities for programme-level reflection on RRI seemed to

be lacking too: there were few chances to reflect on how/why programme elements like Open are fenced-off as investigator-driven, but the programme also strives to advance commercialization.

Based on the diagnosis of the status of RRI in FET programming, three general approaches are recommended when considering fostering RRI in FET:

- **Support RRI over the long term by taking a portfolio approach.** Cultures of RRI take time to develop—they require time, consistent interaction, and the capacity development of teams. Programme activities that foster connections of internal (to project members) and external (to larger networks) resources can support capacity building over time. Organizational flexibility helps RRI components of projects to adapt to the evolving needs of science and engineering project components. Agile, responsive structures (for example decision processes rather than narrow deliverables) can help provide a balance of flexibility and effective work. FETs diverse organizational forms in Flagship and Proactive projects present a vehicle for greater learning about the implementation of RRI. FET might consider a ‘portfolio approach’ to RRI, where all projects may have to reflect on certain dimensions (e.g., gender equality, open access, and ethics) as part of eligibility requirements... but other RRI activities might be more efficiently realised as part of cross-programme activities (e.g. communication and dissemination of CSAs). FET could consider a series of collaborative workshops with Open, Proactive, and Flagship stakeholders, as well as RRI and SSH collaborators to strategize such a portfolio approach.
- **Connect RRI efforts in FET to RRI efforts across H2020 and other parts of the Commission.** Several issues associated with RRI are tied to systemic challenges facing Europe. For example, gender equality in FET projects is contingent on national education systems at early childhood, primary and secondary education levels. Rather than expecting all projects of each H2020 Programme line to struggle with this topic individually, larger networks and resources could be mobilized across H2020 and other EC activities to address the issue. Existing EC R&I management infrastructures such as European Innovation Partnerships, National Contact Point Networks, Coordination and Support Actions, individual tenders, and ERA-Net Co-funds provide robust examples to learn from, modify, and/or tailor to the purpose of tackling systemic issues related to RRI.
- Now that H2020 has invested in an RRI Toolkit,³ Responsibility Navigator,⁴ and RRI Indicator System,^{5,6} H2020 could make available funds to sustain and augment capacity built with these tools, as well as studies of the wider implementation efforts. Incentives could be designed to encourage participation across all three major arms of H2020 and future framework projects (e.g., contingent appropriations; supplemental awards; proposal review mechanisms, etc.). These and other activities to support cross-H2020 coordination align with a long-term action point for H2020 effectiveness, from the Interim evaluation: “Focus investments in areas of strategic interest for the EU which are relevant to society, and where multiple impacts are expected, for example through focus areas” (EC 2017, p. 236).
- **Include more diverse stakeholders of FET at higher levels.** If and as expectations of impact from FET increase, the programme might consider ways of engaging more stakeholders from a range of societal sectors (beyond industry, to include NGOs, CSOs, labour and consumer

³ RRI Tools project, available at: <https://www.rri-tools.eu/>

⁴ Res-AGorA project, Responsibility Navigator, available at: <http://responsibility-navigator.eu/>

⁵ Indicators for promoting and monitoring Responsible Research and Innovation; Report from the Expert Group on Policy Indicators for Responsible Research and Innovation, 2015, available at:

https://ec.europa.eu/research/swafs/pdf/pub_rri/rri_indicators_final_version.pdf

⁶ MoRRI—Monitoring the Evolution and Benefits of Responsible Research and Innovation, available at:

<http://www.technopolis-group.com/morri/>

groups, as well as public regulatory bodies) when shaping agendas, work programmes, projects, evaluations, and assessments of societal concerns/relevance. Given that technologies exist within social contexts, and R&I is increasingly mobilised to face complex and interdependent social, ethical, cultural, economic, environmental, and technical challenges, extending the peer community involved in shaping FET could help to generate more socially robust knowledge (Funtowicz and Ravetz 1993; Stilgoe et al., 2013).

- Opening up Science and Innovation processes in the ways listed above can avoid ‘closed-loop’ feedbacks of scientists, engineers, and ethicists rating their work as societally relevant, without more open feedback from a more diverse and representative range of societal actors. Such a review could be tied to a larger consideration of what qualifies as a gatekeeper/excellence criterion when it comes to FET projects. This recommendation aligns with several Interim Evaluation action items for the relevance and effectiveness of long-term R&I framework programming, for example: “Involve end-users and citizens in co-designing the R&I agenda and co-create solutions, which should also stimulate user-driven innovation” (EC 2017, p. 235).

4.2 Social Lab and Social Lab Participants

The Social Lab FET convened the first workshop on 24 and 25 May 2018; the second on the 12 and 13 March 2019; the third workshop on the 4th and 5th of March 2020. All three workshops were organised in Tromsø, Norway. The third workshop was a combined workshop with the Social Lab 8 FOOD as requested by the Social Lab participants of both the Social Labs during the second workshop. The participants wanted to gain new insights from cross-lab sharing and see potential synchronisation of the Pilot Actions between the two Social Labs.

Table 12 - Workshop Dates (date and venue) for FET

	Date	Venue
1 st workshop	May 24 th /25 th , 2018	Tromsø, Norway
2 nd workshop	March 12 th /13 th , 2019	Tromsø, Norway
3 rd workshop	March 4 th /5 th , 2020	Tromsø, Norway

The workshop’s stakeholder composition ranged from 17 to 6 participants, and the change in composition was due to participant dropouts from the workshops.

Table 13 - Participant numbers, gender, drop out and new recruited participants (FET)

	Number of male participants	Number of female participants	Total number of participants	Number of SL drop outs	Number of newly recruited participants
1 st workshop	9	8	17	-	-
2 nd workshop	6	6	12	5	
3 rd workshop	4	2	6	10	3

The stakeholder composition was 17 in the first workshop. These were mainly the stakeholders who were interviewed in the diagnosis phase of the NewHoRRizon project. However, the Social Lab composition changed after the first workshop. This was because five participants dropped out of the workshop. Two participants dropped out at the last minutes due to sickness, and three others could not attend the workshop due to conflicting schedules. The dropouts happened at short notice. Therefore, the Social Lab did not have adequate time to recruit new participants to the second workshop. The two participants who dropped out because of sickness were supposed to substitute the

two participants who could not attend, citing conflicting schedules, making their replacement at the last minute a challenge. We had twelve participants in the second workshop.

Between the second and third workshops, the pilot activities in the Social Lab did not progress as planned during the second workshop. Many Pilot Action group members rarely responded to the Social Lab Manager’s query about the status of Pilot Action development and previously planned implementation. Perhaps the Pilot Action groups were too busy with their projects and could not manage time for the activities, or they might have changed organisations or responsibility. Therefore, many of the Social Lab members did not respond to the Social Manager’s invitation for the third workshop.

Consequently, participation decreased in the third workshop. Ten Social Lab members dropped out from the third workshop. However, some of them were not the actual dropouts from the Social Lab. Conflicting and busy schedules, personal issues, illness and developing uncertainty due to COVID-19 outbreaks were the reasons for the dropouts. The Social Lab assumed that they dropped out entirely from the Social Lab for those who did not respond at all.

In the third workshop, only six people participated. The Social Lab Manager invited four new participants to the third workshop. One of them participated in the first workshop but missed out on the second workshop. One of the participants was recommended by a former Social Lab member who could not attend the workshop due to a change in her organisation's responsibility. One of them was recommended by the SL member.

The Social Lab tried to have a good balance in terms of gender. There were nine male and eight female participants in the first workshop; six men and six women in the second, four men and two women in the third workshop.

The majority of the participants were from the academia/research community, followed by policymaking and governance bodies. However, there was no representation of CSO/NGOs and the industry community. Table 14 gives an overview of the stakeholder group composition of participants in all the workshops.

Table 14 - Participants by stakeholder group (FET)

specification	Academia/Research	Business/ Industry	Policy		Other				
			EC	other	independent	CSO	funding	lay person	education
1 st workshop	8		1	6			2		
2 nd workshop	5			5			2		
3 rd workshop	3			3					
Totals	16		1	14			4		

The FET Social Lab was diverse in terms of country of residence. Table 15 gives an overview of represented countries and the number of participants in each workshop.

Table 15- Participants FET (per country)

Country ⁷	1 st workshop	2 nd workshop	3 rd workshop
BEL	1		
DEU	3	2	2
DNK	1		
FRA	1	1	1
GBR	1	2	
NLD	3	2	1
NOR	2	1	1
POL	1	1	1
PRT	1		
SVN	1	1	
SWE	2	2	
Total	17	12	6

4.3 Workshop objectives

The FET Social Lab aimed to provide Social Lab participants with the opportunity to exchange knowledge, network, and explore useful activities to support RRI in current and future FET programming. Three Social Lab workshops were organised, each with different objectives. Therefore, to establish the Social Lab and start to develop Pilot Actions, the FET Social organised the first workshop with the following objectives:

- Convene a diverse group of advisors, stakeholders, and practitioners related to European FET research, innovation, policy, and practice.
- Foster networking and knowledge exchange related to cross-cutting research and innovation areas like interdisciplinarity and RRI (e.g. on gender equality, public engagement, and other topics).
- Brainstorm potential testable actions to support RRI in diverse organisational contexts.

The second workshop was organized during a critical phase of project refinement and pilot project implementation planning. Therefore, it was convened with the following objectives:

- Re-convene a diverse group of advisors, stakeholders, and practitioners related to European FET programme research, innovation, policy, and practice.
- Foster networking and knowledge exchange related to cross-cutting research and innovation areas related to leadership and RRI;
- Refine testable Pilot Actions to support RRI in diverse contexts;
- Develop implementation plans for RRI Pilot Actions;
- Identify Pilot Action captains, and also accept to have co-captains.

The overarching goal was to have participants leave the workshop excited and committed to further refining and implementing Pilot Actions between the end of the second workshop and the start of the third workshop.

⁷ https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Country_codes Please use the codes provided in this list

Ultimately, to finalise the Pilot Actions and develop strategies to implement the Pilot Actions beyond H2020 and the NewHoRRizon project's lifetime, the FET SL convened the third workshop with the following objectives:

- Social Lab participants to meet and share ideas and experiences.
- Construction of narratives.
- Conclusion of the third learning cycle.
- Attempts to further anchor Pilot Actions in participants' organisations and beyond.

4.4 Social Lab design

All Social Lab workshops were hosted in Tromsø, Norway. It would take two days of travel by the participants on either side of the workshop, and the participants could, in turn, only attend for 1.5 days. To accomplish all workshop activities within 1.5 days, the FET Social Lab was designed accordingly to realise all the workshop's objectives. Furthermore, the Social Lab made explicit design decisions to maximise qualitative data capture and accommodate English, being non-native to most SL participants. Below we present the design of each workshop in detail.

4.4.1 1st workshop

The workshop started at 9:00 in the morning with welcome, self-introductions, and icebreaking activities. The Social Lab Manager and Facilitator together with participants set general basic rules related to openness and the enjoyment of the workshop experiences. Furthermore, the participants wrote down their thoughts and comments on post-it notes to be shared in pairs, groups, or plenary depending on the activity and they were placed on flipcharts in the workshop hall.

In the "thinking about responsibility" session, participants engaged in a group exercise. They reflected on their perspectives concerning responsibility, based on what they had learned about responsibility, meaning, and how they recognise it. After discovering each other's perspectives about responsibility in research and innovation, the Social Lab Manager shared a presentation about "Responsible Research and Innovation: Where does the idea come from and what does it mean?" and shared ideas from the EC and wider literature, as well as a bit of his own personal journey. A Q&A session was opened, followed by a plenary discussion and activity after the conversation.

To showcase the diversity of perspectives in the room concerning science, technology, and society, the Social Lab Manager and Facilitator made a deliberate decision. This was done to show the potential of inclusive approaches to RRI for enhancing knowledge and perspective exchange and creativity. The Social Lab adopted a vote with your feet exercise to have some fun and go a bit deeper into the participants' responses on the following statements:

- The creation of new knowledge is enough to justify funding scientific research.
- Publicly funded scientific research needs to do more than only create new knowledge.
- Scientific knowledge is the most important input into political decision-making.
- Scientists should be actively engaged in politics.
- Technological innovation is required to solve major social and environmental challenges. Technological innovation is the source of major social and environmental challenges.
- Members of the public have valuable contributions to make to science. Members of the public have the right to set scientific agendas.

After lunch, the group left for a 'walk and talk' and exchanged their thoughts on:

- How do you see your organisation or project interpreting the gender equality and/or science education dimensions of RRI? What are some activities or approaches that seem to be working? Not working?
- How do you see your organization or project interpreting the ethics and/or public engagement and/or open access dimensions of RRI? What are some activities or approaches that seem to be working? Not working?

Upon their return, the group prepared notes on post-its and placed them on flipcharts for sharing. Then the Social Lab Manager shared the findings of FET programme diagnosis based on desk research and interviews, and opened up Q&A on presentations/ post-its, and the discussions were on the topics:

- Do the findings ring true to you?
- What is missing from the picture? How do the findings relate to your experience?
- What about the stories shared on your walking conversations?

After a coffee break, the participants brainstormed a pool of pilot ideas, put ideas up on the relevant section of the wall (prepared beforehand) for each RRI key, and reflected on whether the ideas overlap, support each other, and relationships between them and combining the, where possible.

Day 1 was concluded by introducing the Social Lab, practical information and the next step for the second day.

Day 2 started at 9am with welcome and a short recap from the first day. The session continued by revisiting the pool of pilot ideas created the previous day. Participants made a series of short pitches emphasising: Why is it a good idea? Why is it needed in the world? And why should we be working on it? Participants voted the Pilot Action based on:

- The Pilot Actions that they think would make the biggest difference to FET R&I
- The Pilot Actions that seem most relevant to their project or organization
- The Pilot Actions that they would be most excited to get involved with

After a short coffee break, the Pilot Actions were selected based on majority votes. Participants then worked in groups with the Pilot Actions development plans, reflections on the workshop and Social Lab. Finally, they considered the next steps for the Social Lab before the workshop formally ended.

4.4.2 2nd workshop

Day 1 started at 9am with a welcome, introduction and icebreaking session. The participants went over the last meeting (first workshop) and set general ground rules. The next session was on mapping what gets valued in FET research and innovation. In this session, there were two rounds of individual reflections:

Round 1: What is deemed important in your professional context?

- What outcomes are valued?
- What behaviours are recognized/rewarded?
- How are you judged?

Round 2: Considering what is emphasized for responsible research and innovation

- Where do you see alignment with what is important and valued from an RRI perspective?
- Where do you see misalignment with what is important and valued from an RRI perspective?

Then the participants engaged in a plenary discussion.

After a coffee break, the session continued by reflecting on where and how things get valued in their own contexts, exploring this individually and in pairs.

After lunch, the participants walked and talked in pairs with a specific focus on sounding-out opportunities for Pilot Actions—based on their individual reflections before lunch and their own context. The next session was an expert presentation and group discussion on leadership and R&I projects that focused on various aspects of leadership, long-term thinking, understanding the values that motivate our work, and the strategies we can employ to work toward our priorities as related to responsible research and innovation over the long-term.

The final session of the first day of the workshop was about Specifying Ideas so far, as well as development and implementation planning. Day 1 was concluded with reflections on the activities carried out throughout the day.

Day 2 started at 9am with a welcome and recap of Day 1. The session continued with a group exercise on Thinking through Initial Action Plans, focusing on development and implementation plans for the Pilot Actions. The participants reflected on the next step for the Social Lab, and looked ahead to the third workshop; then the event formally ended.

4.4.3 3rd workshop

The third workshop began at 9am with a welcome and icebreaking session. The session was followed by a presentation on RRI and NewHoRRizon to (re)-orient the group about why we are here, what we intended, what has been done/found, what we are doing here, how this fit into the larger EU R&I context, and special features about combining SL2 FET and SL8 FOOD. The workshop participants reflected on the ground rules.

After a short break, the participants worked on a Pilot Action overview where they came to terms with each other's Pilot Actions and reflected on: What did they do for the Pilot Action? What did they intend? What came out of the action? Moreover, how was the energy or feeling around its implementation?

After lunch and a brief walk, the Pilot Action groups resumed in-depth Pilot Action reflection sessions. The groups reviewed Pilot Action and considered the lessons learned. People without Pilot Action were there as helpful investigators, to listen and learn. The group posted their discussion outcomes on the flipcharts and presented their findings with the aim of cross-lab sharing and reflections.

After a coffee break, the same procedure (as with in-depth Pilot Action-reflection) was repeated with in-depth context reflections. The group focused on the relationship between Pilot Actions and the H2020 programme line and other relevant institutional contexts.

Day 1 was concluded by a session during which participants creatively reflected individually and as a group on the materials from the day,

Day 2 began with an introduction and welcome, followed by in-depth process reflections where groups focused on the relation between the Pilot Actions and the Social Lab as an instrument to promote the uptake of RRI.

After the break, participants engaged in a group discussion about the Social Lab as a process, and advancing change in organisations, projects, or EU R&I more generally. Towards the end of Day 2, participants discussed shared insights on future embedding, dissemination activities, and experiences based on the question: What from these lessons, comparing across Social Labs OR Pilot Actions, inform how we think about instigating change in R&I more generally; or our organisations and projects? Furthermore, the group discussed these insights as they would concern the final stage of NewHoRRizon, based on:

- Thinking about yourself professionally and what you might have most appreciated about your experiences, interests and needs. Any new perspectives, thoughts, or practice?
- Stepping back ... thinking about yourself personally, and what you might have most appreciated about your experiences, interests and needs. Any new perspectives, thoughts, or practice?

Finally, the workshop was concluded with pragmatic optimism, whereby the participants reflected on their visions for future research and innovation.

4.5 Pilot Action Development

During the first workshop's brainstorming session, the Social Lab participants created several potential pilot ideas. The Pilot Actions were short-listed based on: (1) what the participants thought would make the most significant difference to FET R&I (2) what would be most relevant to their project or organisations and (3) what they would be most excited to be involved in.

Based on majority voting, the Social Lab initially developed three Pilot Actions. These included three RRI training initiatives in general, each geared toward slightly different audiences and implementation cases. However, since the completion of the first workshop, the Social Lab participants and the Social Lab Manager conferred on mutually beneficial resources, revisions to these action plans, and the design of the second workshop for further refinement and implementation of the Pilot Actions.

During the second workshop, the Social Lab refined the potential Pilot Actions chosen during the first workshop, making them more specific and deciding to take them still further. A fourth Pilot Action was developed after the third workshop. The overview of the Pilot Actions developed in FET SL is listed below.

Table 16 - Overview on Pilot Actions planned in Social Lab FET

Pilot Action Number	Pilot Action Name	Created in	Status
1	Quantum Rebels	1st workshop	Running
2	RRI Ethics Review	1st workshop	Completed
3	Yggdrasil	1st workshop	Abandoned in 3 rd workshop
4	It's all in the meme	After 3 rd workshop	Running

In the next section we present the development of these four Pilot Actions in more detail.

4.5.1 Pilot Action 1: Quantum Rebels

This Pilot Action focuses on leadership training in the quantum tech field. It was planned and selected with a majority of votes in the first workshop. The Pilot Action aimed to develop more leadership training on non-authoritarian leadership styles for FET coordinators. During the first workshop the

participants discussed the fact that the quantum tech field has been traditional in its culture towards leadership. The leadership style has been more masculine, competitive, control-oriented, result-driven and arrogant. Furthermore, the field is very unbalanced in terms of gender. Therefore, to allow for more open, inclusive, and reflective R&I, the quantum field needs alternative leadership styles.

With a new generation of leaders in quantum technologies in Europe, there is an excellent opportunity to modernise this culture and avoid the risk of repeating it; the participants foresaw an opportunity to develop inclusive leadership training in the quantum field. They were excited to design and take the Pilot Action further.

After the first workshop and during the second, the Pilot Action and design was further refined. To cross psychological barriers and challenge established habits, participants discussed designing the Pilot Action workshop so that it would be easily accessible and not too time-consuming. Further, they discussed and planned potential cases for the implementation of the Pilot Action. During the second workshop, they planned to organise a training session at the annual meeting of Science and Engineering.

After the second workshop, a new Social Lab Manager took over. The former Social Lab Manager passed on the information that the Pilot Action groups in FET SL are moving very slowly except for one group. In the follow-up process, the Social Lab Manager repeatedly attempted to get in touch with the group working on this particular Pilot Action but found it difficult to reach them, possibly due to lack of time. Later, one of the group members finally responded. The Social Lab Manager learned that the group members were very busy and found it hard to devote extra time and resources to the Pilot Action development and implementation. However, the group agreed to participate in the third workshop and share their experiences.

In the third workshop, only two members from Q-Rebels Pilot Action could participate. The others did not respond to the mail at all. The group discussed and planned to implement the Pilot Action during the meeting of the Science and Engineering Board of Quantum Flagship Coordination and Support and Action (CSA) “QFlag” project in Dublin in November 2020. However, the event could not happen again due to COVID-19 developments.

4.5.2 Pilot Action 2: RRI Ethics Review

The Pilot Action’s initial idea was to provide RRI training with a focus on ethics in research organisations. During the first workshop, the participants reflected that research management organisations do not always monitor ethics compliance. Furthermore, some aspects of ethics, for example, gender balance, may not be considered. Therefore, learning how organisations view ethics can help such assessment. In the first workshop's brainstorming session, one participant presented the idea of addressing ethical issues in research and research management organisations. The group composition had four members.

In the second workshop, the group refined the Pilot Action. Now, the Pilot Action comprises a survey of research management organisations (RMOs) about their ethics monitoring. The Pilot Action group prepared a questionnaire and conducted a survey in European RMOs.

In between the second and third workshop, the Pilot Action host completed the survey. The Pilot Action driver was set to reflect on her Pilot Action group experiences while developing and implementing the Pilot Action in the third workshop. However, she cancelled her participation due to

long travel hours to Tromsø. Other group members did not respond to the invitation, despite several requests from the Social Lab Manager.

Therefore, there was no representation from this Pilot Action group in the third workshop. The Pilot Action host published the findings of the survey in an article in [Euroscientist](#) (Stres, Špela 2020).

4.5.3 Pilot Action 3: Yggdrasil

The Pilot Action Yggdrasil focuses on bringing artists, scientists, engineers, humanists and practitioners together to facilitate the exploration of new frontiers in addressing ethical and societal challenges. The rationale behind the pilot idea is that one cannot always ask scientists alone to have answers to questions about the meaning of life or humanity's meaning. The Pilot Action comprised a group of 4 members.

In between the first and second workshops, the Pilot Action group had a couple of discussions on how to make the Pilot Action more concrete and pertinent in the R&I context.

In the second workshop, the Pilot Action group reflected on the design of the Pilot Action. They planned to host a transdisciplinary expedition with scientific research projects. The Pilot Action group decided to organise a one-day activity in Munich in a park under a tree to go through interaction and set a guideline for future transdisciplinary exchanges.

After the second workshop, the new Social Lab Manager tried multiple times to get in touch with the group working on this particular Pilot Action but had a hard time reaching them, possibly due to lack of time or a change of responsibility or organisation.

The Social Lab Manager sent an invitation for the third workshop to all group members, hoping that the Pilot Action group would share their experience about the Pilot Action process and discuss the Pilot Action's progress and possible impact on existing practices and institutions. Only one group member responded to the invitation and mentioned that her responsibilities had changed and had been taken over by her colleague. She had no more association with the project by which she was connected to the SL. However, she recommended a substitute for the workshop. The Social Lab Manager invited the recommended person to the third workshop and hoped he would be informed about the Pilot Action's status and would share in the workshop. Unfortunately, he did not know about the Pilot Action or the status. Since there was no participation from the Pilot Action group and no reflection on the Pilot Action's progress, the PA has been abandoned.

4.5.4 Pilot Action 4: It's all in the meme

This new Pilot Action has been developed after the third workshop. One of the Social Lab members who missed the second workshop decided to participate in the third workshop. She reflected that she got an opportunity to learn and know more about RRI during the first workshop. Initially, she was interested in implementing one of the Pilot Actions from FOOD Social Lab, "Bias2" into her organisation: Baltan Laboratories (<https://www.baltanlaboratories.org>).

After the third workshop and several rounds of email exchanges with the Social Lab Manager, she showed interest in developing the new Pilot Action and anchoring it into her organisation.

The Pilot Action "It's all in the meme" addresses the issues of prejudices and biases in science and research. It aims to create new levels of agency and awareness about our prejudices and biases in

science through playful and participatory learning. The Pilot Action involves exchange sessions in which the new realms of art, science, and philosophy will be explored.

