ENGAGING SOCIETY FOR RESPONSIBLE RESEARCH AND INNOVATION (RRI)

>> New options to move forward

Multi-Actor Conference

19 June 2017

Brussels, Belgium, Royal Flemish Academy of Belgium for Science and the Arts

CONFERENCE REPORT (REVISED VERSION)

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DIALOGIK, Stuttgart, Germany, 30th October 2017

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>> 01 INTRODUCTION

What can be done to ensure the engagement of citizens and interest groups of citizens with research and innovation in Europe? This question has become increasingly important in view of the European Union's new approach to good governance termed Responsible Research and Innovation (RRI).

It is one of the core ideas of RRI that societal actors including researchers, policy makers, business, citizens and third sector organizations work together during the whole research and innovation (R&I) process. There are high expectations on this collaboration. It shall better align both the R&I process and its outcomes with the values, needs and expectations of society. This shall improve tackling major societal challenges through R&I.

With RRI the European Union pursues an ambitious goal: Collaboration of societal actors in R&I shall become standard in European R&I systems. If we want societal engagement in research and innovation (R&I) to become the norm rather than the exception, political and societal support is required. There are several barriers to mainstreaming engagement which need to be systematically addressed: by dedicated research, science and technology policies.

What is the nature of barriers to the engagement of citizens and interest groups of citizens, and what could or should policies to tackle these barriers look like? The PROSO project explores these questions. PROSO is short for "Promoting Societal Engagement in Research and Innovation". The research project is funded under Horizon 2020, the European Union's current R&I funding programme.

On 19th June 2017, around 50 participants from 15 countries gathered together for a one-day conference in Brussels as part of the PROSO project to deal with these issues. The proceedings and results of the multi-actor conference "Engaging Society for Responsible Research and Innovation: New options to move forward" are presented in this report.

The PROSO team wishes you an interesting and inspiring read!

Multi-Actor deliberation

The conference brought together a broad range of relevant stakeholders from across Europe and beyond. These included research policy makers, research management and funding organizations, business and industry organizations, science education and communication actors, researchers, and third sector organizations.

The aim of the conference was to get to know the views, insights and experiences of these different actor-groups in regard to the forces, structures, and ideas that encourage or discourage societal engagement with R&I, and to encourage mutual learning and facilitate networking across actor-groups and countries in this regard.

The conference combined input by the PROSO project with small group discussions. The PROSO team provided first research results on barriers to and incentives for the engagement of two types of societal actors:

» interest groups of citizens which are referred to as Third Sector Organizations in PROSO

» citizens engaging in a personal capacity which are referred to as non-organized citizens in PROSO.

The small group discussions focused on ways to encourage and facilitate engagement of these two types of actors. The PROSO team members gave an input to the small group discussions in form of a few options of what these ways could look like.

The break-out groups were inspired by the World Café method (www.theworldcafe.com). There was an iteration of plenary and small group sessions. The plenary sessions were facilitated by an external moderator, the small groups by PROSO team members.

Plenary of the Multi-Actor Conference (Julian Koepff, DIALOGIK)

>> 03 **PRESENTATIONS**

Societal engagement in Horizon 2020

Colombe Warin, European Commission

After Katrina Sichel, the main facilitator, had welcomed the participants and opened the conference, Colombe Warin, PROSO's project officer, gave an introductory talk. The talk provided an outline of the Horizon 2020's Science with and for Society (Swafs) programme. Swafs aims to build effective cooperation between science and society, to recruit new talent for science and to pair scientific excellence with social awareness and responsibility. Responsible Research and Innovation and societal engagement are key cross-cutting issues of Horizon 2020 and key action points of Swafs. The presentation explained:

> "*Societal engagement in Horizon 2020 is about bringing on board the* **widest possible diversity of actors** *to participate in and deliberate on matters of science, research, technology and innovation*" (emphasis in original).

Colombe Warin pointed out that Swafs with RRI and societal engagement are reinforced by the European Commission's vision for Europe which highlights open innovation, open science, and openness to the world as core features of the future EU research and innovation policy.