The session will be developed for 10-15 participants involving leaders and developers in education, technology, design, art, science, and research to start navigating new, level playing fields for future policy, organisation, collaboration and governance.

The Pilot Action host and her colleague have designed the Pilot Action, and the workshop was planned for February 2021. However, the event could not occur due to COVID-19 developments and is planned for later this year, August or September, if the situation allows. However, we have decided to organise the workshop online if the COVID-19 uncertainty continues.

4.6 Reflection

4.6.1 Challenges/critical moments

4.6.2 Pre WS1 Challenges

The first challenge while setting-up the Social Lab was securing participants from CSO/NGO and industry. Although the Social Lab had a strong general representation of Flagships, East-West-North-South Europe, gender, technology areas, and experience with RRI aspects, the representation from industry and public-interest CSOs in areas related to FET (e.g., labour, electronic privacy, environment, and others) could have added more diversity to the Social Lab. The Social Lab Manager had difficulties finding a way to secure at least a few representatives from industry and CSO/NGO communities. Partly, this was because the Social Lab Manager had double responsibility as FOOD lab manager and a full roster of tasks with diagnosis and general recruitment activities.

4.6.3 Challenges /critical moments during WS1

The Social Lab encountered several challenges during the first workshop. The first challenge was associated with participation and logistics and design. The FET Social Lab had a hard time finding a way to fit the workshops' activities into 1.5 days. This was a choice the Social Lab made to host the workshop in Tromsø, since it would take two days of travel by participants on either side of the workshop and they would only be present for 1.5 days.

The second challenge the Social Lab faced was finding a way for participants to efficiently and effectively share experiences with RRI in their projects/organisations. The Social Lab team settled on the activity they designed around walking and talking in a pair in order to exchange their experiences with different dimensions of RRI keys. The participants wrote down reflections/lessons/impressions from the walk & talk on post-its and put them on the flip-chart. However, the Social Lab could not manage time to review these experiences in plenary.

Regarding the first challenge, the Social Lab Management modified the workshop design of the 1.75/2.0-day social lab, focusing on the trio of goals to (1) promote group cohesion; (2) build capacity to understand RRI; (3) spark Pilot Actions that the group would be motivated to pursue.

Regarding the second challenge, the aim was to provide participants with genuine, minimally structured opportunities to share experiences. The walk and talk activity satisfied this goal. However, after gathering participant responses after the workshop, the Social Lab Management noted that it might have been useful if participants had had more time to discuss the reflections from the walk and talk experience in plenary.

4.6.4 Challenges / critical moments between WS1 and WS2

After the first workshop, the Social Lab experienced two challenges. The first was associated with a change in EC policy landscape and the future of RRI. The indication that RRI would no longer be prioritised in the next Framework Programme, Horizon Europe (HEU) and that the SwafS programme would be discontinued happened soon after the completion of our first set of Social Lab workshops (approximately May 2018). From the Social Lab Management perspective, this change in the policy landscape fundamentally altered a key part of how they communicated the value proposition of RRI to the Social Lab participants during the workshop. This critical moment has meant the need to reframe how RRI is communicated with the participants in subsequent interactions. Moreover, this critical moment affected how the Social Lab planned to re-introduce RRI and review the first workshop activities with the second workshop participants.

Although the term RRI seemed to be falling out of favour, evidence showed that several of the underlying aspects of RRI related to inclusiveness (gender, public and stakeholder engagement), open access, and ethics would continue to be emphasised in the future Framework Programme. Therefore, the Social Lab decided to look for a way to efficiently manage limited time to support the Social Lab participants on the Pilot activities that seemed most likely to be related to those parts of RRI that get carried forward into HEU, whatever form it/they take.

The second challenge was associated with the planned departure of both the Social Lab Manager and the facilitator from GenØk. This change in responsibility for the Social Lab could impact the Social Lab and its success in advancing. However, at that time, concrete plans to hire a suitable replacement for the SL Manager were underway.

4.6.5 Challenges/critical moments during WS2

The first critical moment during the second workshop was inadequate Pilot Action momentum. During the second workshop, the Social Lab had sufficient interest in a Pilot Action on training for RRI and from one on leadership development, but not much energy behind any other actions generated in the first workshop. The focus was then building energy to get participants to a point at which they would generate new Pilot Actions and enhance the specificity of the “leadership training” Pilot Action.

The second challenge was last-minute drop-outs. Two people cancelled their participation just two days before the workshop. Both of them were RRI field-specific experts, from whom the other workshop participants and the FET SL would have benefitted.

4.6.6 Challenges/critical moments between WS2 and WS3

The new challenge that the Social Lab faced after the second workshop was a change of Social Lab Manager. It took some time to fill the Social Lab Manager position. After the new Social Lab Manager was appointed to the job, the transformation of responsibilities and formalities took more time. It then took a while for the newly appointed Social Lab Manager to get full access to the Social Lab and data, which caused further delay in getting an overview of the Social Lab participants and the pilot activities that they were engaged with.

The other challenge was about the organisation of the joint workshop of the Social Labs FET and FOOD. The joint workshop was organised per the participants’ request.

We were bit worried how the workshop was going to be and whether we would be able to cover all the activities in the agenda. However, the workshop went well.

The final challenge was about the uncertainty caused by COVID-19 outbreaks. This caused an awkward situation as we were approaching the third workshop date. All the necessary arrangements were made beforehand, and suddenly people started dropping out due to travel restrictions.

However, none of the critical moments caused a major change in the workshop design. Both the former Social Lab Manager and facilitator could assist the organisation of the third workshop. Of course, the COVID-19 outbreaks and large dropouts from the workshop affected the group dynamics and diversity of the workshop; still, participants and the SL could benefit from the exchange of knowledge and experiences from two different Social Labs.

4.6.7 Challenges/critical moments during WS3

The participant dropouts of the workshop already left no representation from the Pilot Action Yggdrasil group. In the Pilot Action RRI Ethics Review, the Pilot Action group members responded that they would not be able to participate in the workshop. The Pilot Action host, however, responded that she would be participating. She added that their Pilot Action was completed, and she would be sharing her experiences with the Social Lab, Pilot activities and outcomes of the Pilot Action from their group in the workshop. However, she cancelled participation at the last minute. This resulted in no participation from the Pilot Action “RRI Ethics Review” group as well. There was nothing the Social Lab Management could do at this point. However, we distributed the short article written and published in EuroScientist by the PA host to the rest of the workshop participants.

4.7 Achievement of objectives

4.7.1 1st workshop

The main objectives that the Social Lab set out in the first workshop were about Lab cohesion; learning about RRI; initial Pilot Action plans. From the Social Lab perspective all the objectives of the first workshop were achieved. The Social Lab was able to ensure participation of a range of high-level FET advisors and Flagship participants, including from the EC flagship. Besides, in terms of diverse participation, the Social Lab also had participation from a Norwegian national funding organization, which has a strategic interest in RRI. The Social Lab, however, could not ensure the participants from CSO/NGOs.

During the workshop, the participants enthusiastically engaged in all the activities on the agenda; they shared knowledge and expertise and participated in individual, group and plenary reflections. The participants brainstormed a pool of pilot ideas, voting for the potential ideas that could be developed and implemented in their individual professional and organizational context.

4.7.2 2nd workshop

Despite the critical challenges and anticipated lower enthusiasm and group energy, the participants worked well throughout the entire workshop. Although there were some participant dropouts from the workshop, the Social Lab managed to maintain to be a diverse group of participants rather similar to the first workshop. During the workshop, participants engaged actively in refining testable Pilot Actions to support RRI in their professional and organisational contexts. The participants formed working groups based on their interest in pilot ideas, decided on the Pilot Action driver and together developed implementation plans for the Pilot Actions.

They were able to generate specific Pilot Action implementation cases. The Social Lab Manager and facilitator were satisfied with the overall achievement of the workshop objectives.

4.7.3 3rd workshop

The third workshop experienced sharp participant dropouts. Furthermore, the invited RRI experts who could play a vital role in sharing their expertise and facilitate further implementation of Pilot Actions in different sectors could not attend the workshop. Moreover, there was no representation from two Pilot Action groups; one Pilot Action was abandoned, and the driver of another Pilot Action dropped out at the last minute due to longer travel time and travel inconvenience. Therefore, the achievement of the objectives of the third workshop remained mixed. The objectives of participants to reconvene to share knowledge and experiences, and the construction of narratives, were partially met. The Social Lab could not confirm whether the anchoring Pilot Action in participants' organisations and beyond was reached. One of the Pilot Action groups could not complete the planned implementation of their Pilot Action. The objective of concluding the third learning cycle was achieved.

4.8 Potential impact

After the second workshop, the Social Lab reflected that the Pilot Actions related to RRI training, and actions related to systemic issues like gender and ethics, are well adapted to the institutional context in which Social Lab participants work. However, there needs to be institutional support and commitment to long-term viability. By the end of the second workshop, the Social Lab reflected that it was too early to tell whether the Pilot Actions could contribute to transforming standing practices to make research and innovation more 'responsible'. Nevertheless, the Pilot Action group had already found the implementation cases by the second workshop. One of the Pilot Actions was developed and implemented in the Pilot Action driver's institute. One other was going to be implemented during the annual project meeting in which the PA group members were working.

The development and implementation of the Pilot Actions could not move forward as the groups had planned in the second workshop. One Pilot Action was completed before the third workshop, one was abandoned, and one is still in the implementation process. However, during the third workshop, one participant expressed her interest in implementing one of the Pilot Actions from FOOD Social Lab into her organisation. After the third workshop, she approached the Social Lab Manager and expressed her interest in developing and implementing a new Pilot Action with her colleague. Since the new Pilot Action is taking place in the host's organisation, it already has some impact.

4.8.1 Pilot Action 1: Quantum Rebels

The Pilot Action Quantum Rebels is a form of leadership training for RRI. It is designed as leadership training about authoritarian leadership styles for FET coordinators in a workshop format. Moreover, it is easy and less time-consuming to create more open, inclusive and reflective research and innovation within the FET community.

After the second workshop, the Pilot Action was supposed to be implemented at the annual meeting of the Science and Engineering Board of the Quantum Flagship in Dublin in November 2019. However, it could not happen due to the PA driver and other PA group members' busy schedules. The group was committed to organising it again in November 2020. Unfortunately, the PA implementation could not happen due to COVID-19 developments. The actual impact of PA Quantum Rebels can only be analysed once its implementation takes place.

4.8.2 Pilot Action 2: RRI Ethics Review

The Pilot Action Ethics Review aims to solve the unethical influence of power differentials and meeting structures on research practices, and comprises a survey of research management organisations

(RMOs) and their ethics monitoring approaches. The Pilot Action development took place in the host's organisation, the Jožef Stefan Institute in Slovenia.

After the second workshop, the Pilot Action driver implemented the Pilot Action among the TTO Circle members, a network of 31 European Technology Transfer Offices (198.349 scientific staff, 5.243 software, 34.338 patents, and 4.143 start-ups). The Pilot Action driver published a short article in EuroScientist. She planned to share her lab experiences and the outcomes of the Pilot Action in the third workshop, but in the event could not make it.

4.8.3 Pilot Action 4: It's all in the meme

This is a new PA developed after the third workshop by a participant of the third workshop. The PA host initially thought to adopt one of the Pilot Actions Bias² from SL8 FOOD. However, she changed her plan and decided to create a new Pilot Action that suits her organisational context.

The Pilot Action's purpose is to create new levels of agency and awareness about our prejudices and biases in science, research and innovation. The Pilot Action involves exchange sessions among leaders and developers in the field of education, technology, design, art, science and research, where the realms of art, science, and philosophy will be explored.

The Pilot Action host planned a PA workshop in February, which could not happen due to the COVID-19 situation. However, she is determined to carry out the workshop because substantial work has already been done in developing the PA. The event is planned for a physical gathering in May/June or September, depending on the situation with COVID-19. If the situation does not allow a physical meeting, the PA host has decided to go entirely online.

4.9 Lessons for pilot development and implementation

The FET SL indicated several lessons learned while developing and implementing Pilot Actions.

- A broader stakeholder group needs to be engaged, and the focus should be on what people need and how to engage them creatively, and how to work and support each other.
- Diversity brings diverse ideas; some work of these and some do not. Regardless, outcomes will be excellent and satisfactory.
- Governing bodies should be included in the Pilot Action development process, and not only during the implementation phase.
- The Social Lab workshop should be held in a more central geographical location so that more time can be spent in action planning. Due to the travel inconvenience for the participants, the FET SL workshops were compressed into 1.5 days instead of 2 days. A full 2 days or even just 1.75 days could make a big difference in Pilot Action development and implementation planning.
- More clarity about RRI could have been achieved prior to the workshop by sharing information on RRI.
- Pilot Action development requires motivation and commitment from the participants and for this, it is essential to reflect the 'value proposition' clearly. Further, the adoption and implementation of Pilot Actions, the purpose, process and potential outcomes should be assessed early on.
- Collaboration among the cross social labs and Pilot Action teams should be increased to avoid an overlapping of Pilot Actions and to increase the R&I impact.

- It is essential to share knowledge and experiences gained in different Social Labs and Pilot Actions groups among the networks, and this should be made accessible online.
- We need to share not only the positive outcomes and achievements of the Pilot Action process but also the negative outcomes, for the sake of the robustness of the Pilot Action development and implementation.
- While individual motivations are vital in adopting Pilot Actions, organisational support and commitments are equally important in securing the sustainability of the Pilot Actions.
- Systems change, behaviour change, bringing people together, and reducing the gap is challenging.

4.10 Workshop methodology

4.10.1 1st workshop

In the first workshop, we adopted a think-pair-share café activity to learn peoples' perception of responsibility in the context of research and innovation. The activity was designed for 60 minutes, half for the group discussion and half for plenary reflections. We divided into four participants per group, two were asked for stories about responsibility, and the other two were asked for stories about irresponsibility. The group had four rounds of sharing, question and answer. The Social Lab adopted the prompt about responsibility generally; however, it would have been better if the Social Lab had focused the topic on "responsibility in the context of R&I". This could have helped to specify the conversation and make it more relevant to the RRI topic and goals. Moreover, the general conversation could also have been valuable if the time allowed.

4.10.2 2nd workshop

In the second workshop, the Social Lab had a mixing and mingling event on the agenda. The Social Lab adopted a Captain's dinner party exercise, a modified fish-bowl exercise, where each Pilot Action was the focus of group reflection. The participants were asked to share potential challenges and coping strategies to refine Pilot Actions. Both approaches were very helpful for stimulating reflection on and adopting Pilot Actions.

4.10.3 3rd workshop

In the third workshop, the Social Lab Management used a combination of different activities: plenary seating and a flexing positive and negative reflection muscles activity, whereby the participants reflected on positive experiences that they had during the year in the first round, and the negative experiences in the second round. Furthermore, the Social Lab Management set ground rules together with the participants at the beginning of the group and plenary discussion/reflection and mock interview activities, working in smaller groups and cross lab sharing. All these activities were very productive in achieving the workshop objectives.

4.11 Group dynamics and diversity

4.11.1 1st workshop

The group dynamics of the Social Lab were very positive and enthusiastic. This could have partly been because several participants already knew each other from other FET activities. The Social Lab managed to ensure group diversity as regards gender, sector and geography. However, at least a few participants from CSO/NGO and industry communities could have given additional group dynamism and diversity.

4.11.2 2nd workshop

Although participation dropped compared to the first workshop, the Social Lab managed to maintain some degree of diversity in terms of gender, professions and country of representation. The dropouts definitely affected the group dynamics and diversity. Moreover, the Social Lab could not ensure any representation from CSO/NGOs, which could have changed group diversity and dynamism. However, the participants were still enthusiastic and motivated to work and reflect on the individual, group and plenary level. Overall, the groups worked really well and contributed to achieving all of the workshop objectives.

4.11.3 3rd workshop

Participant turnout was comparatively lower in the third workshop. Some participants dropped out from the Social Lab, while others dropped out from the workshop due to busy and conflicting schedules, and other personal reasons. The COVID-19 outbreaks and the uncertainty they occasioned caused further dropouts from the workshop; the newly invited participants could not attend the workshop due to travel uncertainty. These all affected group diversity negatively and created lower energy than previous workshops. However, throughout the workshop, the participants were enthusiastic about sharing and learning from each other. The joint workshop of the Social Labs FET and FODD, however, to some extent widened group diversity and new energy in participants for sharing knowledge and experiences from different Social Labs. Moreover, the active participation and reflections of the new participants added enthusiasm. Overall, the groups worked well.

5 Social Lab 3 – MSCA

Authors: Joshua Cohen, Anne Loeber

5.1 State of RRI in MSCA before NewHorizon

5.1.1 Method of diagnosis

In the diagnosis we investigated the current situation of RRI (Responsible Research and Innovation) and the concept of the 3 O's (Open Science, Open to the world, Open Innovation) by performing a desk research in the form of document review, and by conducting expert interviews with different stakeholders in the field. The document review for the Marie Skłodowska -Curie Actions (MSCA) incorporated a representative selection of work programme and call documents, a scoping paper, evaluation guidelines, proposal templates and other relevant materials from EU websites from 2014 until 2018 (start of the Social Lab). Using qualitative analysis software (Atlas.ti), these documents were coded with codes referring to the six keys of RRI (public engagement, gender equality, science education, open access (open science), ethics and governance), process dimensions such as (anticipation, inclusiveness, reflexivity and responsiveness) and societal (including ethical), technological and economic challenges.

The semi-structured in-depth interviews were held via online communication channels with 12 experts and other stakeholders related to the MSCA programme line. Among the respondents were a member of the European Commission (EC) Unit responsible for the programme line, (former) representatives of MSCA related Associations and National Contact Points (NCPs). We also made use of the CORDIS key word analysis done by colleagues at The Centre for Science and Technology Studies (CWTS) and manual validation of presence of RRI and sustainable development goals related key words in MSCA related projects to describe some RRI-case briefs of MSCA related projects (see D2.1 for further information on the methodology).

5.1.2 Marie Skłodowska -Curie Actions

In place since 1996, MSCA is a part of the Excellent Science Pillar of Horizon2020. It seeks to strengthen career opportunities of promising academics, by enabling worldwide and cross-sector mobility, and supporting training in research and innovation and in other skills. The MSCA programme line is comprised of several sub-programme lines that fund respectively promising post-docs (Individual Fellowships (IF), be they Global or European) or networks of organizations training early stage researchers (like the Innovative Training Networks (ITN) in all their different forms; European Training Networks, European Industrial Doctorates or European Joint Doctorates). Moreover, MSCA funds Research and Innovation Staff Exchanges (RISE), provides Co-funding of regional, national or international programmes (COFUND), and provides support for the European Researchers' Night (NIGHT) which seeks to show European citizens the positive impact of European science on their lives and to entice younger citizens for the possibility of taking up a scientific career.

During H2020, MSCA mobilized €6.1 billion EURO. The programme is highly competitive, with a threshold score of about 80%, and success rate for applicants of about 15%. Successful applications are of Higher or Secondary Education Institutes (67.3% of the total budget), Research Organizations (19,1%), Private for Profit (10,3%) and Public Bodies (10,8%). Responsible for MSCA is a Unit within the European Commission Directorate-General for Education, Youth, Sport and Culture (Dir C), Innovation, International Cooperation and Sport (Bernstein et al., 2018).

5.1.3 State of RRI in MSCA

We concluded (Berstein et al., 2018) that some RRI-related aspects in MSCA are relatively well institutionalized (MSCA has e.g. a strong focus on gender and ethics). Yet the relative high extent of institutionalization, our research showed, did not produce consensus among MSCA related stakeholders about the concept's exact meaning, nor did it produce a high level of awareness. To be precise: the way in which RRI was addressed and acted upon varied widely across the funding scheme. Moreover, there appeared to be an interesting difference between the 'paper reality' (Goffman, 1960) of RRI in MSCA (Table 17), RRI in MSCA-related practices and the interpretations of responsibility we found in interviews.

From the document analysis, we concluded that ideas captured with the three O's may be seen as MSCA's *raison d'être*. All actions in MSCA aim at contributing to the knowledge-based economy by stimulating the circulation of knowledge notably via stimulating the mobility of knowledge producers and their training. It also showed that the RRI concept was explicitly mentioned from the second Work Programme onward. Interestingly, in most documents, both sides of Gender Equality (balance of gender in the make-up of a team and the gender dimension in research) were mentioned and MSCA was the best ranking programme within H2020 in regard to gender (47% of its grantees are female). Science education was also central and for example the NIGHT scheme focused on sharing knowledge. Open Access as a theme was present since the first Work Programme and seemed to be predominantly phrased in terms of 'exploiting' and 'disseminating results'. There were also some critical points. Public engagement seemed to be predominantly phrased in terms of one-way engagement. Ethics was singled out as a separate theme in grant proposals forms and treated separately in the assessment of submissions, as a result of which it was seen by grantees merely as a 'tick box' issue. The 'Governance' key was absent in the analyzed MSCA documents.

Table 17 - Assessment of RRI MSCA documents

Category	MSCA Document analysis
A	High awareness: <ul style="list-style-type: none"> • Gender Equality; • Science Education/Open Access (in terms of 'communication'/'dissemination'); • Three O's (in terms of 'cross-sectoral -'/'international -'/'transnational-'/'inter/transdisciplinary' research and 'mobility').
B	Some awareness <ul style="list-style-type: none"> • RRI as a concept gaining momentum; • Open Access; • Public engagement (predominantly unidirectional); • Ethics (tick-box).
C	Limited awareness <ul style="list-style-type: none"> • Very limited awareness of societal embeddedness of research (only mentioned once).
D	No awareness <ul style="list-style-type: none"> • No mentioning of or elaborations on upstream engagement; • Governance.

Interviews showed that awareness of RRI as a concept differed per interviewee. Policy actors were more aware than researchers or even experienced NCPs of the concept. Understandings of responsibility in R&I also differed.

Some predominantly revolved around research integrity, whereas others focused on responsibility for the conditions under which researchers work. Some researchers perceived a certain responsibility towards the society of which they form a part.

The diagnosis showed that the various forms in which RRI had been institutionalized in the rules and incentives in MSCA could actually form a barrier for a further integration of RRI on the level of practice. For example, the current focus on gender balance and the gender dimension in research could hide from view the experience of day-to-day gender-based discrimination that grantees reported. Science Education and Public Engagement were mostly interpreted as the idea that engagement with non-scientists predominantly involves dissemination of information. A reading of engagement that fits, as an interviewee observed, the deficit model paradigm “*we researchers know, and we will let you, the public, know*”, *without acknowledging that there is expertise among the public, that there are all kinds of questions coming from the public*’ (Int. 2).

There appeared to be a discrepancy between the ‘paper reality’ of RRI in MSCA and RRI in MSCA-related practices that were sometimes focused on narrow understanding of research excellence, an understanding that strongly permeated major policies and institutions related to MSCA. It implied that excellence is often understood and assessed in terms of the amount of publications in high impact factor journals, with evaluators and supervisors supporting this narrative. Furthermore, there is a noted lack of structural incentives to change this perception.

At the same time, we noticed some existing *de facto rri* practices, that is to say, interpretations of responsibility in research that are acted upon in practice. These came to the fore notably via representatives of the alumni organization for MSCA-grantees, an organization that is (partly) sponsored by the EC. The Marie Curie Alumni Association (MCAA) caters to the interests of all kinds of actors related to the MSCA programme line. This organization we noticed brought together many engaged researchers with strong views and ideas on changing the existing research and innovation system.

5.2 Social Lab and Social Lab Participants

5.2.1 Stakeholder engagement pre-1st workshop

Work on the MSCA Social Lab commenced in February 2018 and continued until Spring 2021 with the last (on site) workshop taking place in Amsterdam in February 2020 (see Table 18). Social Lab recruitment started with the process of interviewing stakeholders for the diagnosis phase of the NewHoRRizon project. This process proved to be quite challenging because of the sheer number of funded projects, types of funding, topics and geographical spread of the stakeholders. All of this made it hard for us to actually know where to start our diagnosis and subsequent interviews and recruitment; every choice in that respect seemed arbitrary but also instigative of a form of closure which would close off the integration of the pure plurality of viewpoints and visions related to RRI and MSCA. Luckily, we managed to get into contact with MCAA representatives who took a central role within the network of dispersed MSCA grantees (see challenges and critical moments for an elaborate reflection on this process), as a result of which we were able to identify – in relation too with the information from the NewHoRRizon CORDIS key word analysis by CWTS – a wide variety of potential participants.

Table 18 - MSCA workshops: date and venue

	Date	Venue
1 st workshop	June 8 th /9 th , 2018	Amsterdam, The Netherlands
2 nd workshop	May 10 th /11 th , 2019	Amsterdam, The Netherlands
3 rd workshop	February 28 th /29 th , 2020	Amsterdam, The Netherlands

5.2.2 1st workshop

For the 1st workshop, we decided to invite actors from the MCAA and other actors based on either the amount of leverage (and networks) we assumed they would have, whether or not they had (long-term) experience with funding practices (be it as an NCP, private adviser or in a host organization) and whether or not they already applied (aspects of de facto) RRI in their work as researchers (current/former grantees or coordinators). We also felt it necessary to achieve some form of geographical spread and gender balance and to achieve representation from the different types of actions funded under the MSCA scheme. We achieved a spread of some sorts with only the RISE actions and the GF, EID and EJD funding schemes having no representation.

Of the more than 50 invitations we sent out, we had a relatively high positive response rate of 21 participants, 13 female and 8 male (see Table 19). 15 were related to academia, one independent and five actors were related to funding such as NCPs and funding advisors (see

Table 20). The participants came from Portugal (4), The Netherlands (3), Spain (3), France (2), Latvia (2), UK (2), Bosnia (1), Denmark (1), Germany (1), Italy (1) and Norway (1) (see Table 21).

Table 19 - Participant numbers, gender, drop out and new recruited participants (MSCA)

	Number of male participants	Number of female participants	Total number of participants	Number of SL drop outs	Number of newly recruited participants
1 st workshop	8	13	21	-	-
2 nd workshop	7	10	17	7	3
3 rd workshop	7	14	21	6	7

5.2.3 2nd workshop

In the 2nd workshop 17 individuals participated, seven males and ten females. Twelve participants came from academia, four from funding organizations while one from education community. The participants came from the following countries: Portugal (3), The Netherlands (3), Spain (3), Latvia (2) UK (2), Norway (1), Denmark (1), Czech Republic (1) and France (1). We registered 7 “dropouts”. Most of them expressed their interest to continue participation but had other obligations. One was on paternity leave, another did not respond to repeated requests (probably because of lack of interest). One participant (a freelance trainer) notably mentioned that she could not participate in further Pilot Action development if she did not get a form of Intellectual Property Right over the Pilot Action. The Social Lab Management team recruited new participants using a snowballing technique via former participants, current participants, and made an effort to include actors because of their particular relevance to further developing specific Pilot Actions (e.g. the president of Eurodoc was invited to gain support for the RRI Manifesto).

Table 20 - Participants by stakeholder group (MSCA)

specification	Academia/Research	Business/ Industry	Policy	Other					
			EC	other	independent	CSO	funding	lay person	education
1 st workshop	15				1		5		
2 nd workshop	12						4		1
3 rd workshop	12	1		2	2		4		
Totals	39	1		2	3		13		1

5.2.4 3rd workshop

In the 3rd workshop, altogether, 21 individuals participated, seven males and 14 females. They came from The Netherlands (8), Portugal (3), Spain (3), France (2), Belgium (1), Norway (1), Latvia (1) and the Czech Republic (1). They represented academia (12), business (1), governance (2) and funding (4). These numbers comprise the participants who continued the Social Lab since the 1st workshop and those who joined the Social Lab during the 2nd and the 3rd workshops. We had 6 “dropouts” in the run-up to the 3rd workshop. Again, most participants did not really drop out but informed us that they would have liked to attend but could not because of other obligations (family) or time constraints (work pressure related to proposal writing deadlines). The only real clear drop out during the process was the freelance trainer that we mentioned earlier. New stakeholders were invited on the basis of their involvement in contexts to which the respective Pilot Actions were in principle relevant, on the basis of their knowledge of MSCA funding practices and governance, or were invited as experts to help guide Workshop sessions. We went at great lengths to involve a representative from the EC, who expressed an interest in participating in view of the Research Kiosk Pilot Action (later renamed “Knowledge Kiosk”), and seriously considered joining the Workshop on the first day. Alas, on short notice, he could not participate after all because of other obligations. He did inform us that he was interested in the outcomes of the workshop.

Table 21 - Participants by country of residence in MSCA

Country	1 st workshop	2 nd workshop	3 rd workshop
BIH	1		
BEL			1
CZE		1	1
DEU	1		1
DNK	1	1	
ESP	3	3	3
FRA	2	1	2
GBR	2	2	
ITA	1		
LVA	2	2	1
NLD	3	3	8
PRT	4	3	3
NOR	1	1	1
Total	21	17	21

Overall, we can see that participants predominantly came from academia and funding, that there were more females than males who participated and that they hailed from a wide range of European countries.

5.3 Workshop objectives

In the next section we will describe the different workshop objectives.

5.3.1 1st workshop

For the 1st workshop, we came up with the following objectives, in particular to foster a sense of agency among participants with regard to being able to effect change for RRI:

- To convene a diverse group of researchers, policy advisors, funding brokers and other stakeholders related to European research, in particularly the MSCA funding scheme;
- To explore and connect ideas on and experiences with fostering responsibility and associated themes (e.g. public engagement, gender equality, open access, science education, ethics, responsiveness and others) in research and funding practices;
- To develop and share knowledge about what RRI may entail in practice;
- To elaborate potential actions ('Pilot Actions') and options for collaborations to support a further elaboration of responsibility in research and innovation, and its uptake in the MSCA funding scheme.

5.3.2 2nd workshop

For the 2nd workshop, we wanted to reflect on joint efforts undertaken in the Social Lab to promote the uptake of RRI in MSCA:

- To facilitate a further explication and elaboration of the Pilot Actions as developed in the Social Lab on MSCA, by supporting joint reflection and providing external RRI / co-creation expert advice;
- To convene Pilot Action protagonists together with a diverse group of other stakeholders related to European research, in particularly MSCA, to develop ideas and share information about where to 'anchor' Pilot Action efforts in standing practices;
- To develop strategic action plans and share ideas about how RRI can be further promoted via the Pilot Actions in the professional practices of actors engaged with and/or relevant for MSCA.

5.3.3 3rd workshop

For the 3rd workshop, we wanted to convene a diverse group of actors involved with MSCA and relevant research (funding) institutions:

- To share information on recent developments in research funding in view of RRI;
- To jointly reflect on and refine actions undertaken in the Social Lab as a means to anchor and promote RRI in MSCA and other research (funding) contexts;
- To draw lessons from the Social Lab and Pilot Action experiences, so as to inform future actions on RRI in academic and funding practices.

5.4 Social Lab design

In the next section we will describe the designs of the different workshops.

5.4.1 1st workshop

We adopted a funneling approach to the design of the 1st workshop. We meant the first day of the workshop to help participants' ideas on 'responsibility' in research (in particular in the context of

MSCA) to 'diverge' in scope: the program was designed to solicit, explore and connect a broad range of ideas and experiences with fostering responsibility, and to share knowledge on RRI in general and on RRI in MSCA practices in particular. The second day's program was designed to 'converge' ideas and plans, and channel these into concrete Pilot Action designs. Furthermore, this part of the workshop was dedicated to strengthening the connections between participants, and to help them identify with any of the elaborated Pilot Actions, so as to inspire them to carry the torch after the workshop had come to an end.

At the start of the first day, after lunch, we discussed the general idea behind the NewHoRRizon project, the Social Lab and the role of the workshop therein. Next to that we envisioned discussions on ground rules and a guiding vision for the Social Lab and workshop. After this, we prepared a World Café on 'Responsibility in practice' to stimulate participants to reflect on 'responsibility' from the angle of their professional practice in relation to both personal views and institutional setting and to develop an 'untouched' and initial understanding of RRI in MSCA-practice from the perspective of those present. We included a (short) presentation on the academic and policy background of RRI, and then a longer presentation of the findings from the diagnosis of the current situation of RRI in MSCA, as well as perceptions of responsibility and de facto RRI among interviewees on MSCA. To stimulate participants to get to know each other in an informal way, and to help stimulate 'free-floating' reflections on participants' own professional practices from the perspective of RRI, we then planned for a 'Walkshop' (Wickson, et al., 2015) titled 'Science in the city'. This was designed to set the tone for a more informal discussion on RRI in the evening. During working dinner, participants were invited to participate in a visioning exercise. We asked them to pick a random blank picture post card from a pile, and write down, in a freely associative style, how they perceived of their own professional practice a) as if it were 2027, and b) as if RRI 'was fully implemented'. This worked well in getting them to more freely envision desirable RRI futures that they would like to see become reality. Participants were very actively engaged in the exercise, and keen to reflect, discuss and write about their future visions.

The next morning, work started with all picture postcards head down on the workshop floor. Participants were seated in a half circle and invited to read out the visions that they had written down on a postcard the night before. This proved to a remarkably energizing exercise. A next envisioned step was to get the participants to engage in a 'backcasting' (Quist & Vergragt, 2006) exercise in which they were asked to formulate more concrete steps and come up with a shortlist of possible Pilot ideas to pursue. This worked remarkably well, but the ensuing process of reduction of backcasting ideas and selection of Pilot ideas entailed more friction than we initially anticipated. This had to do with the fact that participants were questioning whether change was possible in MSCA and required us to improvise and adapt the envisioned program. As a reaction to the friction we discussed potential enablers (based on an interactive presentation of the diagnosis) and asked them in plenary fashion to further aggregate alternatives through: a marketplace of ideas, a voting with your feet-round, a detailing idea into workable actions-session, a reflection-round and a planning session; which was set up to encourage the actual design of concrete Pilot Actions in break-out groups.

Here again we experienced some friction as participants were asking for criteria to select potential Pilots rather soon. We decided to move faster ahead than originally planned and, together with and on the recommendation of participants, develop decision criteria for 'a successful Pilot Action' on the spot. Following this process, they were asked to pick one of the aggregated alternatives and work together in groups to discuss who would be involved/addressed, why this would be an interesting Pilot

Action related to RRI, and what it would comprise in practice. Notes could be made on flip-charts so that they could later present their ideas to their peers. This resulted in four different Pilot ideas:

1. Research Kiosk (later: Knowledge Kiosk),
2. RRI Career Assessment Matrix,
3. RRI Training and
4. RRI Manifesto.

We then ended with a final round of reflection and wrap-up.

5.4.2 2nd workshop

For the 2nd workshop we decided to focus our design around reflection on the Pilot Actions, renewal of the collaborative spirit and sense of agency of participants and to help them to fine-tune the Pilot designs and reflect on their anchoring beyond the project.

We started with a working lunch with introductions in which we checked and revisited visions on RRI from the last workshop. After this we had presentations and some interactive sessions. Specifically, we had asked the different Pilot Action protagonist groups to prepare either a presentation on their work until now (RRI Training and RRI Manifesto) and address their experiences and plans or to organize an interactive session (Knowledge Kiosk and RRI Career Assessment Matrix).

We reserved some time for other participants to reflect on the presentations afterwards and asked newcomers to reflect on the respective Pilot Action from the perspective of their own professional practice. We had asked someone working on an online interaction format between non-scientists and scientists to reflect on the Knowledge Kiosk, someone working as an NCP and a colleague in the NewHoRRizon project to reflect on the RRI Training, a representative of Eurodoc to reflect on the RRI Manifesto and a funding advisor from our own university to reflect on the RRI Career Assessment Matrix. This helped everyone to share their work and feedback and to get back into the subject matter. With part of the group we subsequently visited the [Amsterdam Law Hub](#), part of the Amsterdam University Law Faculty where legal students and professionals collaborate with social partners, legal entrepreneurs and institutions to develop legal solutions and innovations which meet the needs of a rapidly evolving society. This was a great opportunity for participants to see how science and society could be connected. In the evening, we held a '*diner pensant*' during which different groups could discuss: 1. responsibility as a guiding concept in one's personal or professional life, 2. The public and publicness of one's daily work or 3. The role of science in and for society. We had formulated specific questions that they could answer by co-designing a placemat.

On the second day we reserved the morning to get Pilot Action groups to fine-tune their designs by reflecting in-group and between-groups in an iterative fashion on the Theory of Change underlying the Pilot Actions. On the basis of input from reflections from the day before and the *diner pensant*'s inspiration we asked them to answer the following questions. On the level of design:

- What does the Pilot Action look like? What kind of intervention(s) does it imply?
- Next steps: who will do what when?

Furthermore, on the level of problem definition we wanted them to discuss:

- Which problem(s) does the Pilot Action address? Which are its objectives?'
- Criteria / indicators: how can the Pilot Action's impact be observed?'

Finally, on the morning of the second day we also asked participants to reflect on the normative dimensions underlying their Pilot Action design. We asked them to question themselves and other Pilot Action groups to answer the following questions:

- Which normative considerations inspire the Pilot Action? What long-term RRI- situation does it contribute to?' and
- Which theme / EC RRI-category does the Pilot Action address?'

We prepared special forms to this end which they could fill in.

In the afternoon, we presented the progress from the NewHoRRizon project to show them that they were part of a larger effort at system change and thus enhance their sense of agency. Following this presentation, which was well received, we asked participants to reflect on the strategic reasoning underlying their Pilot Action. There we asked them to answer the following questions on the level of strategy:

1. What strategic action can help the Pilot Action sort the desired impact?
2. What strategic action can help 'anchor' the dynamics / ensure its continuation?
3. Strategic action: who to involve? How/when? Including other Pilot Actions
4. Where and how can the Pilot Action be embedded?

The last part of the 2nd workshop was devoted to presentations in which the different groups could present their next steps and receive final feedback before leaving for home again.

5.4.3 3rd workshop

The general design principle for the 3rd workshop was to exchange experiences and draw lessons on enabling RRI practice, institutionalizing RRI and raising awareness on RRI so as to anchor efforts beyond the project.

We had (interactive) presentations on the first day in which had asked protagonists to present on their Pilots and experiences. Except for the RRI Training Pilot, every group presented something on their experiences with the Pilots and the output that followed from this. We mixed this with presentations from outsiders that could provide relevant information related to the respective Pilots. For instance, before the RRI Career Assessment Matrix presentation we had a Dutch MSCA NCP with lobbying expertise present something on further expected policy developments with respect to MSCA for the next Framework Programme. We had a NewHoRRizon colleague from CWTS present on the developments related to the Dutch debate on [Changing recognition and rewards](#) and we had valorization experts from the University of Amsterdam reflect on the relevance and implementability of the Knowledge Kiosk in Amsterdam. This worked quite well in stimulating reflection on the Pilots and how they (could) relate to different contexts.

On the second day, in the morning we held specifically designed narrative reflection sessions in which we first discussed the Pilot Action narratives in their respective groups. Later we also discussed narratives on the process of the Social Lab and the institutional context (MSCA) in which it was organized to draw lessons on concretizing RRI. This narrative evaluation showed that participants especially valued the interactive experience of the Social Labs, the action-oriented nature of the Pilot Actions. Furthermore, it provided the space to discuss the relevance and necessity of institutional embedding of RRI.

In the afternoon, an artist involved specifically to help the Social Lab participants to elaborate the ‘RRI Manifesto’ idea into a concrete product conducted a storyboard exercise to coach the participants into co-designing the RRI Manifesto. Amongst other things, the artist asked participants to make an actor map of personas to be involved in an RRI Manifesto ‘story.’ Jointly, the Manifesto group came up with a story of “Marie”, an early career researcher who experiences all kinds of problems related to RRI during her training. The artist in residence translated their ideas into a rough draft of a story board, of a comic depicting RRI-related issues and puzzles that “Marie” came across while developing her career as a researcher. She later developed this draft into a full Manifesto in the form of a comic including an invitation soliciting a reader’s active contributions, which can be used as a poster in conferences and other such setting, to incite discussions on RRI. In parallel, the Kiosk group worked together with an expert on policy sciences and system transformation – a professor from the University of Amsterdam – to come up with ways to anchor their Kiosk idea beyond the NewHoRRizon project. On the Social Lab team’s request, the expert staged a reflection session with the Kiosk participants to focus on such questions as: where can the Kiosk idea fall in fertile ground? How can it be formulated such that it might ‘lead a life of its own’ without you yourselves carrying its torch? He invited the participants to reflect on the specific interests and needs of different actors like citizens, scientists for a Knowledge Kiosk, in order to formulate answers. Finally, we shared insights between the different groups and held a quick round of evaluation in which participants mentioned how much they enjoyed the workshops and facilitation.

5.5 Pilot Action Development

In the next section we will describe the development of the four different Pilot Actions.

Table 22 - Overview on Pilot Actions (MSCA)

Number	Pilot Action Name	Created in	Status
1	Knowledge Kiosk (formerly: Research Kiosk)	1 st workshop	Running
2	RRI Career Assessment Matrix	1 st workshop	Finished between 2 nd and 3 rd workshop
3	RRI Training	1 st workshop	Finished between 2 nd and 3 rd workshop
4	RRI Manifesto	1 st workshop	Finished after 3 rd workshop

5.5.1 Pilot Action 1: Knowledge Kiosk

Public dialogue is an important scientific responsibility. Among others, it can empower citizens with information needed to make informed decisions, encourage the public to value and be more interested in issues around knowledge production and eventually increase citizens’ support for public funding of research. However, it is hard to find examples of dialogue tools in which citizens play an active role. Also, many researchers would like to contribute to public engagement, but they do not know how to bring it to practice. From the start of the NewHoRRizon Social Lab on MSCA, one group (Jonas Krebs, Cristina Luis, Anna Olsson, Rui Guimaraes and Alessia Dino) came up with the idea of a Knowledge Kiosk⁸: a dialogue system between citizens and researchers. The envisioned format at the time of the 1st workshop was a combination between an online tool as well as an offline platform for citizens to discuss their ideas and concerns with researchers.

⁸ In earlier iterations the name was Research Kiosk.

The design of the Pilot Action changed profoundly in the period between 1st and 2nd workshop, as a result of Pilot Action protagonists (still the same group of people, working closely on the issue) developing their ideas over the months. After analyzing the results from the questionnaires to citizens interested in science-society communication⁹ the conclusion was that citizens are mostly interested in face-to-face communications. The question then was raised how to make that practically possible. Luckily, Blanca Guasch, someone with design thinking experience, got involved to create the design of a series of co-creation workshops which were to be held in Portugal and Spain, to enable the co-creation of tools for communication between citizens and scientists. Moreover, during the MCAA General Assembly in February 2019, a poster on the Pilot Action was presented by Jonas and Rui, including a call for interested scientists to join forces on the issue. The poster drew the attention of the MCAA board, which led to discussions about a future cooperation with the MCAA Communications-working group on the Pilot Action.

The Knowledge Kiosk Pilot was tested by the Centre for Genomic Regulation and ELISAVA School of Design and Engineering in Barcelona, Spain and at CIUHCT-FCUL, Lisbon in Portugal. The first workshop took place on [May 4th, 2019](#) and [July 27th 2019](#) in Barcelona and Lisbon respectively, and exclusively targeted citizens who developed first ideas on how an interaction of citizens and scientists on a regular basis could look like. The second workshop took place on [November 28th](#) (Barcelona) and [30th](#) (Lisbon), and exclusively invited scientists from various disciplines to choose from the ideas that the citizens had developed and develop them further. Finally, in a third workshop, on January [18th](#) (Lisbon) and [23rd](#) 2020 (Barcelona) the two groups met to finalize a prototype for their cities that facilitates a dialogue between citizens and scientists on research and that ideally can be implemented on the longer-term.

The protagonists noticed some very interesting experiences. First, the Kiosk-workshops brought everyone out of their comfort zone. This led to a ‘panic’ on different sides. Participants were not sure about attending a 4-hour workshop. But there was also panic in the protagonists’ institutes as they were unsure if they should support such an open communication activity and also were afraid of leaving the comfort zone. This required the protagonists to listen to the requirements and ideas of citizens and scientists and have them listen to each other. By building on people’s own ideas and by enabling ‘thinking with their hands’ (actively creating ideas for prototypes), they managed to eventually trigger a lot of enthusiasm and positive emotions. Participants loved the format and the outcome they created together. ‘Design thinking’ was crucial in all of this. A surprising finding was that the prototypes, which were developed independently in Lisbon and Barcelona, significantly resembled each other, showing that both countries appeared to harbor similar needs and desires. Also, the team came up with an open access guide, which will be published on the NewHoRRizon website.

We learned that the Kiosk is a fun and engaging activity in which citizens and scientists engage in dialogue during the design of a long-term engagement format. It uses Design Thinking methodology and therefore involves the energy and capacity of local citizens and scientists in shaping possible prototypes for public engagement, and in doing so itself already fosters such a dialogue between citizens and scientists. The methodology can be applied in different cities by researchers, innovators and CSOs across Europe and the resulting prototypes can be adapted to different local circumstances and needs.

⁹ Held at European Researchers’ Nights in Aberdeen, Barcelona, Cuneo and Lisbon on September 28th, 2018.

This requires long-term organizational and institutional support for example via funding, and by integrating the idea of engaging in a dialogue with citizens on science into research requirements and reward structures.

5.5.2 Pilot Action 2: RRI-CAM

Growing evidence suggests that the evaluation of researchers' careers on the basis of narrow definitions of excellence is restricting diversity in academia, both in the development of its labor force and its approaches to address societal challenges. Fernanda Bajanca, Mattias Björnmalm, Mimi Lam, Peter Novitzky and Karen Stroobants wanted to explore directions for change in the current evaluation frameworks and practices that overemphasize publications in assessing the quality of research. To change the current evaluation criteria such as those with an undue focus on the impact factor, and those reflecting narrow definitions of excellence, during the first workshop, this group came up with the idea to analyze how the Open Science-Career Assessment Matrix could and should be adapted to involve more elements of RRI.

To bring the debate on this further, Fernanda, Mattias and Karen organized a plenary session on RRI in career assessment at the Marie Curie Alumni Association Annual Conference in Vienna in [February 2019](#). There, six speakers among them the Social Lab manager, discussed the issue that currently little reward and recognition is given to those researchers who take up activities within the RRI themes. For a crowd of over 120 participants, they reflected on how existing RRI implementation projects are tackling the narrow definitions of success, and what type of researcher career evaluation formats institutions are encouraged to develop in order to reach truly responsible research and innovation. Afterwards, one of the protagonists, Mimi Lam organized a participatory workshop to solicit the input of participants to co-produce research quality criteria that could be eventually implemented within the MSCA framework.

Discussions continued in the 2nd Social Lab workshop and in online meetings between workshops. However, there were different perceptions on what amounts to a proper career assessment. Some participants pleaded for narrative evaluation, whereas others were more in favor of developing indicators and some were in favor of a combination. The Pilot Action protagonists came to the conclusion, after exploring options to reformulate the advice to the EC on the possibility of Open Science-oriented career assessment in terms of RRI that this did not offer the possibilities for an RRI-oriented matrix as originally envisaged. The question was how then to reach the envisaged goal, which became a point of discussion in the group that eventually remained unresolved.

Then in Autumn 2019, one of the MCAA Policy Working Group members noted that the upcoming MSCA Stakeholders' Conference on December 3rd 2019, Brussels would be a great opportunity to provide input into the planning for the next European Framework Programme for research & innovation, Horizon Europe. In response, with support from the Social Lab team and other members of the MCAA, the group managed to produce a policy brief "Towards responsible research career assessment." The brief contained an overview of current developments on the topic of rethinking research assessment criteria, and amounted to five recommendations including a call to MSCA policymakers to broaden current evaluation criteria of MSCA calls in dialogue with all relevant stakeholders, to enlarge and modernize the notion of excellence and to reward applicants and organizations that engage in open and responsible research. The brief included references to current developments and examples in both indicator development as well as narrative evaluation.

The recommendations were presented at the conference by the Chair of the MCAA, Matthew DiFranco and discussed by several MCAA delegates at the different workshops. In addition, the report has been shared by the protagonists [online](#) (currently at 3,006 views and 1,286 downloads) and at multiple conferences on research career assessment.

From these experiences we learned that funding institutions and research performing organizations need to rethink and adapt institutional assessment and reward structures from a responsibility perspective, to include elements like responsible research, teaching and community service as an equally legitimate and rewarding cause for a researcher. Improving the evaluation system in a concerted effort with research institutes and other funders will help fully realize a European Research Area that is open to all talents and knowledge practices. This diversity is essential to sustain academic careers, to strengthen the relevance and impact of science for society, and to enhance the resilience of our society and environment.

5.5.3 Pilot Action 3: RRI Training

Recognizing the need for increased knowledge and skills when it comes to (elements of) RRI like public engagement, gender equality, science education, ethics and open access, and bringing science and society together more generally, this Pilot Action idea aimed to develop and implement trainings for several target audiences like early career researchers, coordinators, administrative staff and/or National Contact Points. However, already during the first workshop it was noticeable that a part of this group was not very invested in taking it up further. One participant notably cancelled participation because she worked as an advisor for prospective grantees on a commercial basis, and felt she could not invest time in this cause lest she had Intellectual Property Right over any developed training.

Around December 2018 the Social Lab team looked for other possibilities to revive the MSCA-oriented RRI-training plans and, amongst others, found out that the Net4Mobility+-network of MSCA NCPs had frequent gatherings in which they held trainings to develop NCP skills. One of the event slots was still open and would take place at the end of February. Then, in a moment of pure serendipity, we received a request through the Consortium from that same network to provide a training on RRI. This was a huge break: finally, we had the possibility to put the RRI Training idea into practice! Multiple calls were made in preparation; knowledge gaps were identified (with the help of an involved NCP and a questionnaire) and a Social Lab team member flew to Bern to provide the training on February 27th, 2019 on the background and examples of RRI and concrete, easy to use tools for RRI. We included interactive formats in which participants were asked to relate elements of RRI to their advice practice.

Interestingly enough, it was noticeable that whilst RRI has been defined as a cross-cutting issue in H2020, even longer-term NCPs were not familiar with giving practical advice on it. This pointed to an implementation gap. Participants valued the training. It resulted in the development of material (which could be used in MSCA contexts) and a report with recommendations for the whole MSCA NCP network.

After sharing these positive experiences with the Social Lab, we also made further plans to conduct a webinar for aspiring MSCA ITN applicants in late 2019 on the relevance of RRI in proposal writing. With the support of the MCAA and a few (former) grantees from the SAF21 and IMGENE project we conducted the webinar and shared resources. A survey showed that participants were especially happy with the practical stories from experience and the webinar itself has been posted on [YouTube](#) with a [link](#) to interesting RRI resources.

From these experiences we learned that providing funding advisors with the right information and examples of RRI is very important as they are central actors in the European funding ecosystem. By sharing existing materials with them and translating it into accessible content, the training helped to close the implementation gap between RRI knowledge and funding advice practices. As an example of training-the-trainer, the Pilot may help increase knowledgeability of RRI in funding advice. By providing a webinar we also made sure to translate RRI to further interested MSCA applicants.

5.5.4 Pilot Action 4: RRI Manifesto

The original idea, thought up by Brian Cahill and Asun Lopéz-Varela, former representatives of the MCAA and Ivo Grigorov, an expert on Open Science, was a written manifesto: a document that could be published for the next generation of scientists to raise awareness about and be inspired by dreams of (the future of) RRI. The original plan to draw-up a Manifesto on RRI got elaborated into different shapes in the period between the 1st and 2nd workshop, including the filming of short video clips of early career researchers reflecting on camera on their perception on RRI (filmed during the MCAA General Assembly). Unfortunately, participants experienced technical difficulties in producing the clips.

During the 2nd Social Lab workshop, the group further worked out ideas for creating a written Manifesto on RRI, to be supported by several other organisations, like Eurodoc and Vitae. In addition, the focus shifted towards the employability of early-career researchers in and outside of academia and the relationship between transferable skills and RRI/Open Science. In between the 2nd and 3rd workshop, when it became clear that it was hard for the group to find time to work towards something concrete, one of the group members developed a draft manifesto and shared it via Powerpoint.

During the 3rd Social Lab workshop, the team involved an artist and designer, Boo van der Vlist, and members of the Social Lab to further develop the different ideas into a Manifesto comic about Marie, an early career researcher who experiences all kinds of RRI-related problems in her training and is asking whether she wants to go on with the PhD trajectory. The comic includes the possibility to share one's own stories and insights in RRI, and can be used during live conferences to stir reflection on the issue and gather further input for a final manifesto on RRI. Unfortunately, because of COVID-developments and different priorities and interests, the implementation of this idea got stalled.

Nonetheless, to bring the debate further, members of the group still organized a [panel](#), on September 5th, 2020, at the biggest online European conference on research and policy: the Euroscience Open Forum 2020 in Trieste. The session was recorded and can be found on [Youtube](#). Together with early-career researchers (Teresa Fernandez Zafra, Ana Slavec, Katie Wheat) and a policy representative from the MSCA EC Unit (Manuel Gómez Herrero), two Social lab participants and protagonists of the RRI Manifesto Pilot Action (Brian Cahill and Ivo Grigorov) [discussed](#) experiences with developing transferable skills. They noted how integration of RRI/Open Science in the future MSCA programme line could enable young researchers to develop transferable skills by improving on their communication skills, interacting with stakeholders, publishing open source code, writing data management plans and sharing their datasets through repositories. We learned that attention to RRI and Open Science transferable skills may thus help to fill the gap that currently keeps excellent scientists to move freely, career wise, between academia, business, CSOs and broader society.

In the discussion it was concluded by both group members as well as the representative of the EC Unit, that preparing researchers for the future, as is the task of the MSCA, requires changes in institutional

assessment criteria and funding incentives as well as training processes with more attention to Open Science/RRI in transferable skills training. Only then do programmes like MSCA prepare young researchers for the world of tomorrow.

5.6 Reflection

5.6.1 Challenges/critical moments

This section describes the critical moments during the Social Lab and Pilot Action development, how they came up, how they were resolved and what we learned from this.

Table 23 - List of challenges and critical moments (MSCA)

Nr.	Challenges and critical moments	workshops
1	Size and diversity of the programme line and different perceptions of responsibility	Pre-WS 1
2	Embracing diversity rather than consensus	WS 1
3	Opening up the system	WS 1
4	From friction to criteria and enablers	WS 1
5	Top-down RRI policy developments	Pre-WS 2, WS2
6	Spurring Pilot development under conditions of limited time and resources	Pre-WS 2, WS2
7	Co-creational energy	WS 2
8	Unclear surrounding NewHoRRizon and further cooperation	WS 2
9	Working towards a concrete Manifesto	Pre-WS 3, WS 3
10	Anchoring the Knowledge Kiosk	Pre-WS 3, WS 3

5.6.2 Size and diversity of the programme line and different perceptions of responsibility

One of the first challenges we encountered in setting up the MSCA Social Lab was the sheer size and diversity of the programme line. The programme line has a total of 6.16 billion euros to spend during H2020 in a bottom up fashion on all kinds of research: from social science, to natural science to humanities. Moreover: there is a geographical spread of projects that is exacerbated by the fact that mobility of researchers across countries is a necessary prerequisite for most projects to acquire funding. Next to that there are also obviously researchers that do not get funded (even though they pass the threshold of excellence) and all kinds of organizations and stakeholder groups potentially affected by the research undertaken (let alone publics who do not recognize themselves as being affected but are affected in direct or indirect manner nonetheless).

This made it hard for us to actually know where to start our diagnosis and subsequent interviews; every choice in that respect is instigative of a form of closure which would close off the integration of the pure plurality of viewpoints and visions related to RRI and MSCA.

Coupled to this was the very diverse notions of responsibility and societal and ethical challenges we came across in our interviews (see diagnosis-section at the beginning). How to deal with this in the Social Lab therefore became a central topic.

Luckily, we found out about the existence of the MCAA. It has a membership of more than 11,000 people related to MSCA. After having interviews with central policy actors from the EC and some experts on Open Science, we felt that actors related to the MCAA would be a smart move to get more of a feeling for what kind of topics were central to their members and more closure on the substantive focus. We also thought that inclusion of actors like these would strategically lead to the Social Lab being able to make more waves in (the context of) the programme line. Next to that we also made sure to speak to current NCPs from different countries since they seemed to occupy a crucial role between the EC, REA, researchers, evaluators and host institutions and would therefore be able to comment on different perspectives. Furthermore, we relied on the results of the keyword search and analysis from CWTS as an initial screening device to help identify participants in programme line projects. All of these steps yielded valuable insights into what kind of topics MSCA actors considered central, more closure on the substantive focus and involvement of a central strategic actor in the MSCA institutional field.

Finally, we decided to invite actors based on either the amount of leverage (and networks) we assumed they would have, whether or not they had (long-term) experience with funding practices (be it as an NCP, private adviser or in a host organization) and whether or not they already applied (aspects of de facto) RRI in their work as researchers (current/former grantees or coordinators). The CORDIS-analysis proved very fruitful in this regard. We also felt it necessary to achieve some form of geographical spread and gender balance and to achieve some representation from the different types of action funded under the MSCA scheme. Of the more than 50 invitations we sent out, we had a relatively high positive response rate. Moreover, we had a response of actors related to the earlier named networks, people working in funding and actors applying (de facto forms of) RRI in their past or current research. This led to an interesting spread in kinds of perspectives on RRI.

5.6.3 Embracing diversity rather than consensus

One interesting instance in which the broad diversity of perspectives unexpectedly came to the fore during the 1st workshop was right after the introduction on the first day, when we wanted the group to reflect in plenary fashion on the ground rules for the Social Lab that were to be agreed on. Immediately the discussion began to move towards more substantive debates about what it meant to responsibly have this discussion and participants had a hard time focusing on setting ground rules for the rest of the workshop. This led us to at least agree that consensus was not something that should always be strived for in discussions and to embrace diversity. Next to that we decided to go with the flow and not focus that much on ground rules (except for the one just mentioned): quite some energy could be noticed amongst participants and we assumed that, by following this developing natural 'undercurrent', this was a way to get their attention and personal investment in the programme.

By deciding that consensus was not something that was necessary to continue discussions, we left participants more room to stay substantively (and perhaps therefore emotionally) invested in the Social Lab process and its outcomes. This subsequently led to the development of a diversity of different Pilot Actions that might not have popped up if the freedom to think along different lines was not there.

5.6.4 Opening up the system

The same happened after discussing responsibility in research and funding practices from their own perspective. Initial discussions that followed on a question about the participants' personal experiences and ideas on 'acting responsibly' in their own professional practice led them to ponder about how they would like to change their own practices, but could not do so "because of the system." After participants kept referring to 'the system' not allowing them to exercise their conceptions of responsibility in practice, we gave the first part of a presentation on the diagnosis of RRI in MSCA which appeared to participants some real new insights into what this 'system' concretely looked like and how one could see (de facto) RRI practices and presence already in the MSCA programme line. Room was also given for participants to respond and add to/problematize the diagnosis but the diagnosis seemed to resonate quite a lot.

In addition, the 'over dinner' exercise that evening asked the participants to envision their own professional practices in the future with RRI fully integrated, which again emphasized their own role and agency in giving shape to and implementing RRI. When, much to their surprise, these rather casually drafted future visions formed the starting point of the second day's conversation on RRI, and the 'steps' required to produce these future situations were systematically explored in the back-casting exercise, the perception on "the system" as opposed to the powerless individual changed completely. One participant even literally remarked "so it is not the policy makers in Brussels who are the ones to change the conditions, it is us!" That moment on the second day of the 1st workshop marked a turning point in the perspective of (many of) the participants on RRI, inciting a sense of ownership and agency that motivated the drafting of Pilot Action plans.

5.6.5 From friction to criteria and enablers

Another interesting critical moment occurred later that same day of the 1st workshop, in the context of participants using the back casting-method to work from their desired future of RRI back to actions that would have to be set in motion to reach this desired future. This led to quite some friction in the plenary conversation: some participants struggled with coming up with the kind of concrete steps that were necessary in 2019 whilst most participants struggled with aggregating and picking the actions that were to be developed into more concrete Pilot Actions. Questions were asked on what would qualify as a workable and operationalizable Pilot Action and what criteria we should use when selecting actions. Moreover, the discussion went from an open debate towards more critical and negative comments in which participants for example talked about how we should not set the bar too high because the design of MSCA as a programme was the territory of policy makers and therefore something they could not affect anyway.

We decided to plan the lunch break earlier and tweak the second part of the programme. After the break, we presented our findings on enablers in MSCA for the implementation of RRI. The assumption was that, like on day 1, this would give the participants room to process new information and therefore allow them to rethink their pre-conceptions/private ideas so that they would also relate it more to the concrete context of MSCA. We also decided to drop the barriers part of the diagnosis since we felt that this was already implicitly addressed in a lot of the earlier discussions. The enablers were presented in an interactive way, actively involving participants and asking them to explain a bit more about their roles in this (where relevant). The assumption was that this would get them to think in a way that would focus their energy more towards the agency they actually (could) exercise in the Social Lab process and development and implementation of subsequent Pilot Actions.

By involving participants in an interactive manner in thinking about enablers, thereby even pointing to actors present and clarifying their status/relation to the programme line and substantive research interests or letting them clarify themselves, we managed to foster commitment to pilot ideas and subsequent actions.

Presenting participants with relevant parts of the diagnosis and involving them in an interactive manner, proved to be a very fruitful strategy to 'turn things around'. Both times it took the edge off discussions and led participants to get down from their normative viewpoints to the concrete reality of the MSCA programme line and their own role as MSCA agents. As a consequence, participants seemed to be eager to reflect on what RRI could mean in practice and how kick starting a discussion on this could be undertaken through practical Pilot Actions.

5.6.6 Top-down RRI policy developments

One of the major challenges we experienced in between the 1st and 2nd workshop was related to the policy developments around RRI and the SwafS-directorate leading up to the new Horizon Europe framework programme. More specifically, we were completely taken by surprise when in Autumn 2018 word reached us through the Consortium that RRI appeared to be off the table for the next European Framework Programme. In the run up to the 1st workshop we had explicitly advertised our Social Lab as an opportunity for MSCA related stakeholders to be at the forefront of developments towards RRI which we ourselves expected to continue well into Horizon Europe. After all, the whole *raison d'être* of NewHoRRizon was in our understanding to further the uptake of the concept in the current framework programme and beyond.

The unclarity and diffuse political negotiations that seemed to be taking place beyond our grasp and influence added to a feeling of powerlessness. What would be the point of aiming to further the uptake of RRI as a policy concept if apparently the EC itself was not even sure about continuing it into the future? What were we to make of the signals that reached us that the SwafS-directorate was already being restructured, with personnel and resources already shifting to other directorates? Most importantly: how much amount of influence would our participants still have in all of this and were we suddenly practicing a form of tokenism?

We decided not to linger too long on the still diffuse top-down RRI policy developments and not bother our participants too much with them (unless of course it became clearer what the actual developments were and unless participants would ask about it). Instead, we explicitly invited them to use the interpretative flexibility of the RRI concept by emphasizing that it can be what they make of it (as long as remained within the confines of the idea of responsibility). Moreover, during Zoom-meetings we kept emphasizing that what we do within and during the lifetime of the Social Lab is one thing, but that we should as a group continuously think about how it can multiply and have a life beyond the project lifetime. In other words: we kept emphasizing that what they were working on should resonate on the level of existing practices and should be anchored in existing networks. Participants seemed more than open to take this up.

In order to address it during the 2nd workshop, we planned to mention the policy developments during the first day. However, because of time constraints one of the team members did not devote a lot of time to it at the start, expecting to be able to discuss it more in-depth on the second day. Interestingly enough, participants alluded to the policy developments a few times. Therefore, the facilitator made time to discuss it on the spot.

Some participants were already familiar with the latest developments and did not see a big issue since they still saw value in their respective Pilot Actions. Another Social Lab participant was particularly distraught: she mentioned that the move from thinking in terms of Responsibility towards Open Science really was a step back. Nonetheless, participants already seemed quite invested in their Pilot Actions, regardless of whether or not RRI as a policy label would be there to stay. Moreover, we tried to emphasize that we intended the Social Lab and workshop to actively enable the participants to think on transforming the level of existing practices and systems towards more responsibility.

We believe this resulted in a more agentic atmosphere in which participants were constantly triggered to think of themselves as agents being able to positively tinker with existing practices and the existing system. For RRI, we learned that the RRI policy label is something that may give efforts aimed at this legitimacy for now but it is still 'just' a policy label. Its disappearance from policy may of course hamper and challenge further legitimate experimentation with RRI in the future, but that does not mean that we cannot work towards building 'publics' around its elements in the meantime. This might also mean rephrasing what is deemed important in RRI in terms of Open Science (as the new policy kid on the block). Regardless, of central importance in the experimentation is the involvement of existing networks and coupling to existing concerns (as exemplified in the work on the RRI CAM and RRI Manifesto) and practices.

5.6.7 Spurring Pilot development under conditions of limited time and resources

Another critical moment in between the first and the second workshop was the fact that we had to focus our limited time and resources on the most active pilot groups. Already during the first workshop it was noticeable that a big part of the RRI Training group was not very invested in taking up further development. Whether this was due to a lack of positive group dynamics or just because they did not feel it was helpful for their own work was not clear to us. Those that were interested in further development did not really take the lead in doing so. This might have to do with their lack of RRI knowledge as such. A lack of time and concrete funding therefore left us pondering: what could we do to make sure that the great idea and possibilities within the MSCA scheme could be leveraged to develop and implement an RRI training?

In December 2018, we were contacted by the Net4Mobility+-network of MSCA NCPs to provide a training on RRI as a cross-cutting issue in H2020 and successfully conducted it in February 2019 (see pilot descriptions). During the training we noticed that there appeared to be an implementation gap: whilst RRI has been defined as a cross-cutting issue in H2020, NCPs were not all too familiar with the background and tenets of RRI (even the longer-term NCPs). Those that represented top MSCA winning countries at times experienced it as an extra burden. A lot of Eastern European and Associated Countries NCPs also questioned how feasible it may be for their applicants since they are already having a hard time reaching the funding threshold. This might point to the fact that although the policy world thinks it has done its best to spur RRI, on the level of actual practices this is not yet crystallized and mediated by more systemic inequalities between different national research cultures. Whether top-down bureaucratic European thinking from the EC side is therefore the best way to spur development of something like RRI remains to be seen.

In any case, we capitalized on this event by presenting on the development and implementation of the RRI Training for our Social Lab participants during the second workshop. This was intended to show that we took up work on part of their ideas ourselves and to show them the great depth of RRI material that is already available.

Participants seemed to be positively impressed with the work done on the RRI Training. We explicitly invited them to think of ways this could be spread in the MSCA ecosystem. On the second day, during the design sessions and anchoring sessions we asked them to actively think of, design ways and think of institutes or networks through which the material could be spread. We had hoped to bolster some more agency on their part to also start taking up training activities in their own institutes or areas. All these this resulted in them actively thinking along with us about ways to implement the training material in other MSCA-related contexts. Amongst others ideas it resulted in the concrete appointment to work together with a trainer from FOSTER to hold a webinar for aspiring MSCA ITN applicants in September on the relevance of RRI.

5.6.8 Co-creational energy

Another unexpected development which surfaced during the 2nd Social Lab workshop was the fact that a sizable group of participants seemed to be truly engaged with and personally invested in the topics and Pilot Actions they had been working on in the meantime. Despite a general lack of time of all participants, a few of the protagonists had really put in effort to get some work done.

Already during the first day we had provided some time to discuss the uptakes of their work in plenary fashion. Our assumption was that this would not only be a timely occasion to show what was already being done, but that this could also increase the sense of ownership of the Social Lab by participants and thereby increase their sense of agency. The personal involvement of several Pilot Action protagonists led to a positive and co-creative atmosphere. This was evidenced in lots of expressions of being 'impressed' with work done and positive and constructive criticism was being shared by participants on the development of the respective Pilot Actions. Perhaps a downside to the aspect of the 'investedness' was the fact that some Pilot Action protagonists had different ideas on what they intended to achieve with their Pilot Action (see under group dynamics for further elaboration of this point).

The co-creational spirit that ensued during the second workshop could be seen as, as much a result of the energy that participants put in in-between our workshops as well as perhaps our pushing them to develop their thoughts and plans further. In hindsight we think it was indeed fruitful to create a venue for them to present their work on the first day and to get them to concretize their plans and reasoning more on the second day. The result was that there appeared to be a lot of great invested discussion on further Pilot Action development.

Another important insight for making RRI operational is that efforts to that end need to engage with existing discourses and problems as experienced by those involved and relevant to the notion of RRI. Our conjecture is that we should continuously try to connect to these discussions and the networks in which they take place (like the MCAA and related organizations like Eurodoc and Vitae) if we want the discourse on RRI to become meaningful for people working in the practices, networks and systems that structure the work of researchers. At the same time, we should watch out that the Social Lab venue, Pilot Actions and group processes do not get co-opted or instrumentalized in a way that the connection to something like RRI gets too thin. We think that questioning participants on the relationship with RRI/society or the public may work in moving away from too much instrumentalization.

5.6.9 Unclarity surrounding NewHoRRizon and further cooperation

Another challenge, perhaps related to the diffuse policy developments, seemed to be that it was not always clear to all participants what the status of NewHoRRizon was as a project and what other Pilot Actions were being developed in other Social Labs.

Especially it was not always clear to them how they could start cooperating with Pilot Action protagonists from other Social Labs. After gauging possibilities with our colleagues, it appeared that most of their Pilot Action groups were either already spending a lot of time on their own Pilot Action or not sure about further developments and were therefore not yet ready to 'open up' to our groups.

At the start of the first day of the 2nd workshop, we presented some information on NewHoRRizon but this was just a short reminder that what we were doing was part of a larger project. Participants seemed to be eager to learn more about other relevant developments. On the second day, after more interactive design sessions in the morning, we presented an overview of the NewHoRRizon project on the basis of an overview presentation of NewHoRRizon's coordinator. The Social Lab team shared knowledge on developments in other Social Labs and discussed what types of Pilot Actions we felt were related to their own Pilot Actions. This led to some interesting questions from participants: how could they become more familiar with the work of others and how could they establish contacts with persons working on similar topics so as to not 'reinvent the wheel'? We did not have a simple and clear-cut response and mentioned that we would get back to them as soon as we discussed it with the consortium.

We think that this points us to the insight in making RRI operational: working with a Social Lab and distinct Pilot Actions is potentially a great way to get things off the ground. It also requires one to be constantly vigilant about seeking broader connections and publicizing the work done in order to increase the potential for synergies and reduce the risk that multiple parties are working in isolation on the same issues. Precisely because the RRI agenda in general and NewHoRRizon in particular have the ambition to have systemic impact we should try as a Consortium to make it work.

5.6.10 Working towards a concrete Manifesto

Development on the Manifesto appeared to be slow after the second workshop. In June 2019, contacts were made with other people to propose a session during ESOF2020 on RRI and OS and on transferable skills training for ECRs. The session was accepted but still, the content for the Manifesto was missing. By organizing a call with a concrete action agenda, we tried to get the group to work on the actual manifesto in the second half of 2019. One group member promised to deliver something but did not manage to do it. Another group member provided a quick draft but this did not trigger a lot of response from others.

One interesting critical moment showed this during the last hour of the first day of the 3rd workshop day. We had reserved a small slot for RRI Manifesto protagonists to present their experiences with the (lacking) developments of the Manifesto. One of the protagonists presented their experiences on the spot. She mentioned that the Manifesto group "got into a labyrinth. Did not know how to do it" and that it "was a story of a failure". For us it was interesting to see how she owned the experienced 'failure' and tried to still make the best of it. To do this she showed a presentation of a first draft idea which she also sent to the other protagonists. She also showed a clip of Joseph Campbell's *The Hero's Journey* which is an archetypical narrative structure that shows how heroes throughout different cultures experience the same kind of narrative arcs.

She talked about how this could be used to structure the manifesto into a more emotive narrative since it was her perception that according to her research on literature “if you do not make it a story of the heart, it is not going to stick.”

Next morning, we planned to have the narrative reflection sessions with the different Pilot Action groups. We had especially prepared different narratives per Pilot Action. We knew that the RRI Manifesto group discussions would be special because of the almost perpetually unfinished nature of the manifesto. We also made sure to put our facilitator with extensive mediation experience with the group to help them reflect, to try to iron out any wrinkles and move forward. Interestingly enough, almost immediately the group of 3 went into heavy discussions. The facilitator had to intervene several times to get the discussion going into a productive direction and help them to move towards convergence and actionable ideas. But while the ideas went all over the place what stuck with all present was the idea of an emotive narrative structure, developing the Manifesto as an unfolding storyline rather than as a list of statements. The designer we had hired to work on the manifesto even decided to alter her well-prepared set-up to accommodate the ideas and input from the morning’s narrative reflection discussions.

In the afternoon, she took the original group of 3, and participants from the RRI Training and RRI CAM group to work together on a storyboard for an RRI Manifesto comic. Together they first decided on a focal actor, and on the beginning and the ending of the story. With the group of about 12 participants the designer slowly but surely walked through the story and together the group came up with different experiences and tribulations that the main character, Marie - a female early career researcher – would experience in her way to become an ‘excellent’ scientist. Finally getting accepted but experiencing all kinds of hardships related to Gender Equality, Open Access, Ethics and Public Engagement that left her questioning her choices as a researcher.

Making the idea of a manifesto concrete worked quite well. Even then there was a lot of discussion on what the content would be, but the designer managed to guide the group to draft an actual comic. Because of the limited time and the pressure to come up with a design during the workshop we think the group managed to set aside particular differences of opinion to create something interesting and concrete. Further plans were made to use the comic Manifesto during conferences and online to gather input for an eventual list of statements-kind of manifest. Unfortunately, this idea did not get implemented further due to corona and continuing differences.

5.6.11 Anchoring the Knowledge Kiosk

A further challenge facing the Social Lab team was that that Knowledge Kiosk participants, despite their great work and energy in implementing the Kiosk workshops with scientists and citizens, did not yet have a concrete and elaborated plan for further embedding their efforts in standing practices and institutions. They had had conversations with the MCAA Communications WG and board, but other than that we did not notice further plans for anchoring.

To bring the Kiosk idea further we invited an independent expert from the University of Amsterdam: professor John Grin, a colleague of ours who is knowledgeable on science-society relationships, has experience with the science shops debate and is a specialist on policy and systems transitions. After he provided a short presentation, the group discussed how to spread the word that the tool is available and different places in which the Kiosk could be done. First, the group could think of creating a support office, linking it up with science communication offices in universities.

They also talked about sharing it online and giving presentation for city councils, cultural centres, museums and scientific hubs. Third, they discussed dedicated efforts to reach out to different groups and to make new connections. For example, the idea was also offered “to infiltrate society with science” by offering it at places where people do not expect science like the metro or the airport. Linking it to another event, like a brunch, already proved to be very fruitful for this.

From the perspective of institutional change or transitions, the protagonists were also asked to reflect on what rules are conducive and blocking the kiosk. What were some ‘right’ rules and ‘right’ actors to contact that could help to bring it further and which institutional requirements actually could keep the doors closed if it is not in their interest? The recommendation was given to identify the right people in some institutions, people who can switch the rules by turning the “right switches”. Related to this was the fundamental question: in whose interest is it? How will it help whom? What trends in society are there that you can connect to?

The group discussed how they could share with the EC MSCA Unit that the Kiosk is a practical tool to connect science with society to establish a two-way dialogue. The Unit could then incentivize researchers to engage by including it in MSCA funding requirements. Alternatively, the Unit could fund professionals that could help do the engagement work that is more “alien” to some. Both options do require making benefits explicit so that next time around scientists would be interested to implement the Kiosk out of their own volition. This could be achieved by making it a solution to a problem they experience (e.g. in their career or research progress) and communicating past positive experiences.

Finally, a central topic was the question: how to move the kiosk experience beyond the one-off occasions of three workshops in one location? How to organize for amplification? Ideas were to share it through social media, personal contacts, mailing lists of institutions and regular media. Another interesting idea was to introduce it to associations of potentially interested professionals like teachers, nurses, street-level workers and policymakers.

With the advice of our colleague we hope to have given the Knowledge Kiosk protagonists many ideas to bring their concept further into existing practices and institutions. As experiences with the Kiosk show, there surely is no shortage of energy for and innovative projects, concepts and ideas on bringing citizen-science dialogues into practice. Often times missing, is an anchoring of these ideas into what is already there. A Social Lab can be a venue to bring people working on a new innovative practice and experts on system change together, to reflect on these questions and challenges and think of further institutionalization.

5.7 Achievement of objectives

In this section we reflect on the extent to which the objectives of our Social Lab were accomplished.

5.7.1 1st workshop

In this section we reflect to what extent the aim of the Social Lab was accomplished.

In the 1st workshop we managed to achieve the following objectives:

- Explain to participants the overall purpose of the Social Lab
- Developing guiding questions/vision for the whole process of the Social Lab
- Empower participants to “own” their Social Lab by working with the capacity people bring
- Define and get first pilots running

- Explain that financial resources are available for pilot activities
- Last, but not least: exchange of knowledge on RRI was definitely achieved.

These objectives were only partly achieved:

- Keep participants' interest and motivation also for the following workshops: this worked for quite some people but at the time it was not clear yet who wanted to actively continue and who wanted to be kept on board but in a more passive way due to time constraints;
- Try to arrive at a shared understanding of RRI: we did not reach this but this was done on purpose, to keep their interest in the rest of the process;
- Contributing to the future of research policy: this was still in development.

5.7.2 2nd workshop

In the 2nd workshop we reached the following objectives:

- To reflect on joint efforts undertaken in the Social Lab to promote the uptake of RRI in MSCA;
- To develop strategic action plans and share ideas about how RRI can be further promoted via the Pilot Actions in the professional practices of actors engaged with and/or relevant for MSCA.

These objectives were partly reached:

- To facilitate a further explication and elaboration of the Pilot Actions as developed in the Social Lab on MSCA, by supporting joint reflection and providing external RRI / co-creation expert advice: although we facilitated further explication and elaboration of the Pilot Actions, unfortunately we could not arrange for external RRI/co-creation expert advice. We had worked several leads for this but in the end could not have the expert present that we had wanted to have.
- To convene Pilot Action protagonists together with a diverse group of other stakeholders related to European research, in particularly MSCA, to develop ideas and share information about where to 'anchor' Pilot Action efforts in standing practices: we devoted a lot of effort to have participants think about 'anchoring' their Pilot Action efforts. The diversity of the group was however predominantly skewed towards academics and funding professionals: partly because participants from the first workshop explained that they really wanted to work in-group on spurring the development of their Pilot Actions and partly because there is only so little time.

5.7.3 3rd workshop

The objective for the 3rd workshop was to convene a diverse group of actors involved with MSCA and relevant research (funding) institutions, to

- Share information on recent developments in research funding in view of RRI;
- Jointly reflect on and refine actions undertaken in the Social Lab as a means to anchor and promote RRI in MSCA and other research (funding) contexts;
- Draw lessons from the Social Lab and Pilot Action experiences, so as to inform future actions on RRI in academic and funding practices.

All objectives were reached. We have tried to the best of our abilities to support participants to anchor the Pilots in standing practices and institutions related to MSCA and to provide participants with information to arrange this themselves.

5.8 Potential impact

In this section we reflect on the potential impact of the different Pilot Actions and our Social Lab. After the 1st and 2nd workshop we noted that the Pilots were well-designed in relation to the challenges observed in the diagnosis. After the 3rd workshop and the narrative evaluation with participants, we came to the following conclusions concerning the impact of the specific Pilot Actions on the MSCA institutional context.

5.8.1 Knowledge Kiosk

The Knowledge Kiosk Pilot Action clearly aimed to tackle the diagnosed lack of public engagement beyond the ‘knowledge deficit’ perspective by leveraging the NIGHT scheme to implement more extensive and dialogic forms of public engagement. In its form it was an attempt to transform standing unidirectional engagement practices. One interesting reaction, that shows how changing practices is not without friction, was by the home institution of one of the protagonists. There, a person from the communications department told him that ‘this is not how we do things around here’. This is especially interesting if we juxtapose it to the many positive responses that protagonists received from citizens and scientists involved with the workshops.

This Pilot is an example of doing RRI and creating implementable designs for RRI that shows how public engagement can be something more than just the dissemination of information by involving citizens and their needs and ideas already during the design of the interaction format itself. Next to that, the methodology can be used and replicated in different places to design interaction formats which are adapted to local needs and contexts. Thus, the methodology, which is available through an open access booklet which can be put on the NewHoRRizon website, is an implementable design for RRI which simultaneously leads to the creation of new implementable designs in different contexts.

During the last Social Lab workshop, the Social Lab team invited a colleague to help the group reflect on ways in which the Kiosk could be anchored in existing practices and institutions. Currently, as a first step, they are attempting to anchor the results of this Pilot Action beyond the duration of the project in multiple ways: writing a journal article, writing a contribution to the newsletter of the MCAA and getting in touch with the MCAA and the EC directorate responsible for MSCA to spread experiences. The representative appeared to be very interested in the Knowledge Kiosk action in particular. Furthermore, in terms of ripple effects, two of the protagonists have applied for funding from the Barcelona city council to develop the idea further and focus on bridging secondary school students with scientists.

5.8.2 RRI CAM

The RRI-CAM Pilot Action took the lead in thinking about new incentives and increasing general reflection on responsibility, excellence and impact in the MSCA ecosystem. The RRI CAM and the RRI Manifesto were focusing on the role that institutional career assessment and educational institutions play in fostering RRI proof science and researchers.

By creating a communicable output in the form of a policy brief we directly tried to contribute to policy discussions on the set-up of the MSCA funding programme and its subsequent formalization in the form of particular funding criteria. Our call to change criteria of excellence to include more attention to responsibility and openness thus provides an example of how current rules and standards for excellence can be adapted to include more attention to RRI.

The policy brief has been presented to MSCA policymakers during a stakeholders' conference and was referenced in the report of this conference. According to one of the protagonists an EC representative especially valued the practical nature and direct links to relevant career assessment resources. In addition, the report has been shared by the protagonists [online](#) (currently at 3,006 views and 1,286 downloads) and at multiple conferences on research career assessment. Finally, in terms of ripple effects, one RRI Cam contributor has involved RRI in a successful application for a grant thus contributing to the integration of RRI in her own research practice.

5.8.3 RRI Training

The RRI Training Pilot Action meant to tackle the observed lack of awareness of RRI and its components amongst actors associated with the MSCA funding scheme. To that end, it made use of the support of existing networks like Net4Mobility+ and the MCAA to spread RRI through the MSCA ecosystem.

It appeared that many MSCA NCPs and prospective applicants were not aware of the benefits that RRI could bring to their advice practices and funding applications, let alone possess the capacity to make use of it. By focusing on the practical aspect and sharing many existing tools and resources the training helped them to relate RRI to their own context and develop the capacity to operationalize it in their own practices. Post-training surveys for both the NCP training as well as the webinar showed that participants especially valued the practical nature of the recommendations and sources like RRI Tools. This Pilot is therefore a good example of capacity building for RRI, including the development of communicable output in the form of slides and a YouTube-video.

The training has arguably led to more people involving RRI in their funding advice and funding proposals and therefore project implementation if they get rewarded. The training results have been anchored by means of an internal report for the Net4Mobility+ network with concrete recommendations on how to integrate RRI in their funding advice practice. Furthermore, as a follow-up we have organized a [webinar](#) for prospective ITN applicants on involving RRI in their project funding applications. This shows how RRI can improve the quality of a research proposal.

At the same time, we noticed that for some RRI is still one burden too many (e.g. NCPs from Eastern Europe and associated countries communicated that the conditions under which they have to do their work are already hard, and that involving yet another EC concept like RRI in their advice practice might make things even harder). This points us to the risk of overburdening researchers and funding advisors with RRI requirements if they have to work in a system that requires different outputs.

5.8.4 RRI Manifesto

The RRI Manifesto Pilot is first and foremost an example of creating awareness on RRI. By organizing a [panel](#) with a policymaker about transferable skills training and RRI it tells the story of how RRI and Open Science can help young researchers to develop such skills through communication and engagement and sharing data. Instead of seeing RRI as a burden or another requirement, it is seen as an opportunity for them to develop themselves in relation to a changing research landscape and job market. Next to that, the Pilot also created communicable output on RRI in the form of a comic. This comic may be used to raise awareness about RRI and gather input for an actual manifesto and can be put on the NewHoRRizon website.

Although perhaps not directly a consequence of the panel, the MSCA policymaker did share some insights and plans on how RRI/OS may be a part of the next MSCA funding cycle. Next to that, in terms of ripple effects, protagonists have been working on several ripple effects.

Ivo Grigorov has been involved with a [webinar series](#) on Open Science and RRI in winning MSCA grants, in one of which the Social Lab manager (Anne Loeber) participated to elaborate on the why and how of engaging with RRI as a MSCA candidate grantee. Asun Lopez-Varela has written a [paper](#) about RRI and has been interviewed by a Spanish newspaper on the topic. Brian Cahill has involved RRI criteria in a template for applications for a COFUND project he has been managing.

5.8.5 Potential impact general Social Lab

All in all, we can conclude that the Social Lab and Pilots, each in their own way, provided concrete, implementable answers to some of the central problems observed in the diagnosis. This can first and foremost be seen as a function of the great work and energy that participants to tackle some of the problems they observed in their own research practices. Furthermore, we may posit that the Social Lab provided the transformative space for them to reflect on issues related to RRI in their own context and exercise agency through visioning, reflection on the institutional context and implementation through concrete Pilot Actions. Involvement of the MCAA and the NCP network proved crucial for further development of the Pilot Actions and increasing the potential impact and ripple effects. Moreover, together with our participants we have tried to establish connections with the MSCA Unit and have shared the Pilot results with EC representatives and the MCAA, to attempt to anchor results beyond the project.

At the same time, lack of direct involvement of EC policymakers in the Social Lab process and lack of insight into EC research and innovation policymaking makes it hard to judge what the final impact of these Pilots will be in the longer run. Moreover, we have noticed that EC funding like the MSCA programme line and the associated MCAA are part of a wider institutional context. Nonetheless, ripple effects of the Pilots may reverberate well beyond the institutional and time constraints of the NewHoRRizon project. Therefore, future (action) research may focus on further ripple effects and ways in which (potential) impact of a Social Lab can be further enhanced.

5.9 Lessons for pilot development and implementation

We derived several lessons from Pilot Action development and implementation (see Table 24)

Table 24 - Lessons learned (MSCA)

	Lessons
1	Connect to concrete problems for intrinsic motivation
2	Stay open to new developments
3	Step in as a social lab team to keep momentum going
4	Organize face-to-face meetings
5	Keep RRI-efforts in check

5.9.1 Connect to concrete problems for intrinsic motivation

Pilot Actions need to be responsive to concrete problems that participants experience on the level of their practices (such as a lack of dialogic interaction with citizens) and narratives that impact their daily work (such as too narrowly framed understandings of excellence) or that they are interested in (such as in ‘transferable skills’) to get them intrinsically motivated. This intrinsic motivation is necessary to sustain energy during the Piloting phase. This also entails linking up with institutions and networks like MCAA.

5.9.2 Stay open to new developments

During the process one needs to stay open for new developments that come from acting upon the social reality. For example, the Knowledge Kiosk group, after conducting a survey, found out that people were predominantly interested in face-to-face communication. After conversing with a citizen science officer at one of the protagonists' institute they decided to make the process of the Kiosk already an open design/co-creation process. This allowed them to involve citizens from the start whereas if they had stuck to the original plan, they would have just designed a kiosk themselves.

5.9.3 Step in as a Social Lab team to keep momentum going

As Social Lab team you need to take an extra step to keep momentum and cooperation going. For example, with the RRI CAM and RRI Training Pilot Actions we noticed at times a lack of time/energy and involvement respectively. By taking up some of the work ourselves we still made sure to get to concrete results. This was valued by participants.

5.9.4 Organize face-to-face meetings

Organizing face-to-face meetings like the Social Lab workshops is crucial to keep momentum. As soon as people got together physically this helped them to do a lot of planning and work. Keeping people to their promises digitally is a different story as evidenced by the RRI Manifesto Pilot Action.

5.9.5 Keep RRI-efforts in check

For a Social Lab team working with a concept like RRI there is also the responsibility to keep all efforts in "RRI check". Working with existing problems, practices and institutions is a way to get to concrete action but instrumentalization can lie around the corner. This requires Lab teams to constantly ask people to reflect on what they are doing (in this case from an RRI perspective).

5.10 Workshop methodology

In this section we reflect on the workshop methodology to see what worked and what could improve.

5.10.1 1st workshop

What really worked well was the World Café approach and subsequent presentation of insights from the diagnosis. The divergent character of the first part and the substantive closure that the second part brought worked to trigger participants to think of RRI as related to their own practices and institutional context. The same applies to visioning in combination with the back casting (although part of the participants found it hard to come up with concrete steps at the start). This really helped them to think more freely of alternative RRI-oriented futures for the R&I system while the subsequent back casting helped them to operationalize this into concrete steps to work towards this future themselves.

What could work better was the selection process of pilots: this caused quite some confusion and tension, and only by presenting enablers and co-creating criteria for a successful Pilot Action, were we able to turn this around. Finally, the amount of time left for getting explicit commitment and feedback for participants was a bit small.

5.10.2 2nd workshop

Reflection on the Pilot Actions was successfully spurred by asking Pilot Action protagonists to prepare either a presentation on their work until now or to organize an interactive session or a combination of both on the first workshop day. We reserved some time for other participants to reflect on the presentations afterwards and asked newcomers to reflect on the respective Pilot Action from the perspective of their own professional practice.

Asking Pilot Action groups to fine-tune their designs by reflecting in-group and between-groups in an iterative fashion on the Theory of Change underlying the Pilot Actions also worked well to explicate the designs and problem statements of the pilots.

Organizing the evening exercise over dinner as a '*diner pensant*' to reflect on underlying normative dimensions of RRI also worked in getting participants to reflect on their knowledge and personal views, insight in, and values, assumptions and beliefs about responsibility in research and innovation. Finally, presenting an overview of the NewHoRRizon project and asking questions on the underlying strategies of the pilots helped participants to be motivated by the feeling of being part of a wider movement, to reflect on the network dynamics and institutional structures relevant for the uptake of RRI and thus on steps to take in the anchoring of their pilots beyond the project.

5.10.3 3rd workshop

The (interactive) presentations on the first day in which we asked protagonists to present on their Pilots and experiences, mixed with presentations from outsiders that could provide relevant information related to the respective Pilots worked quite well in stimulating reflection on the Pilots and how they (could) relate to different contexts. Pilot presentations helped people to reflect on their own assumptions and beliefs about responsibility. We believe that the fact that we had such diverse people working on diverse Pilots helped participants to question their own ideas and beliefs. The presentations by an MSCA NCP on further policy developments at MSCA and a presentation by Lieke Michiels van Kessenich from RVO on the RRI Network and Ingeborg Meijer on changing developments in research career evaluation in the Netherlands were particularly fruitful to trigger reflection on network dynamics, systemic aspects and institutional structures related to responsibility in R&I.

The narrative reflection sessions in the morning on the second day also helped people to reflect by asking questions in groups to share their lessons on helping concretizing responsibility through RRI. This also helped people to reflect on the involvement of different actors and relationships and institutional barriers and enablers related to responsibility in R&I. Especially the reflections on process and context narratives was fruitful for this. The storyboard exercise on the RRI Manifesto by the design professional on the afternoon of the second day asked participants to make an actor map to think of personas to be involved in the RRI Manifesto story. The parallel reflection session with a professor on policy sciences on the Knowledge Kiosk asked participants to reflect on their own assumptions and beliefs about responsibility and the specific interests and needs of different actors like citizens, scientists for a Knowledge Kiosk. Finally, this session was instrumental in having them reflect on the institutional barriers and enablers for bringing it further.

5.11 Group dynamics and diversity

Here we reflect on the group dynamics and diversity during the different Social Lab workshops.

5.11.1 1st workshop

The group of academics and funding actors was in itself quite diverse, both in terms of practices in which they are normally embedded, as well as stage of career and substantive research interests. Next time we would also like to have people from the EC, business and CSOs present to diversify the group even further.

This diversity of viewpoints related to RRI and to the (creative) tension during the workshop and (as we've gathered from participants) to new insights resulting from this friction.

5.11.2 2nd workshop

We continued with those participants that were still involved with the Pilot Actions and, after consulting them, Perhaps, with more time and resources we would have also made more extensive efforts to involve policy people and CSOs. Finally, we had also thought of ways to include a representative from ‘the general public’ or a layperson but it was hard to figure out who this could be and how we might interest them to participate in a Social Lab on a specific part of European excellent research funding.

We experienced group dynamics that seemed to be very productive to work towards actual design of the Pilot Actions. One observation was that there seemed to be interesting tension between on the one hand very motivated and invested protagonists, necessary to actually achieve some change, and on the other hand some friction between different protagonists and others wanting to get involved. This resulted in more negative discussions on the precise design of the Pilot Action and implementation of it. One of our team members tried to intervene but to no avail. A question that became important for us as a team was how to deal with this and turn it into a more productive dynamic? How to keep people involved, even when they are not in the lead and such that they do not disconnect mentally from the Pilot Action efforts (e.g. because of the monopolizing tendencies of other participants)? How to fruitfully get participants to work together cross-Pilot Action and how to spur the sense of agency that got them involved in the first place?

5.11.3 3rd workshop

In terms of diversity, since the group was still very researcher and funding oriented, we would have liked more representation of governance, CSOs and lay people. With the latter two categories we had a hard time figuring out how to involve them. This had to do with the bottom-up nature of the MSCA programme (no central societal challenge to focus on) and the fact that you cannot just ‘pluck’ a citizen off the streets to talk about MSCA funding practices and institutions. Concerning governance: we had one of the participants contact the replacement head of the MSCA Unit to ask them for their presence during the final Social Lab. He was interested but later informed us that he did not find the time to participate.

Apart from some in-group tensions (more elaborately described under challenges and critical moments), the overall group dynamics were smooth.

6 Social Lab 4 – INFRA

Authors: ilse Marschalek, Lisa Marie Seebacher, Elisabeth Unterfrauner

6.1 State of RRI in INFRA before NewHoRRizon

The INFRA programming had little robust support for RRI across the chain of R&I management instruments. RRI was only fully mentioned at the Work Programme level, with none of the calls referring explicitly to RRI as a concept, and little evidence of the concept gaining traction in any specifically tailored evaluation criteria. The most common manifestations of RRI in INFRA programming were to be found through disaggregation into constituent cross-cutting activities.

The most prominent and consistently addressed RRI key in INFRA was **open access**. While public engagement, governance, science literacy and science education, and ethics mentioned sporadically throughout programme materials, a detailed elaboration of these concepts was sparse. Furthermore, there was little evidence that incorporation of these RRI dimensions will be incentivized beyond consideration already given in H2020 evaluation criteria for RIA and CSA proposals.

By contrast, INFRA strongly emphasized Open Agenda elements as guiding principles on multiple programme levels. Open Science features most prominently, commonly referred to as an important enabler of efficient collaboration among researchers and industry. Open Innovation features in texts related to advancing user-driven approaches to R&I and increasing industry involvement. Open to the World was prominent at policy and work programme levels, with texts often referencing supporting EU strategies for international cooperation. Use of Open Innovation and Open to the World were most commonly positioned as enhancing the EU’s global and strategic interests in research competition, rather than reshaping relationships among science and society more generally.

The most common operationalization of RRI beyond keys and beyond Open Agenda activities in INFRA could be seen with reference to “normative anchors,” as well. European Research Infrastructure investments were often framed as a way to help address societal challenges—most commonly related to sustainability. In pursuit of this goal, societal inclusion in research infrastructure was often also part of INFRA framings, as are FAIR (Findable, Accessible, Interoperable and Re-Usable) approaches. INFRA programming also explicitly engaged in reflection on the limitations of FAIR approaches as related to national security concerns, issues of intellectual property rights, and privacy.

6.2 Social Lab and Social Lab Participants

This section describes the Workshop dates and venues and its participants, their affiliation and geographical distribution (see Table 25).

Table 25 - Workshop Dates (date and venue) for INFRA

	Date	Venue
1 st workshop	May 13 th /15 th , 2018	Vienna, Austria
2 nd workshop	April 10 th /11 th , 2019	Reichenau/Rax, Austria
3 rd workshop	October 24 th /25 th , 2019	Sant Feliu de Guíxols, Spain

Table 26 - Participant numbers, gender, drop out and new recruited participants (INFRA)

	Number of male participants	Number of female participants	Total number of SL participants	Number of drop outs	Number of newly recruited participants
1 st workshop	7	5	12		
2 nd workshop	3	4	7		
3 rd workshop	6	4	10		

After the first workshop, not all of our participants could stay in the lab process. One became pilot host, and although she never was able again to attend another workshop, still she remained pilot host. Another pilot host was no longer able to participate or to dedicate time, so he shifted his role to another lab participant. Others expressed their interest, but still did not respond to further invitations. So, not all vacant places could be refilled in time. However, a new smaller group was formed which finally stayed until the end of the lab process.

Table 27 - Participants by stakeholder (INFRA)

	Academia/Research	Business/ Industry	Policy	Other
specification			EC	Other (RI) independent CSO funding lay person education
1 st workshop	6		2	2
2 nd workshop	7			
3 rd workshop	9			1
Totals	22		2	3

group (main role, some participants also stated a second and third affiliation)

6.3 Workshop objectives

The first workshop was dedicated to establishing the Social Lab and developing pilot ideas. It started with an introduction to the project and orientation about the concept of RRI. During the workshop the design also provided opportunities for participants to get to know each other. The facilitator of workshop 1 was asked to provide sufficient time and space to enable participants to exchange experiences and views about research and innovation, their work, aspiration and idea of RRI. The presentation of diagnosis results by the Social Lab management team was meant to generate reflection among participants about their own experiences with research and innovation and RRI. During the workshop, the facilitator had to create creative tension to help the participants to discover the potential, visions and benefits of RRI for their work in and beyond H2020. Participants were then asked to generate their own individual pilot ideas and present in such a fashion that a collection of ideas can be reduced to a short list of Pilot Actions. Thereafter, participants developed Pilot Actions in further detail, pilot hosts were found and pilot teams established.

The main objective of the second workshop was to further develop Pilot Actions and to continue after the second workshop in a more engaged and coherent way. The Social Lab management team should promote a feeling in the group that the Social Lab works together on a shared project; the group should integrate new participants and their new perspectives. Therefore, the design should provide the space to develop new activities, integrate the newcomers.

It was also the time to decide what to continue and stop, and have room for new ideas because of new experience and people. Participants should increase their commitment, but could also take the decision to quit.

In the third workshop the objectives were to have a look at the status quo of pilots and further development (sustainability), to discuss and reflect pilots, process and context, to contribute to the development of narratives and last but not least to acknowledge our achievements in the lab and to conduct a celebrative closure of the lab process.

6.4 Social Lab design

6.4.1 1st workshop

The first session of the workshop was dedicated to introducing the NewHoRRizon project and explicating the purpose of a Social Lab and the first workshop in specific. Afterwards, a sufficient amount of time and several exercises for getting acquainted were invested to form a team and to offer the participants “space and beauty” - atmosphere and surroundings in which they could feel comfortable and welcome (cf. Marschalek, 2018).

Sociometrics (country, gender, SH groups, RRI experience); Interview in pairs: Tell three things about you; Short Introduction of everyone: My name? My affiliation? What could I contribute?

Participants were asked to position themselves in the room according to their existing knowledge on RRI. Most participants felt rather insecure regarding the topic. The participants were provided with a short reader on RRI with the most relevant aspects beforehand.

In the subsequent session on their attitude towards RRI, participants were asked to think about the relevance of RRI within his/her own working environment to write it down. After this task, three groups were built and the break out groups discussed how RRI could enrich their work and how it could burden their work. The holistic and integrative concept of RRI was rather difficult to reflect upon for many participants. However, all three groups came up with many experiences – beneficial and adverse ones.

Within this workshop we have applied the format of a “walkshop” in the gardens of Schönbrunn Vienna. After applying the “headstand method” the group were formulating future-oriented statements for an ideal “RRI world”. According to that, the pilots were designed using the methodology of prototyping. Following design thinking principles (cf. Plattner et al, 2011), the break out groups were provided with a variety of prototyping materials (gum, rope, scissors, glue, coloured cards, post-its, playing pieces). After 60 minutes, each group sent (at least) two delegates to the other groups who gave feedback and introduced their perspectives. In the following session, the original pilot group conducted the pilot fine-tuning followed by a final presentation in the plenary.

6.4.2 2nd workshop

The second workshop was planned as a 1,5 days event which allowed participants to arrive and leave on the same workshop day. This time all stayed under the same roof, in a hotel 1,5 hours south of Vienna, in a mountainous region.

After a welcome lunch on day 1 we started with an introduction to NewHoRRizon and the different Social Labs to remind people of the overall aims and goals of the project and also to tell them about developments in other Social Labs. As there were also newcomers we wanted to bring them on the same page.

Also, we held a short presentation on RRI followed by a reflection exercise on RRI in my organization and work. We used a card set from the RRI tools repository and the group came up with nice visualisations. In the evening of day 1 we organized a voluntary game session with terms related to the RRI approach which participants had to either explain, pantomime or just share a sound. Quite a few Social Lab members participated and it was well appreciated by the group. Although meant as an entertaining exercise it helped to reflect on RRI and share the different perspectives on it.

Day 2 was dedicated to the pilot activities. Each pilot team gave a short presentation on the status quo, challenges experienced and open issues. Again, we had planned a walkshop, however, heavy rain did not allow us to go out. However, we did the reflection session indoors in which participants gathered feedback on each of the pilots. This exercise helped team members to discuss and assess pilots according to stimulating questions we provided them with. Each participant received a clip board with two sheets of paper. The first one was addressing questions on the RRI keys in relation to their Pilot Actions, the second one was addressing general assessment questions and what was missing within the pilots.

After lunch feedback was shared and discussed in the plenary. The following session was dedicated to actually work on the pilots, to define next steps and strategies how to sustain or eventually scale up the pilots.

Next steps were presented at the end of the second workshop in order for all pilot teams to leave with a concrete plan in mind.

6.4.3 3rd workshop

This workshop took place again in a nice environment and was organized as retreat. Day 1 focused on the three pilots with three presentations given by the pilot teams followed by a reflective exercise with the whole group. However, the reflective format (c.f. Schrammel et al, 2016; Cooperrider et al, 1987) was changed in each round to make the sessions livelier. So we had a fishbowl exercise after one of the presentations followed by a reflection on take home messages. Another one was reflected with the support of the NH Thinking tool and a dialogue round and the third Pilot Action was reflected in a “brainwalk” (cf. Baumann, 2015). Also, the entire lab process from invitation, to workshops, pilot activity development etc. was reflected according to a parkour which the whole group pursued outside, discussing and reflecting at each station.

Day 2 was about the development of narratives. The draft narratives as provided by WP8 (reporting template moment V) were introduced to Social Lab participants. The reflection exercises to gather feedback and further suggestions were arranged exactly according to the instructions given by WP 8 team, i.e. work in small groups and steered discussion. To detect the uptake of RRI in our group we prepared a flipchart with a matrix with the uptake of RRI on four different levels: personal, institutional, country wise and according to the programme line (research infrastructures) and had all participants attach a sticky dot to express the level of uptake (followed by an interview in pairs where they had already discussed their personal journey). Finally, to acknowledge all the achievements in the Social Lab and particularly the three pilots we arranged to a small ceremony where we gave out award certificates and small gifts to all pilot groups. The last session of the day was dedicated to outlook and sustainability of the Pilot Actions.

6.5 Pilot Action Development

In the 1st workshop, the Social Lab created altogether 27 Pilot Action ideas and finally started to work on three of them. All three pilots evolved over the course of the Social Lab process, one was abandoned, but a new one was created between the first and second workshop instead. All remaining three Pilot Actions have been successfully completed. Table 28 provides an overview on these three Pilot Actions of the Social Lab.

Table 28 - Overview on Pilot Actions worked on in Social Lab INFRA

Pilot Action Number	Pilot Action Name	Created in	Status
1	Small Wind	1st workshop	Abandoned
2	Green Village	Interval 1st and 2 nd workshop	completed
3	Magna Charta	1st workshop	completed
4	Museum Lab	1st workshop	completed

In the next section we present the development of these three Pilot Actions in more detail.

6.5.1 Pilot Action 1: Green Village

The Green Village Pilot Action was organized at the Green Village, Delft University, Delft, The Netherlands and at GESIS Cologne Germany. The Green Village community is a highly innovative research community at the University of Delft in the Netherlands. The Faculty of TPM, Values, Technology and Innovations, of TU Delft wanted to make RRI as guiding principle for the development, testing and demonstration of innovation in concrete projects. This was regarded important because TU Delft's implementation of its mission includes all of the RRI principles. The Safety and Security Section of the Delft University of Technology's Faculty of Values, Technology and Innovation, conducted a total of two workshops with Social Lab team members on exploring, analysing and implementing the holistic RRI framework in an experimental innovative technical research community: The Green Village on the campus of Delft University. The Green Village is a Living Lab for sustainable innovation. It's kind of an experimental zone on an island that explores everything from green energy to building construction through different projects. The focus in this initiative was on societal engagement, one of the four cornerstones of the Green Village in relation to ethics, gender equality and open access and governance.

The first workshop introduced RRI principles to the Green Village and elaborated project specific RRI approaches in three selected projects: (1) [AQUABATTERY](#), a project that aims at developing a battery that works on water basis, (2) [HEMEL\(S\)WATER](#), a project in which rainwater is collected and processed for drinking and (3) [RADD](#), a project on automated driving.

In the six months between the first and the second workshop these projects were asked to implement the RRI aspects with specific attention to its integral character. They then were asked to present their progress in the second workshop to an audience composed by experts on open science, gender and diversity, sustainability management and RRI in general.

The result was that each of the projects could benefit from the activity and appreciated the critical and constructive evaluation from outsiders. All three projects included most of the RRI principles in their procedures and governance and in their business strategies: one project in its entire business model,

one project in the civil society approach and one mainly in their safety (ethical) approach. All of them could identify aspects in all RRI keys for further improvement.

6.5.2 Pilot Action 2: Magna Charta

The pilot team noticed the following problems in the realm of research infrastructures (RI): not all RIs have a defined access policy; there is fragmentation and diversification of access policies, a lack of common understanding on concepts, and a lack of transparency. The main aim of this pilot activity was to integrate RRI in the European Charta for Access to Research Infrastructures, since RRI principles were not sufficiently represented in the Charta to that moment. This is important because the Charta has a guiding function for research infrastructures across Europe. It "sets out non-regulatory principles and guidelines to be used as a reference when defining Access policies for Research Infrastructures and related services" and should, although not binding, be considered by research infrastructure providers. Therefore, the team decided to revise the document and integrate RRI principles.

Any mentioning and consideration of RRI principles will help to spread the word on RRI and sustain the important discursive shift towards responsible research and innovation. The revised Open Access Charta may help research infrastructure providers, research organisations and policymakers to include and reflect more on RRI aspects in the development and maintenance of important research infrastructures. More open research infrastructures may increase the participation of innovators, CSOs and citizens in research and innovation processes and their access to results. It also contributes to a co-creation process and better (e.g. faster, more effective) technology transfer. It helps also to promote public awareness which is important for long-term public and funding support of the research infrastructures.

As the Charta was designed as a "living document" from its very first draft, it led itself towards revision and update. Therefore, a small lab team of 5 people worked together, the host of the Pilot coming from a funding agency. They analysed the existing Charta and revised it applying an internal iterative approach. Afterwards they developed reports and presentations on their results. To provide momentum and visibility to the revision, the team organized a networking event on the topic as a satellite event to the Research and Innovation days in September 2019 in Brussels. They had speakers such as the chair of ESFRI, the head of Research and Industrial Infrastructures at EC DG RTD and one of the lab members. The invited participants were mainly research infrastructure stakeholders (e.g. RI managers, RI users and researchers, RI funders and policy makers) and including the co-authors of the reviewed Open Access Charter. The team identified many aspects in the current version of the Charter which needed to be addressed, e.g., how to increase the number of underrepresented gender groups or early-stage researchers within RI users, (e.g., Charter could give recommendations to research infrastructures to monitor the number of users based on these criteria (e.g. gender, career level, background of the user (SME, citizen, students...)). However, it is unclear, how these will be taken up. But meanwhile, based on information from the EGERIC expert group the Charter has become obligatory in a number of EU projects, and needed to be updated in some parts to avoid discriminating some projects, like for example this proposal which says "the present document reviews its applicability and raises the potential need for a revision "(Source: <http://doi.org/10.5281/zenodo.4475208>).

6.5.3 Pilot Action 3: Museum Lab

The Natural History Museum in Vienna as one of the largest non-university institutions in Austria aims at getting more open and diverse and wants to follow an RRI approach in future initiatives. The main

aim of this pilot activity is to create new alliances between science and society and intensify communication and awareness raising on actual topics of science and society, making “the museum leaves its ivory tower”.

To bring about this change we organised a Social Lab within the museum itself, including museum staff but also external stakeholders who could become future collaboration partners to create new alliances between science and society. The creation of an interactive Social Lab in a large museum may help to open it up to society by co-creating new collaboration and communication formats, taking RRI principles into account. Collaboration workshops like the ones in the Museum Lab contribute to answering the question how museum and society could collaboratively get engaged in addressing societal challenges of our time. New understandings of cooperation have to be established, offering new forms of outreach and engagement. Workshops such as the one in this pilot help gaining new insight into how to involve external stakeholders into actual museum work.

As the exhibition and education department at the museum is creating a new communication area within the museum, called [Deck 50](#), this provided the perfect occasion to apply the Social Lab method and involve external stakeholders through dedicated workshops.

The first workshop addressed stakeholders and optional future collaboration partners, the second workshop worked with staff of the museum, and the third workshop brought the two groups together and started a co-creation process building up new collaborations and communication formats to the museum, by taking the RRI principles into account.

In the course of developing this participatory room, new forms of communication and collaboration internally and externally were experienced and established. The museum staff opened up to questions, ideas and needs from outside the museum, and external multipliers, representing different target groups could discuss and contribute to actual topics of the museum and create new collaborations.

The workshops were moderated by external facilitators which were positively accepted. For setting up the programme, applied methods and the recruitment procedure the work was carried out in very close collaboration with museum staff and external facilitators to combine both internal and external views which finally in turn allowed for a friction free process.

The workshops evoked fresh ideas and food for thought as well as concrete new projects such as the [“NHM on tour”](#). As a consequence of the “spirit” created among museum staff during one of the workshops, a group of scientists asked for a new communication format called “science and society” which will be designed together with external partners and will be central to actions on Deck 50.

6.6 Reflection

6.6.1 Challenges/critical moments

This section describes the critical moments how they came up and how they were resolved or not resolved from the time of setting up the Social Lab until the end of the Social Lab.

6.6.2 Involvement of Social Lab manger

As the lab manager due to geographical situation and the offered methodological skills was very close to one pilot, she got intensively involved in carrying out the Pilot Action. This caused advantages and disadvantages. The advantage was compared to other pilots that work was always in progress and information in both directions was always first hand. The disadvantage was the pilot hosting team

relied very much on the help from outside as provided by the two external moderators (one Social Lab manager, one contracted external facilitator from the field of science communication). The two external persons took over the additional work, which the implementation of RRI requires.

This is in line with other pilot experiences: it needs time and resources (and interest) of internal staff to take over the responsibility for RRI. In our case, this was externalised. Therefore, reporting to the Social Lab team and participating in the second workshop of the lab were tasks difficult to achieve which we had to address specifically.

The following actions have been taken:

- Development of a template for the hosts, in order to guide them through a reflection process of their pilot, especially in terms of RRI.
- Personal meeting to discuss these issues and also elaborate on the template on assessing the pilot in general and concerning RRI in particular.
- Personal briefing of Social Lab manager to substitute the pilot hosts who could not take part in workshop 2.
- Provision of comprehensive power point presentation of all activities carried out in the pilot including reflections on RRI to be presented during the workshop.

We wanted that our pilot hosts take the full responsibility of their pilots within the NewHoRRizon project. As the pilot is part of their daily work, they are fully engaged in carrying out the pilot, however, their reporting to the project, their participation in the workshop and readiness to inform other lab team members was rather low. In order to address it, we decided to have a pre-meeting with the two persons of the hosting team, discussing all open issues and also to brief the Social Lab Manager to be able to represent the pilot host.

6.6.3 RRI as additional works, although it is focus of the daily work

For Pilot Action 2, the Magna Charta one of our Social Lab participant a NCP in that realm and with specific interest in open access signed responsible for hosting this pilot activity. Three team members showed their interest and contributed with comments and suggestions for improvement. However, time and resources to integrate all comments and finalise the paper according to RRI principles and what was discussed, as a group could not be achieved yet as our host could not supply sufficient resources. Thus, it needs the institutional preconditions and agency to implement RRI in your own institution, which allows for this additional work (cf. Marschalek et al, 2019).

In order to address this issue, we decided to look for a new host and further team members who could take over tasks and continue with the pilot. Finally, we relieved the pilot host from this task and replaced him by another interested person who could participate in workshop 2 in order to enable a presentation of activities and group discussion on how to continue the pilot.

6.6.4 Pilot drop and alternative

As we did not hear no more from one of our previously selected pilots and we found that it finally turned out not to be pursued any longer, we as Social Lab Mangers were looking for alternatives. Indeed, we could find another pilot idea and new hosts (of the previous pilot team) for it. During the second workshop suddenly, the new team confronted the previous host and asked why nothing had happened, why there had been no longer any conversation and complained about the situation, which had caused many difficulties for the remaining team and also much delay for the actual pilot

alternative. This delay caused much stress on the actual pilot activities, which could have been avoided if we had decided earlier.

We as Social Lab management team appreciated the new host and also her concerns. It became also clear that we as Social Lab Managers have done a lot in order to get some responses and see whether the pilot idea was still alive. Also, we got in contact with the remaining team and tried to find an alternative pilot idea. However, it was never made explicit to the previous (initial) pilot host that we had found a new solution. This had to be discussed during the workshop – as both persons were present as well. Finally, the processes could be clarified and the new pilot situation was accepted, also because we underlined that all the work done in the pilots was just on a voluntary basis and as long we had not received the filled in template with the budget requests we could only kindly ask for their work.

In view of critical moment, it became clear that there lies a certain pressure on the pilot hosts and teams, although all work is voluntarily and participants already invest much of their time to attend the workshops. The drop out of one pilot is not bad, but as we did not want to disappoint the pilot team and also avoid losing them we tried to work on an alternative. However, critical aspects have to be communicated as explicitly as possible in order to allow most possible transparency and for participants the freedom to choose what they are willing to contribute and what not.

6.6.5 Engagement in pilot activities

Only hosts who really can implement the pilot idea in their daily work (or are personally eager to pursue the pilot even on a voluntary basis) can dedicate a sufficient amount of time to carrying out the pilot. That means that pilots can die, because nobody can pursue the idea any longer, or pilot hosts feel alone without a supporting (Social Lab) team. Furthermore, this causes additional work for the Social Lab Managers to fill this void. Many pilot hosts ask for support in different ways. Social Lab team members without any direct engagement in one of the pilots are quite likely to drop out.

Our second workshop was designed in a way that pilot hosts received as much input and feedback as possible to help them continue their work. Also, new team members could be recruited to take over some tasks in the pilot activities and bring in new ideas. Tasks for the Social Lab Managers were made explicit and a special session was dedicated to planning of the next months. Other pilot teams (and other Social Lab members) have to be informed about all other lab activities. We have to take care that pilot activities are embedded in the Social Lab and also in the overarching NewHoRRizon project. Therefore, we also shared much about other labs and already announced the cross-fertilization workshop to which pilot hosts would be invited. We pointed to the pilot descriptions on the website and tried to make visible that our Social Lab and each pilot activity is just one little piece of a much more comprehensive endeavour.

6.6.6 Disapproval of narrative approach

The reflection of the provided narratives (moment V) among the lab team was an important part of the 3rd workshop. Nevertheless, participants and in particular one of the pilot hosts was unfamiliar and critical with the qualitative approach, perceiving it as “unscientific”, being based on one case only and hence unrepresentative and irrelevant for policy change. The idea that a third person not part of the Social Lab has written these draft narratives was criticised. To address the challenge the narrative development was carried out in small groups only, with one lab management team as facilitators accompanying each table in order to clarify procedures and guide through the process. Thereby, the

specific criticism could have been taken seriously, and was recorded so that the pilot teams could make use of it afterwards. The narratives are perceived too soft an approach to have real-life consequences.

With RRI possibly not being included in the upcoming Framework Programme and fearing that RRI might not have any stake whatsoever in the upcoming funding period, Social Lab participants urged for a more powerful approach. Furthermore, narratives have to be as convincing as possible to really be able to reframe existing hegemonic narratives.

6.6.7 Distribution of workload between lab team members and within pilot teams

Especially pilot hosts were challenged to invest much of their time throughout the process. Some received more support by their team members than others. But on the other hand, the managing team could give sometimes more, sometimes less support as well. Participants complained about this unequal distribution of efforts during the workshop. To address this critical moment, we used the Social Lab workshop to identify and redistribute tasks where possible in order to unburden the pilot hosts. There were some immediate concessions of team members, but also some suggestions of how to re-organize the work (e.g. interviews instead of online survey) in order to reduce time and efforts. Also, we appreciated the (hard) work our pilot hosts have undertaken and applied an Oscar-style awarding ceremony individually highlighting their achievements.

Pilot hosts are agents of change who need as much support as possible to get the message out and to be able to have an impact (e.g. on institutional change). During the feedback and outlook round our lab participants recognized this importance and suggested to continue the work (as a team), support each other, even without the lab management and beyond the project.

6.6.8 Presence of participants during the lab workshop

Although presenting our workshop netiquette, asking to switch off mobile phones and be present during our workshop, we had several participants who had to take work related calls in between or checked their emails. Some announced such expected duties, some did not. Some left the room for these activities, some did not.

As lab management team we found that disturbing and annoying, but we made sure that it would not affect the overall group dynamic. We announced to the group when someone told us in advance that he would be absent because of Telco for example. Or when a format required focused participation, we asked to stay in the circle, close the laptop and participate in the discussion.

It is important to create a respectful and trustful atmosphere in any kind of workshop. Respect in this sense means also to dedicate time to the workshop, to be present and not to be distracted by mobile phone calls, etc. At every workshop, we share our workshop etiquette rules. And although sometimes participants cannot stick to the agreed rules at all times, they experience an atmosphere of trust and respect which they can replicate in other environments.

6.7 Achievement of objectives

We can state that the Social Lab overall was quite a smooth process where all main objectives were reached. We could establish a core lab team which stayed until the very end of the process, successfully carried out their pilot activities and are still in contact with the Social Lab managing team. The following objectives shall be highlighted:

6.7.1 In terms of RRI

- Understanding of and commitment towards RRI by the lab participants and beyond.
- The Social Lab got inspired to continue their work towards RRI.
- All three pilots had an impact in their fields and continue to live in one way or the other.
- In general, according to feedback: the theoretical knowledge has increased but also the practical experience could be increased throughout this workshop.

6.7.2 Concerning pilot activities

- Learning about status quo and further development of each pilot.
- Learning from each other in the Social Lab and also between Social Labs.
- Discussion and reflection of pilots, process and context.
- Discussing and refining the Pilot Actions, dropping which were not feasible and creating the new ones.
- Sharing and reflecting on the experiences on pilot activities among the participants.
- All Social Lab members understand the challenges of the single pilot activities: this goal was reached by providing for enough room and time to exchange on day 2 of the workshop entirely on pilot activities.
- All pilot teams are confident about their next steps: A session was dedicated only to planning next steps.
- All pilots received feedback from the team: During group works and in the pilot sessions in the afternoon, and also plenary presentations the hosts collected much feedback and got new ideas
- Personnel update on each pilot team: New Social Lab members became committed to pilots.
- Integration of new Social Lab members: This was achieved through interactive group formats, the reintroduction to RRI and the RRI game in the evening also helped for socialising and integration.
- All pilot teams have undertaken first strategic considerations (sustainability, integration in ecosystem, exploitations).
- All three pilots completed from ideation in the first workshop to completion and reflection in the third workshop.
- Contribution to the development of narratives, and reflection of it in the lab team.

6.7.3 In general

- Acknowledgement of achievements and celebrative closure of lab workshop

6.7.4 Objectives not been reached

- To establish a common understanding of RRI as holistic concept.
- Fully satisfying common understanding of RRI.
- Get full support for the narrative methodology.

6.8 Potential impact

All three Pilot Actions were developed in close alliance with the pilot hosts' institutions. In general, all Pilot Actions were received positively and supported in their respective institutional environments.

- Green Village: Interest from other faculties, departments and participants.
- Magna Charta: Positive feedback from workshop participants in Brussels.
- Museum Lab: The museum team could launch the topic of science and society. As a consequence of the "spirit" created among museum staff during workshop 2, a group of

scientists asked for a new communication format called “science and society” which will be designed together with external partners and will be central to actions on deck 50.

Sharing the awareness of RRI is as a frame for not doing business as usual but rather reflecting current practices and hence getting enabled to change them was perceived as an important starting point to transform standing practices. Two pilots aimed at raising awareness and hence enabling the actors in charge to change their standing practices. The Museum pilot aimed at transforming standing practices directly, by establishing a Social Lab within the Social Lab and elaborating new processes for their practices.

The Green Village Pilot Action may not impact the INFRA/Excellent Science institutional context as such, but it does provide a showcase on how accessibility of research and innovations can also be increased on the project level. It does so by creating awareness on RRI in the Green Village research community through workshops and reflection sessions and building capacities for RRI on the project level. The results of this Pilot Action have been anchored beyond the duration of the project because all three projects are still further working on integrating the RRI principles in the next stages of their innovative development: [HEMEL\(S\)WATER](#) on governance and “Ethics and Integrity” to operate in Africa of , [AQUABATTERY](#) with further implementing the gender perspective in their business development plans and [RADD](#) by focusing on involving more civil society. Furthermore, we have identified the following ripple effects; the three cases are being put in the spotlight in many presentations in the national and international science and innovation communities.

The Magna Charta team believes that the Pilot Action provides a concrete alternative to existing Open Access standards that better considers elements of RRI. It thus creates communicable output on RRI and hopefully contributes to the formalisation of RRI on the level of research infrastructure policy and implementation. It is their hope that more research organisations and research infrastructure providers take up the new RRI-proof guidelines and use the results to create more open and accessible research infrastructures that provide access to more stakeholders.

The Museum Lab Pilot may not impact the INFRA/Excellent Science institutional context as such, but it provides an example of how a research and education infrastructure such as a large museum may integrate novel ways of doing public engagement in practice by involving external stakeholders in the design of new interaction and communication formats like “NHM on tour” and “Science and Society” at the Natural History Museum. Moreover, the experience of the more than 30 participants from inside and outside of the museum may be spread and thus be replicated in other museums. Hence, it may help in opening research infrastructures in practice.

6.9 Lessons for pilot development and implementation

Within the Green village pilot activity, we learned that the stable support of convinced and dedicated individuals, such as the support of a former university director or motivated project members, is crucial for successful RRI integration. Long-term support requires institutionalization, for example through quality standards for RRI. Therefore, the following implementation tips can be suggested:

- Prepare your arguments and make it work for participants: people need to see the added value of RRI so that it does not just feel like an extra task.
- Work with specific projects: by embedding RRI principles in concrete contexts, you can show the added value to participants and showcase it to other interested people at your institutions.

- Involve motivated change agents and people with institutional clout like a (former) university director: these people and their motivation are necessary if you want to attract other interested people.
- Sustainable implementation needs institutional commitment, support and financial assistance.
- Make sure that you have the right people involved and committed as from the beginning.
- In the Magna Charta pilot the revised Open Access Charta may help research infrastructure providers, research organisations and policymakers to include and reflect more on RRI aspects in the development and maintenance of important research infrastructures.

Implementation tips:

- The Open Access Charta provides guidelines for all types of research infrastructures: everyone is advised to take its recommendations and use them to improve own research infrastructures.
- Whenever you want to change the system: try to think of guiding documents like the Charta: this is an easy way in which you can raise awareness on RRI with many different actors.
- Try to think of the information needs of an actor like the European Commission: they were very happy with the fact that we came up with new insights to add to the existing Charta.
- Organise a workshop with the most important stakeholders to increase visibility of the action with policy stakeholders.
- From time to time and challenge the current state (in our case the existing Open Access Charter document) and challenge it from the RRI perspective.
- Do not hesitate to include other RRI aspects that were not considered as the main one (e.g. green management, age, legal transparency).

Collaboration workshops like the ones in the Museum Lab contribute to answering the question how museum and society could collaboratively get engaged in addressing societal challenges of our time. New understandings of cooperation have to be established, offering new forms of outreach and engagement. Workshops such as the one in this pilot help gaining new insight into how to involve external stakeholders into actual museum work.

Implementation tips:

- Involve stakeholders and museum staff through an iterative process in which you slowly bring them together: this will help in building trust and ownership of the change process.
- External and professional facilitation is key: such facilitators may see things that people inside the museum may not see.
- Involvement of outside actors will help in designing new interaction formats: they may provide input on what works and what doesn't work.

Generally, it requires:

- More focus on project responsibilities, the continuity and the sustainability of RRI and its results.
- Creation of teams/communities of practice for exchange, learning and new Initiatives.
- More focus on “what is in it for me” for the innovation leaders.
- Support for pilot hosts as agents of change is needed.
- More role-models and ambassadors and use of flexible attractive instruments.
- Awareness of RRI is needed in order to transform long-standing practices.

6.10 Workshop methodology

In all three Social Lab workshops we applied very interactive and diverse formats and techniques to make the workshop livelier and also to have a maximum mix of the group.

These formats all worked out very well, adaptations were sometimes necessary on the fly which requires a flexible and well-prepared facilitation team. A moderation plan with defined session durations, session titles, aims of the session, materials needed and responsibilities helped to guide through the days (cf. Marschalek et al, 2017).

We introduced RRI with a presentation which might have been too theoretical or abstract and thus for some participants the RRI approach difficult to grasp. Additionally, they were provided with a short reader on RRI. Already in the introduction session of workshop 1 the concept of RRI was mentioned and participants had the possibility to position themselves in the room according to their pre-knowledge. For reflecting on previous group work we used the “talking star”, a talking object that was passed from one person to the other and only the ones in possession of the object were allowed to speak. The group was very good in applying this dialogue format. Nobody interrupted others and very quickly everybody got used to wait for their turn. The preferred version was to pass on the star in the circle. Putting it in the middle was rather difficult for some participants, as they had physical problems when they had to pick up the star from the middle. However, all participants supported each other and were aware that everybody had the possibility to share their thoughts and ideas.

The walkshop approach (work and discuss while on the move, cf. Wickson et al, 2015) was used in all three workshops although it had to be adapted sometimes due to weather conditions. In cases when workshops had to be moved inside, it turned out not to be a problem at all. Instead of walking, break out rooms were used to provide space for discussion and reflection.

Generally, the walkshop format was very well received. It helped team members for instance in the first workshop in the Schönbrunn gardens, the produced cards (flags) were hanged on ropes in a nice garden lounge, while having coffee and cake, and participants generally enjoyed this approach. The single steps in this process were (1) to write future sentences, choosing the most important ones and write them on flags, then (2) to select three to five sentences the groups wants to work on, by using (3) the “headstand method” (cf Baumann, 2015) , and finally (4) best ideas collected on coloured cards and presented the next day. The methodology worked great and proved to be a good preparation for the next day’s pilot prototyping.

For the pilot idea development, the session was divided in two parts. In three break out groups, each participant took five minutes on his/her own to write down ideas for possible pilots they thought that could be implemented within the Social Lab. The following 25 minutes were used to discuss the ideas, to add new ones and to write a list on a flip chart. It was important to only collect titles and ideas and not go into detail. The session worked very well; no difficulties, unclarities or other issues were noted. All participants came up with pilot ideas, some rather broad, others rather concrete. In the break the flip charts were put on the wall. For the selection task, each group presented their ideas. Some pilot ideas could be combined with others. The group needed about five to ten minutes for this task in order to do a fair ranking. Each participant received five sticky dots to rank the pilot they would like to work on or host, whereas the number of dots per pilot idea was restricted to maximum of three dots.

The result was a list of five most important ideas (with six to seven points), followed by a list of six suggestions which reached three to five points, and another list of five least important ideas (with less than three points).

Also, a long list of other ideas (without points) was gathered. With this ranking exercise, the group easily agreed on pilot ideas, the hosts were selected easily, as some of the participants already got clear ideas where they could use these pilots in their work.¹⁰

In the next step the pilots were designed using the methodology of prototyping. Break out groups – one for each pilot idea -were provided with a variety of prototyping materials (dough, rope, scissors, glue, coloured cards, post-its, playing pieces) to work out their idea. Participants mainly used coloured cards and pens and the playing pieces for visualising their pilot ideas. The groups needed time for discussion before they started the creative process. Some people were not immediately open to work with these materials and preferred the usual way of sketching their ideas on a flip chart. After 60 min each group sent (at least) two delegates to the other groups. In the next 30 min the pilot ideas were described to the delegates who later gave feedback and introduced their perspectives.

In the following session the before composed pilot group did the pilot fine tuning and finally gave a presentation with clear next steps and identified needs for other Social Lab participants. This approach worked well. Feedback has shown that the participants, especially the hosts were clear about their next steps.

For stimulating reflection on RRI we made use of different exercises. For instance, we arranged for a reflection exercise on RRI on all levels (in general, in the program line, in the institution and on an individual level), using a net-chart and sticky dots for visualisation. First, participants in pairs would interview each other and then map on a prepared flipchart their individual, institutional, etc. update of RRI. This worked very well and allowed the group to get an overall picture of the RRI uptake in the group and beyond.

For reflecting on the overall Social Lab process in the third Social Lab workshop we arranged a outside gallery walk. Participants would pass from station to station. Each station was dedicated to one important moment in the Social Lab process and was equipped with documentation material: (1) being invited, (2) first Social Lab workshop, (3) between 1st and 2nd workshop, (4) 2nd workshop, (5) between 2nd and 3rd workshop, (6) Whole lab process. In between each station participants on the move would discuss with each other guided by stimulating questions and then at the station note down their observations, and get a new sheet of paper in preparation for the next station. This session worked wonderfully and was a great opportunity to reflect on the past 1,5 years.

6.11 Group dynamics and diversity

In Social Lab INFRA the group acknowledged its diversity in terms of gender, age, nationality, scientific background and type of organisation in the final reflection round. In the first initial positioning in the room exercise the diversity became also obvious when people stood in the room according to their geographical location, and according to gender. Women were slightly overrepresented (7 women, 5

¹⁰ One host volunteered at first but due to time constraints had to withdraw from thus role. The role, however, could be passed on to another pilot team member

men), which is quite unusual for infrastructure events as one of the male participants mentioned: „this never happens to us that we are the minority.”

In the second workshop, since we had not seen each other for more than a year, we decided to have an easy start with occasion for small talk and to get acquainted again to each other. Also, we had three newcomers.

Therefore, we started with a common lunch and dedicated the first hour of the workshop to see who is here from different perspectives (organisational and stakeholder group affiliation, familiarity with RRI, and on a personal level). The nice surrounding and calm atmosphere at the venue in the mountain area helped participants to relax and really be present during the workshop. As we all stayed in the same hotel and also spent some free time activities together (game, meals, walks, train trip) the group members could meet in different situations and constellations. Also, the walk shop format supported fluid interactions between all team members. Outdoor experiences (such as spotting fire salamanders) have a bonding effect. During the feedback round, Social Lab participants highlighted the warm and open atmosphere and their good feeling within the group. With all these offers we followed the “art of hosting principles” (Büro für Zukunftsfragen, 2012).

The first social workshop was distinctly more diverse than the second and the last workshop. Dropouts and non-responsiveness of participants as well as the sampling strategy for new lab-participants (existing participants could choose whom to bring along) resulted in a way more homogeneous Social Lab team. While in the first workshop twelve participants from nine different countries were represented, in the third workshop ten participants from seven EU member states were represented. From a gender perspective, the composition rather stayed the same from the beginning (5 men, 7 women) to the end (4 men, 8 women). Unfortunately, representatives from policy institutions in the programme line have only visited the 1st Social Lab workshop, while one stayed active in a Pilot Action, the other one did not take any interest in the process afterwards. After three workshops, most participants of the Social Lab were already familiar with each other, which provided the environment for a successful collaboration.

7 Pilot Actions

This section provides information about the individual pilot actions of the Social Labs.

7.1 EURO Expert and RRI

Social Lab 1 ERC

#creating awareness for RRI #creating communicable output

#public engagement #open access

#interdisciplinarity

#researchers #research organizations/administrators #policy makers #funders

#innovators/entrepreneurs #CSOs #citizens/general public

Contact: Sabrina Ciolfi (sabrina.ciolfi@csls.ox.ac.uk)

Researchers might lack expertise how to best communicate their results and to engage new people online. The problem is exacerbated because of a lack of time and resources and because of a general skepticism among researchers towards public engagement. Pilot action participants thought it was important to create a new website which may help communicating research results to people outside the scientific world and increase engagement between researchers and information users because research findings can be helpful for legal professionals and people at court to improve legal processes by considering cultural expertise.

Pilot action participants created a website of the ERC funded [Euro Expert](#) project that showcases the relevance of RRI by sharing research results from legal and anthropological research with relevant stakeholders such as cultural experts, judges and prosecutors. RRI is used as an instrument to increase the social impact of research. The website is specifically focused on informing a wider audience about the role of cultural experts in the context of legal decision-making.

Cultural experts, judges and prosecutors and other people who are interested can get the latest relevant research results easily from a dedicated website and can even contribute insights through blogs. The use of an easily accessible online space supports the spread of results and therefore increases interaction between legal researchers and society. The website could help to initiate a wider societal discussion about the benefits and challenges of cultural expertise in legal settings and the wider questions these raise.

By creating a communicable output and making legal research more accessible to people outside the scientific domain it may thus help the legal scholarly field to become more inclusive, adaptive to social changes and aware of RRI. Furthermore, the website and the experiences gained with developing it may encourage the design of templates for other excellent science projects to develop their own websites. The website can be used as a model for other projects that want to engage a wider public and engage stakeholders in their work.

Please follow the link to learn more: <https://euro-resp.com/>

Screenshot of the “podcast” page of the website “EURO-Expert & RRI”



PODCASTS

	<p>Håkan Andersson (Public Prosecutor, Swedish Prosecution Authority) talks about the issue of neutrality of the cultural expert in the court (<i>Cultural Expertise in Criminal Cases – Experiences of a Public Prosecutor</i> Centre for Socio-Legal Studies, University of Oxford, 7 Oct 2019)</p> <p>▶ 0:00 / 1:15</p>
	<p>EURO-EXPERT in collaboration with the Law and Justice Commission of Pakistan (LJCP) organised one-day training workshop on International Commercial Arbitration. The chief guest Justice Gulzar Ahmed said that this sort of trainings will be given to the judicial officers in future regularly, including also subject such as gender rights, violence against women and children. Professor Livia Holden also launched CULTEXP database in all languages and across 17 different countries, including Pakistan. After formal proceedings, Professor Giorgio Fabio Colombo, University of Nagoya, started first training session (Islamabad, 11 Nov 2019).</p>

7.2 Quadralogue

Social Lab 1 ERC

#doing RRI #developing implementable designs for RRI

#public engagement

#interdisciplinarity

#researchers #research organizations/administrators #policy makers #funders

#innovators/entrepreneurs #CSOs #citizens/general public

Contact: Eli Lewis (eli.c.lewis@gmail.com)

The Quadralogue addresses barriers of communication and routine between individuals with different roles in research and innovation. By bringing together these individuals who are not typically incentivized to discuss the bigger picture aspects of science and research, the Quadralogue seeks to overcome this barrier by bringing people together to discuss the social impact of research and innovation.

The design of the Quadralogue is a structured and facilitated 45-minute dialogue-game. By providing a unique 'gamified' environment to foster these conversations, the pilot action is a low-threshold way to bring together people who do not typically have a chance to share their expertise, concerns, experiences, and assumptions in their normal day to day routine. The barriers are removed by the protocol of the game, as each of the four participants are responsible for sharing their interpretations and first impressions of the experiences they share with each other in plain language.

Quadralogue began targeting researchers, students, community members and administrators. The students act as facilitators which empowers them and contributes to a discussion on an eye level. Administrators are able to share their experiences from the typically behind the scenes perspective of research. Scientists are given a chance to speak as members of society and not professional scientists. And community members, which is the most open-ended subgroup in the Quadralogue, can represent a cause that is context specific to the community in which the Quadralogue is taking place. Since its launch, the Quadralogue has since been taken up by up members of the local municipalities, and entrepreneurs who want to know the impact of their business.

The lesson learned from this pilot action is that public engagement is a fundamental and very important first step towards doing RRI. Additionally, public engagement is a means of breaking professionals and students out of their routine and can unlock creative reflection and brainstorming on otherwise latent topics. One of the learnings from the pilot action is that these conversations can also be fun and interesting for participants, flipping the standard notion of societal considerations as a researcher's burden during grant applications into an opportunity for exploration. This pilot action should be taken up by others because it is an entry point to RRI, can be organized almost everywhere and requires minimum financial and organizational effort.

You can watch a video of Quadralogue on the Ben Gurion University campus. <https://www.youtube.com/watch?v=iqYcPmQvMRI>. To select English subtitles, hover your mouse over the bottom of the video and select the settings gear.

You can listen to a Quadralogue conversation (Hebrew) here: <https://anchor.fm/bgu-radio/episodes/360----1-ebuiuc>.

Follow the QR code to an instruction video on how to play



7.3 Quantum Rebels

Social Lab 2 FET

#building RRI capacities

#responsiveness

#leadership training

#researchers # research organizations/administrators

Contact: Frank Wilhelm-Mauch (fwm@lusi.uni-sb.de) and Sylwia Kostka (Sylwia.Kostka@ncn.gov.pl)

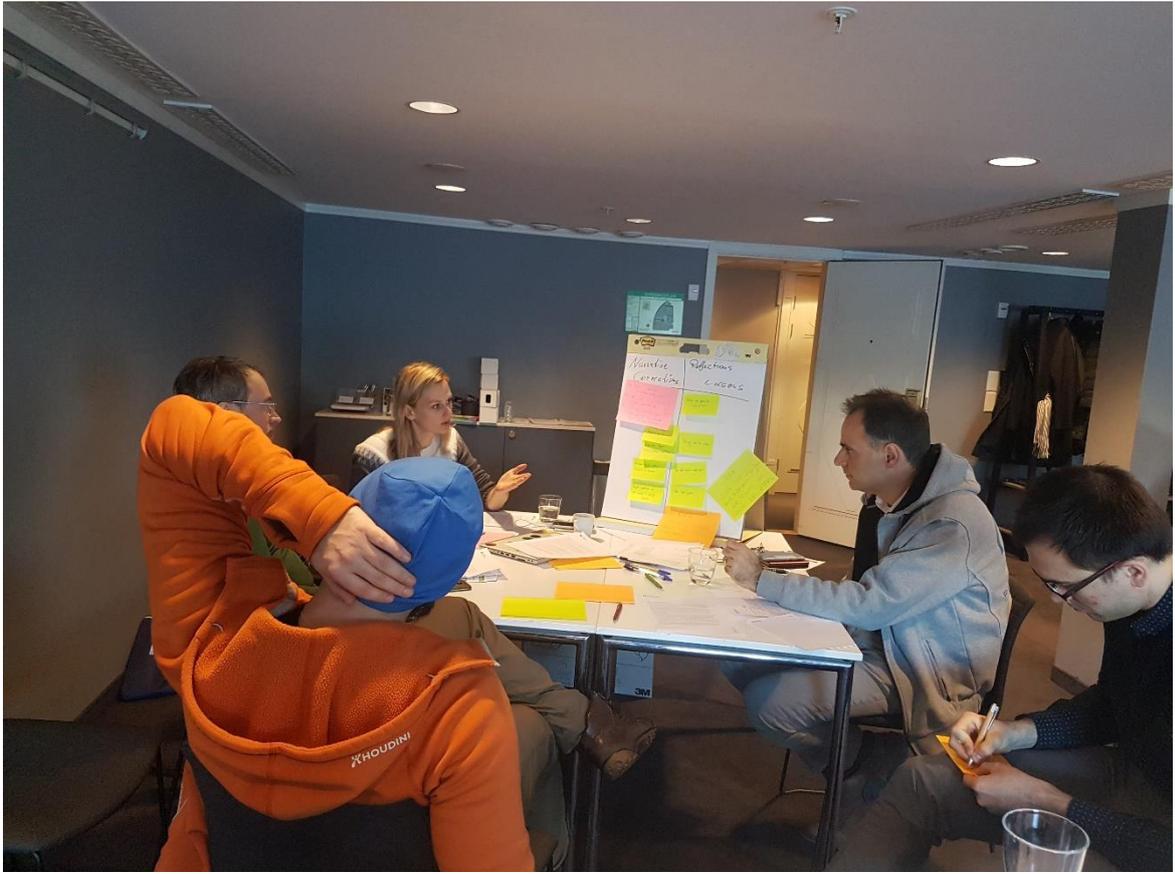
The Quantum tech field has for a long time been rather traditional in its culture towards leadership: masculine, competitive, control-oriented, result-driven, arrogant, “I” over “we,” etc. and the field is very unbalanced in terms of gender. With a new generation of leaders in quantum technologies in Europe, there is a great opportunity to modernize this culture and avoid the risk of repeating it. The Quantum Rebels addresses a lack of leadership issues in quantum research community for RRI. Leadership with non-authoritarian styles is / will be important to allow for more open, inclusive and, reflective R&I.

The Quantum Rebels comprises the design of a leadership training on non-authoritarian leadership styles for FET coordinators, through a workshop on best practices in leadership for principal investigators within the EU Quantum Flagship program. To prepare the workshop a survey will be sent out to a wider group of principal investigators, work package leaders and Quanterra project leaders to find out the views and learning needs from the target group themselves. To cross the psychological barriers and challenge established habits, the workshop is designed to be easily accessible and not too time consuming, organized back-to back with a meeting of the Science and Engineering Board of the Flagship designed and facilitated by professional consultant on leadership. Further, the workshop would involve a modern (male) leader from an adjacent high-tech R&D field to set an example and show the benefits of new modes of managements.

The specific target groups of the Quantum Rebels are the FET coordinators. Strategically, the pilot action would leverage participation of multiple Quantum flagship partners in the Social Lab; coordinate to do a leadership training in connection to their main meeting. Since the Quantum flagship program has recently started, it is a good time to convene the key R&D people on important RRI topic.

The Quantum rebels is easy and less time-consuming training workshop format designed and facilitated by professional consultant on leadership. Since Quantum flagship program has recently started, it is a good time to convene the key R&D people on important RRI topic allowing for more open, inclusive and, reflective R&I.

The Quantum rebels could be iterated in a wider part of the Q-community (Quanterra, national programs, and institutes, etc.). Subsequent follow-up actions could also be envisaged, possibly with the support of the Quantum CSA (e.g., gender plan, training, annual survey).



7.4 It's all in the meme

Social Lab 2 FET

#Doing RRI #Creating awareness on RRI #Contributing to formalizing RRI #Building RRI capacities

#Public engagement #Ethics

#Democracy #Education #Interdisciplinarity

#Researchers #Research organizations/administrators #policymakers #Innovators/entrepreneurs

Contact: Olga Mink (info@baltanlaboratories.org; olga@baltanlaboratories.org)

The Pilot Action addresses the issue of prejudices and biases in science, research and innovation. Our experience of our actions is biased towards what we expect, what we might see, what we believe. The irony is that prejudice and discrimination are inevitable by-products of the efficiency of human cognition. Although we like to think we are open-minded and objective, research shows consistently across all social groups that this is not the case. We are heavily influenced in ways that are completely hidden from our conscious minds in how we view and evaluate others, our surroundings and ourselves. The pilot action consists of developing new perspectives and opening up these hidden processes, which deal with our (collective) unconscious bias and prejudice.

The pilot action aims to reflect on emerging perspectives in science and philosophy and how this fuels profound insights in other domains such as art, culture, technology. The pilot action explores playful and participatory learning, in which sharing ideas about “cognitive” bias will lead to new ways of understanding ourselves through the other and ultimately unravel new ideas on what it means to be human in the 21st century.

The specific target group of “It’s all in the meme” are leaders and developers in the field of education, technology, design, art, science, research and innovation. They engage in playful and participatory learning and explore new realms of art, science and philosophy.

The pilot action develops a new understanding of implementing experiential knowledge and new modes of Operandi within the fields of Creative Industries and artistic research. It aligns with the policy of RRI to open up our thinking, collaborate across different disciplines and bridge knowledge domains by interrogating notions of complexity, uncertainty, creativity and innovation.

The “It’s all in the meme” is designed as a workshop format for 10-15 participants involving leaders and developers in education, technology, design, art, science, research and innovation who engage in playful participation and start navigating new level playing field for future policy, organization, collaboration and governance.

The workshop was planned for February 2021 but could not happen due to COVID-19 situations. The new date is set for May 2021.



7.5 RRI Ethics Review

Social Lab 2 FET

#developing implementable designs for RRI #creating awareness for RRI

#ethics

#researchers #research organizations/administrators #funders

Contact: Spela Stres (spela.stres18@gmail.com)

The RRI Ethics Review is a survey designed by a group of researchers working in RMOs with specific questions on the importance of non-regulatory / conventional ethics and research integrity issues in research organizations. The survey is easily replicable in any research organization in order to get an overview on how the researchers/ research organizations view ethical issues.

The RRI Ethics Review addresses the question of the importance of non-regulatory / conventional ethics and research integrity issues in European public research organizations to look beyond standard ethics regulatory issues and processes. Learning how organisations view the ethical issues can help solving the problem of unethical influence of power differentials and meeting structures on research practices. The RRI Ethics Review will help identify as a first step to addressing these ethical issues.

The specific target groups of the RRI ethics review are the researchers within public research organisations in general and the members of the European Technology Transfer Offices (TTO) circle in particular.

The design of the RRI Ethics Review comprised a survey of research management organizations (RMOs) and their approaches to ethics monitoring. The analysis was based on a specific set of situations that were described as potentially ethically problematic.

The outcomes of the survey showed that even though the organizations do take ethical issues into account, there are improvements to be made in the way how organized and transparent are the processes of imposing these onto the research community. Also, in short-term, project-based positions, the role of the project leader in instilling ethical standards is crucial, as staff on shorter contracts are often not integrated in the organization to the same extent as permanent staff. This pilot action should be taken by other research organizations because it provides overview of organizational level of ethical responsibility in research institutions.

Results were published in a paper (Spela Stres 2020: Ethics in research issues. Euroscientist. 20.1.2020 <https://www.euroscientist.com/ethics-in-research-issues/>)



7.6 Knowledge Kiosk

Social Lab 3 MSCA

#doing RRI #developing implementable designs for RRI

#public engagement

#democracy

#researchers #research organizations/administrators #policy makers #funders
#innovators/entrepreneurs #CSOs #citizens/general public

Contact: Jonas Krebs (jonas.krebs@crg.eu) and Cristina Luis (cmluis@fc.ul.pt)

Public dialogue is an important scientific responsibility. Among others, it can empower citizens with information needed to make informed decisions, encourage the public to value and be more interested in science issues and eventually increase citizens' support for public funding of research. However, it is hard to find examples of effective dialogue systems, in which citizens play an active role and give their voice to science. Additionally, many researchers would like to contribute to public engagement but they do not know how to bring it to practice. We wanted to change this by developing the Knowledge Kiosk.

The Knowledge Kiosk is a series of co-creation workshops organised in Barcelona and Lisbon to design an original and effective dialogue system between citizens and researchers: an accessible, useful, practical and informative resource that favours scientific dissemination and dialogic engagement. For the implementation of the workshops, we developed our own Design Thinking methodologies: the first workshop round (in May and July 2019) exclusively targeted citizens, who developed first ideas on how an interaction of citizens and scientists on a regular basis could look like. To the second round of workshops (in November 2019), we exclusively invited scientists from all disciplines to choose ideas and develop them further. Finally, in a third round (in January 2020) the two groups met to finalize a prototype for Barcelona and Lisbon that ideally can be implemented on the longer-term.

The expected impact is that the Research Kiosk leads to more dialogic engagement between scientists and citizens. Specific target groups of the Research Kiosk are scientists working at Research Performing Organizations, innovators, CSOs and local, non-science affiliated citizens.

The Knowledge Kiosk attempts to foster this two-way engagement between science and society in real life through a series of co-creation workshops. The Kiosk is a fun and engaging activity in which citizens and scientists already engage in dialogue during the design of a long-term engagement format. It uses Design Thinking methodology and therefore involves the energy and capacity of local citizens and scientists in shaping possible prototypes for public engagement. The methodology can be applied in different cities by researchers, innovators and CSOs across Europe and the resulting prototypes can be adapted to different local circumstances and needs. This does need long-term organizational and institutional support for example through funding and by integrating it into research requirements and reward structures.

The methodology of the workshop series can be taken up as an open tool and shall serve as a "manual" to facilitate the organisation of the workshops in other cities and countries to allow the

development of different prototypes according to the different local needs and desires of both target groups.



7.7 RRI Career Assessment Matrix

Social Lab 3 MSCA

#creating communicable output #contributing to formalizing RRI

#RRI in general

#education

#researchers #research organizations/administrators #policy makers #funders

Contact: MCAA Policy Working Group (policy@mariecuriealumni.eu)

Growing evidence suggests that the evaluation of researchers' careers on the basis of narrow definitions of excellence is restricting diversity in academia, both in the development of its labour force and its approaches to address societal challenges. We wanted to explore directions for change in the current evaluation frameworks and practices that overemphasize publications in assessing the quality of research.

We wanted to analyse if the Open Science-Career Assessment Matrix could and should be adapted to involve more elements of RRI. To spur the debate and gather input we organized a plenary session and participatory workshop during the [Marie Curie Alumni Association Conference](#) in February 2019 in Vienna. On the basis of this input, discussions during the second Social Lab Workshop and online discussions we produced a policy brief *Towards Responsible Research Career Assessment*. The brief contains five recommendations including a call to MSCA policymakers to broaden current evaluation criteria of MSCA calls in dialogue with all relevant stakeholders and includes references to current developments in both indicator development as well as narrative evaluation.

The specific target groups of this Pilot are (inter)national research policymakers and (early career) researchers working at Research Performing Organizations. The brief has been embraced by the Marie Curie Alumni Association and presented at the MSCA Stakeholders conference. The hope is that this will lead to long-term impact on the evaluation criteria on which scientific careers and proposals are assessed.

The policy brief contains five recommendations including a call to MSCA policymakers to broaden current excellence evaluation criteria of MSCA calls in dialogue with all relevant stakeholders. More broadly, it means that funding institutions and research performing organizations need to rethink and adapt institutional assessment and reward structures from a responsibility perspective, to include elements like responsible research, teaching and community service as an equally legitimate and rewarding cause for a researcher. Improving the evaluation system in a concerted effort with research institutes and other funders will help fully realize a European Research Area that is open to all talents and knowledge practices. This diversity is essential to sustain academic careers, to strengthen the relevance and impact of science for society, and to enhance the resilience of our society and environment. Other organizations could use the policy brief, its sources and the process underlying it as an inspiration for improving their career evaluation system.

The RRI-CAM has resulted in a high-level policy brief embraced by both the Marie Curie Alumni Association and the NewHoRRizon project. The brief can be found [here](#).

Policy recommendations of the policy brief

Towards responsible research career assessment

1. Broaden current evaluation criteria of MSCA calls in dialogue with all relevant stakeholders, making responsible use of the options outlined in this document.
2. Provide (online) training for evaluators on implicit bias.
3. Offer training within the MSCA programme to prepare current and future generations of researchers and organizations for open and responsible, academic as well as non-academic careers.
4. Reward and showcase MSCA grantees who excel in multiple dimensions of research, teaching and service.
5. Support knowledge exchange and communities of practice around diverse and inclusive forms of excellence.

  <http://doi.org/10.5281/zenodo.3560479>

Stakeholders on the Marie MSCA

7.8 RRI Manifesto

Social Lab 3 MSCA

#creating awareness on RRI #creating communicable output

#RRI in general

#education

#researchers #research organizations/administrators #policy makers #funders

#innovators/entrepreneurs #CSOs #citizens/general public

Contact: Asun López-Varela (alopezva@ucm.es) and Brian Cahill (cahill_brian@hotmail.com)

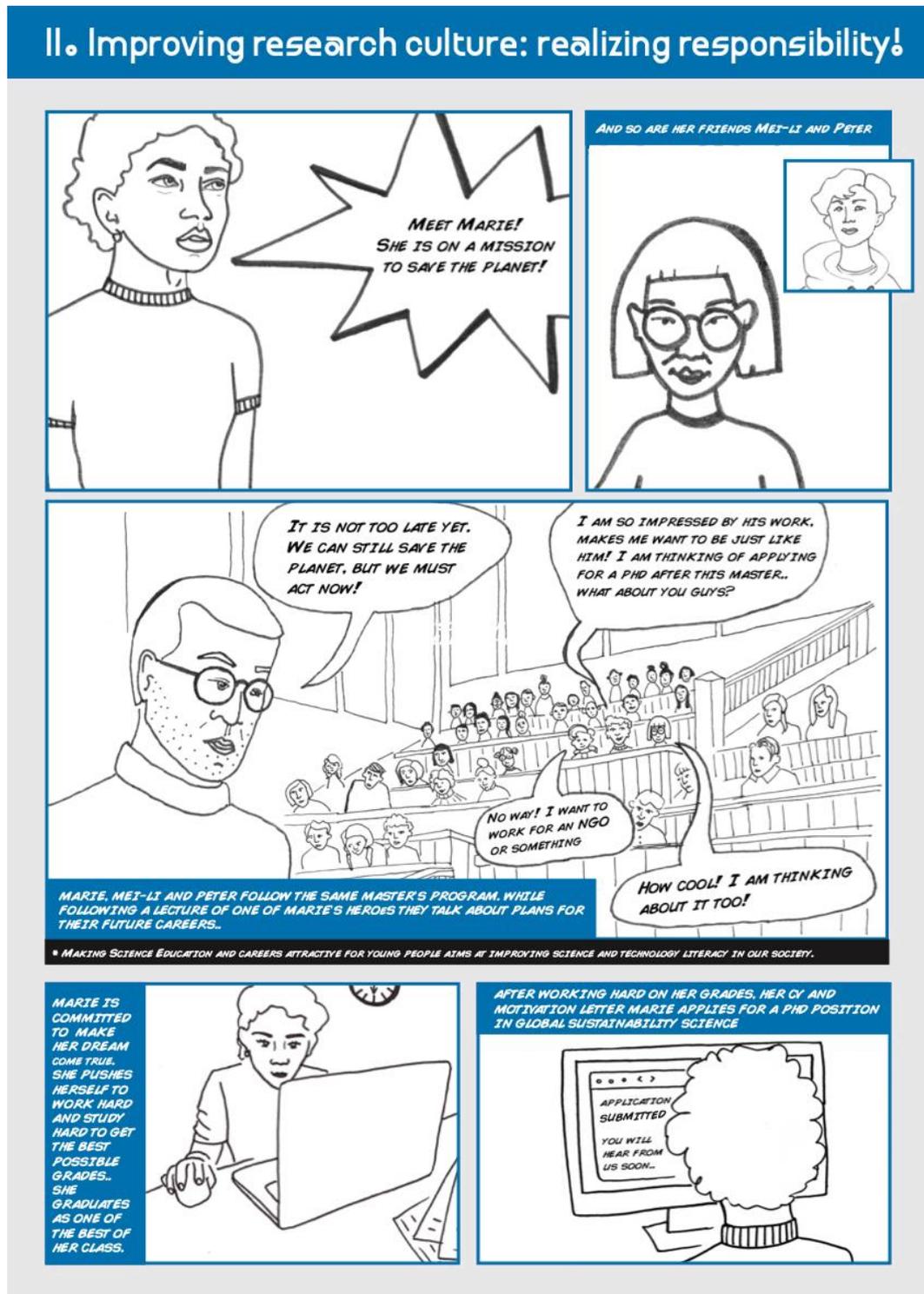
Traditionally universities facilitated researchers to train in activities only directly related to academic research. However, only a fraction of the current generation can feasibly make a sustainable academic career and many young academics are seeking a job outside of the university in business, policy and civil society. Simultaneously, research funders and policy makers are increasingly paying attention to other activities than pure research in their research assessment. This requires more attention to transferable skills in the training of early-career researchers.

We recognized that young scholars must be enabled more to learn to speak the language of Open Science & RRI and develop transferable skills accordingly. To bring the debate further, we organized a panel at the biggest European conference on research and policy: the Euroscience Open Forum in September 2020 in Trieste. The session was primarily concerned with how RRI and Open Science will align the development of research culture with the needs of society and with the needs of young researchers. In the session we discussed how RRI/Open Science activities enable early career researchers to engage with society by developing their communication skills, interacting with stakeholders, publishing open source code, writing data management plans, sharing their datasets through repositories and so on. Next to organizing this session, we also worked on a Manifesto comic about Marie, an early career researcher who experiences all kinds of RRI-related problems in her training and is asking herself whether she wants to go on with the PhD trajectory. The comic includes the possibility to share your own stories and insights and can be used during live conferences to gather further input for a final manifesto on RRI.

The specific target groups are ECRs, research policymakers and training institutes. The hope is to involve as many people as possible to have an impact on training programmes for ECRs like MSCA and possible throughout Europe.

We noted that especially RRI and Open Science training could contribute to the development of transferable skills such as being able to communicate and engage with the general public and wider stakeholders, conduct ethically acceptable research and openly share your data, code and wider research content. Attention to RRI and Open Science transferable skills may thus help to fill the gap that currently exists between academia, business, CSOs and broader society. We discussed how this also means that policymakers, research organizations and funders should make a concerted effort to not only provide training on RRI and Open Science transferable skills but also think of incentives and change assessment criteria accordingly. This is necessary so that the young researchers of today are prepared for the world of tomorrow.

We organized an ESOF [session](#) called *Who is responsible for transferable skills and how can RRI and Open Science help?* The session can be viewed on [Youtube](#) and one of the session participants wrote an article on the session for the Euroscientist [website](#). Next to that, we have also produced an RRI Manifesto comic which can be used during conferences to start a conversation about problems around RRI amongst early career researchers.



7.9 RRI Training

Social Lab 3 MSCA

#creating communicable output #building RRI capacities

#RRI in general

#education

#researchers #funders

Contact: Joshua Cohen (j.b.cohen@uva.nl)

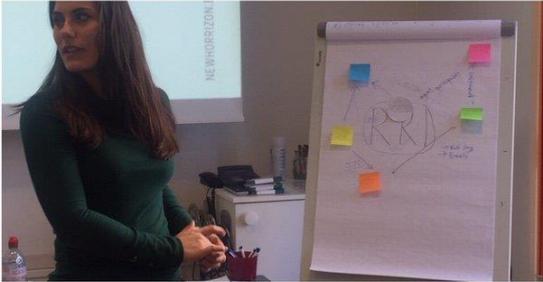
The European Commission has asked research funding applicants to reflect on elements of RRI in their applications. National Contact Points (NCPs) are funding advisors whose job it is to provide applicants with the right information to improve their prospects in getting funding. MSCA NCPs discovered that they had a lack of knowledge on advising on RRI aspects. As RRI is becoming more and more important for their everyday advice work, not knowing how to advise on this aspect therefore provided a major barrier towards its implementation.

We designed and delivered a full day training on the role of RRI in MSCA funding practice to funding advisors who were member of the MSCA NCP network called Net4Mobility+. Multiple calls were made in preparation; knowledge gaps were identified with the help of a questionnaire and a member of the Social Lab team provided the interactive training. This included an overview of the academic and policy background of RRI, best practice examples and concrete, easy to use tools from RRI-tools that NCPs could forward to applicants. In the afternoon we presented parts of the diagnosis of MSCA and put MSCA NCPs to work in several interactive formats in which they were asked to relate elements of RRI to their advice practice. Next to that, with support from the Marie Curie Alumni Association and representatives from two MSCA Innovative Training Networks (SAF21 and IMGENE), we conducted a webinar on Winning Innovative Training Networks (ITNs) with RRI. We explained the relevance of RRI for proposal writing and (former) grantees provided examples from their own research practice.

The specific target groups were MSCA funding advisors and prospective MSCA ITN applicants. The goal was to show the relevance of RRI for proposal writing. The training for NCPs resulted in positive reactions from those attending, development of training materials catered to MSCA and a report with recommendations for all MSCA NCPs. The hope is that funding advisors will integrate it in their advice practice. The webinar resulted in positive reactions by prospective ITN applicants and slides were shared online for those interested to involve RRI in their project proposals.

Providing funding advisors with the right information and examples of RRI is very important as they are central actors in the European funding ecosystem. By sharing existing materials with them and translating it into accessible content, the training helped to close the implementation gap between RRI knowledge and funding advice practices. As an example of training-the-trainer, the Pilot may help increase knowledgeability of RRI in funding advice. Inspired by this experience and after feedback from our Social Lab participants, we organized a follow-up webinar for prospective MSCA applicants to share ideas on how RRI may improve the quality and competitiveness of their research funding proposals.

The RRI Training has resulted in a fully developed training for MSCA NCPs of which they can appropriate slides for their advice practice. The webinar has been posted on [Youtube](#) with a link to [slides](#) for further reading.



7.10 Green Village

Social Lab 4 INFRA

#doing RRI #creating awareness on RRI #creating communicable output #contribution to formalizing RRI #building RRI capacities

#gender #public engagement #ethics #science education #governance #RRI in general

#education #climate and energy #transport

#researchers #research organizations/administrators #policy makers #funders

#innovators/entrepreneurs #CSOs

Contact: Eileen Focke-Bakker (E.G.A.Focke-Bakker@tudelft.nl)

The main objective of the Initiative is to disseminate and share knowledge of the Responsible Research and Innovation (RRI) principles within a highly innovative research Community, the Green Village at the University of Delft, in order to make RRI a principle guiding the way innovations can be developed, tested and demonstrated in their experimental real-life setting.

The focus in this Initiative was on societal engagement, one of the four cornerstones of the Green Village mission in relation to ethics, gender equality and open access and governance. Two workshops with social lab team members on analysing and implementing the RRI framework in an experimental innovative technical research community were conducted.

Workshop I introduced RRI principles to the Green Village and elaborated project-specific RRI approaches in three selected projects: [AQUABATTERY](#), a project that aims at developing a battery that works on water basis; [HEMEL\(S\)WATER](#), a project in which rain water is collected and processed for drinking and [RADD](#); a project on automated driving.

In the six months between the two workshops these projects were asked to implement the aspects discussed in workshop I and present it in workshop II to another audience, composed by experts on open science, gender and diversity, sustainability management and RRI in general.

As a result, each of the projects could benefit from the activity and appreciated the critical evaluation from outsiders. All three projects included most of the RRI principles in their procedures and governance and in their business strategies: One project in its entire business model, one project in the civil society approach and one mainly in their safety (ethical) approach. However, all of them could identify aspects in all RRI keys for further improvement.

One important lesson learnt from the process was the stable support of convicted and dedicated individuals, such as the support of a former director of the TU DELFT as well as motivated members of the projects participating in workshop I. Unless RRI is institutionalised, success of RRI implementation actions rests on the shoulders of these change agents.

Project Managers of three selected research and innovation projects of the Green Village presented their project and discussed in small groups how they better could integrate RRI principles in their work. In preparation for workshop II, half a year later, they had the opportunity to de facto consider RRI in their project and discuss the changes.

It needs quality Standards for innovation projects that incorporate RRI principles. The reflection of the projects internally and with external experts during workshops and the assessment and development of these high innovative projects will provide important insights and have a guiding function for other projects at Green Village.

All three projects used existing best practices to relate to the RRI principles and developed them further according to the reflections of the pilot workshops.

These are projects that are experimenting in a special created environment (Green Village) where some general guideline rules often are not applicable. Guidelines for a practical use of the RRI principles within such small extremely innovative scientific communities with multi stakeholders' interests based on the pilot experiences will be worked out by the local team if additional funding can be allocated.



7.11 Magna Charta

Social Lab 4 INFRA

#creating communicable output #contribution to formalizing

#RRI in general

#research infrastructure

#researchers #research organizations/administrators #policy makers #innovators/entrepreneurs
#CSOs

Contact: Jiří Kolman (kolman.j@czechglobe.cz)

The European Commission faces the following challenges in the realm of research infrastructures (RI): Not all RIs have a defined Access policy, there is fragmentation and diversification of Access policies, a lack of common understanding on concepts, and a lack of transparency (Adam Tyson, Research and Industrial Infrastructures DG Research & Innovation, EC).

The main aim of this pilot action was to integrate RRI in the European Charta for Access to Research Infrastructures - Principles and Guidelines for Access and Related Services (EC, 2016), since RRI principles were not sufficiently represented in the Charta at that moment. As the document has a guiding function for RI the team decided to revise the document and integrate RRI principles.

As the Charta was designed as a “living document” from its very first draft, it led itself towards revision and update. Therefore, a lab team of five people worked together, the host of the pilot action coming from a funding agency. They were analyzing the Charta and revised it applying an internal iterative approach. Afterwards, they developed reports and presentations on their results. Finally, they presented their work in Brussels and discussed them with DG RTD and ESFRI representatives.

As the following actors have been involved in the drafting of the Charta, they are the main percipients (European Commission, ESFRI delegations, e-IRG delegations, EARTO (European Association of Research and Technology organisations), LERU (League of European Research Universities), CESAER (Conference of European Schools for Advanced Engineering Education and Research), EUA (European University Association), NordForsk (Nordic Research cooperation), Science Europe. Furthermore, RI providers and potential users might strongly benefit from a reword Charta which embraces the open access approach. The document will be accessible also to a wider international context (such as OECD-GSF/GSO etc).

This Charter “sets out non-regulatory principles and guidelines to be used as a reference when defining Access policies for Research Infrastructures and related services” and should although not binding be considered by research infrastructure providers. Any mentioning and consideration of RRI principles will help to spread the word on RRI and sustain the important discursive shift towards responsible research and innovation. Regardless of the take up of the final revised version as offered by our PA team, providers and users of RIs might get sensitised to the RRI approach and adapt their own practices.

Outputs were

1. Revised Version of Charta, sent to EC (DG RTD unit), ESFRI (Jan Hrušák) and others
2. Organisation of a workshop as a satellite event of R+I days, 24-26 September 2019, Brussels



7.12 Museum Lab

Social Lab 4 INFRA

#doing RRI #developing implementable designs for RRI

#gender #public engagement #ethics #science education #open access #governance

#education

#research organizations/administrators #citizens/general public

Contact: Iris Ott (Iris.ott@nhm-wien.ac.at)

The Natural History Museum Vienna as one of the largest non-university institutions in Austria aims at getting more open and diverse and wants to follow an RRI approach in future initiatives. The main aim of this pilot action is to create a social lab within the museum, including museum staff, but also external stakeholders or optional future collaboration partners to create new alliances between science and society and intensify communication and awareness raising on actual topics of science and society, making “the museum leaving its ivory tower”.

A multi-stakeholder social lab was set up to strengthen RRI within the institution at a strategic level. A series of three workshops was conducted within this social lab. Workshop 1 addressed stakeholders and optional future collaboration partners. Workshop 2 worked with staff of the museum. Workshop 3 brought the two groups together and started a co-creation process building up new collaborations and communication formats to the museum, by taking the RRI principles into account.

The exhibition and education department created a new communication area within the museum, [Deck 50](#). In the course of developing this participatory room, new forms of communication and collaboration internally and externally could have been experienced and established. The museum staff opened up to questions, ideas and needs from outside the museum, and external multipliers, representing different target groups could discuss and contribute to actual topics of the museum and create new collaborations. The workshops were moderated by external facilitators which were positively accepted. For setting up the programme, applied methods and the recruitment procedure the work was carried out in very close collaboration with museum staff and external facilitators to combine both internal and external views which finally allowed for a friction free process.

Collaboration workshops like the ones in the Museum Lab contribute to answering the question how museum and society could collaboratively get engaged in addressing societal challenges of our time. New understandings of cooperation have to be established, offering new forms of outreach and engagement. Such workshops as the ones in this pilot, help gaining new insight on how to involving external stakeholders into actual museum work.

The pilot action organized moderated and documented workshops in the Natural History Museum Vienna, two of them involving external stakeholders who were invited for future collaborations. These workshops evoked fresh ideas and food for thoughts, as well as concrete new projects, such as “[nhm on tour](#)”. These documentations could be used for other institutions to set up a similar process.

The team could launch the topic of science and society. As a consequence of the “spirit” created among museum staff during the second workshop a group of scientists asked for a new communication format called “science and society” which will be designed together with external partners and will be central to actions on deck 50.

Workshop at the Natural History Museum Vienna to make “the museum leaving its ivory tower”



The Completed Deck 50



© NHM Vienna

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9 List of Abbreviation

Table 29 - List of Abbreviation

Abbreviation	Full text
CSA	Coordination and Support Action
CSO	Civil Society Organisation
EC	European Commission
ERC	European Research Council
ERCEA	European Research Council Executive Agency
FET	Future and Emerging Technologies
FETAG	FET Advisory Group
FP	Framework Programme
HEU	Horizon Europe
NCP	National Contact Point
NGO	Non-Governmental Organisation
RMO	Research Management Organisation
RRI	Responsible Research and Innovation
RPO	Research Performing Organization
RFO	Research Funding Organization
RRI	Responsible Research and Innovation
SwafS	Science with and for society
TTO	Technology Transfer Office