She noted that there will be seven further calls within the remainder of the Horizon 2020 programme dedicated to RRI. It was important, she stressed, to ensure that everyone working on and under the terms of RRI make a compelling case for the continuation of Swafs funding in the next Framework Programme, FP 9.

Slide of Colombe Warin's presentation

The slides of the presentation can be downloaded *here*, the video of the presentation is available *here*.

For more information on Swafs, visit:
https://ec.europa.eu/programmes/horizon2020/en/h2020-section/science-and-society

For more information on the Vision for Europe, visit:
https://ec.europa.eu/research/openvision/index.cfm

Societal engagement under the terms of RRI

Anja Bauer, Alexander Bogner, Daniela Fuchs, Austrian Academy of Sciences
Anja Bauer and colleagues set the scene for the PROSO initial results on barriers to the engagement of Third Sector Organizations and non-organized citizens by setting out distinct requirements for societal engagement under RRI. These include a balanced representation in regards to actors, interests, and values; adequate timing of engagement; ample room for deliberation and two-way communication; a balanced and open debate; and an institutional embedding of and responsiveness to societal engagement. These requirements represent old and new challenges for engaging Third Sector Organizations and citizens in research and innovation.

The slides of the presentation can be downloaded *here*, the video of the presentation is available *here*.

For details of PROSO's work and insights on what societal engagement under the terms of RRI means please see these two publications:

PROSO: Report on the expert workshop 'Contemporary experiences with societal engagement under the terms of RRI'

PROSO: Societal engagement under the terms of RRI

Slide of Anja Bauer's presentation

Barriers to engagement of Third Sector Organizations (TSO)

Lada Timotijevic & Emily Porth, University of Surrey

After Anja's talk on what qualifies engagement as meeting the specific expectations of RRI, Lada Timotijevic and Emily Porth presented initial results of PROSO's case study research on interest groups of citizens referred to as Third Sector Organizations (TSO) in PROSO. The aim of this research is to identify and understand the barriers and incentives to doing TSO engagement in research and innovation. The presentation described the method of the research (interviews with stakeholders from nine case studies, three from each domain of nanotechnology, synthetic biology, and food and health) and outlined the nine case studies.

Further, Lada and Emily highlighted five barriers to TSO engagement as results of this empirical research. These barriers were later dealt with at the conference in the small group work on TSO engagement.

Slide of Lada Timotijevic's and Emily Porth's presentation

The slides of the presentation can be downloaded *here*, the video of the presentation is available *here*.

For details on the research design please see the following publication:

PROSO: Protocol desk research barriers & incentives

>> PRESENTATIONS

Domain	Project	Geographic scope	Objectives
Food & Health	A healthy future for the potato	Rathenau Instituut, Wageningen University, and University of Groningen	How new developments in potato breeding could change potato farming and what possible implications this could have
	Well Now	Dr. Lucy Aphramor/NHS Highland (Scotland)	Social justice approach to obesity
	EPINET In-vitro meat	International	Addresses the societal and funding challenges of in-vitro (cultured) meat
Nanotechnology	BMU NanoDialog, NanoKommission	Germany, Federal Ministry for the Environment, Nature Conservation , Building and Nuclear Safety	Supports the exchanges between CSAs and researchers about the risks and challenges of nanotechnology
	NanOpinion	International (11 partners)	As above
	Tracing Nano for Downstream Users	The Netherlands and Europe-wide	To improve the traceability of manufactured nano materials in products and articles for downstream use, and to improve the capacity of NGOs to understand and engage with the nano debate
Bioeconomy – Synthetic biology	Ecover/Solazyme	International	Algal oil introduced to replace palm oil in cleaning products and stakeholder engagement carried out to mitigate TSO/consumer backlash
	Synenergene	International	Aims to initiate and foster RRI engagement on synthbio
	Synthetic Biology Leadership Council (SBLC)	UK/Synthetic Biology Leadership Council (SBLC)	To coordinate between a range of stakeholders

Table 1: TSO engagement: Cases and research domains

>> PRESENTATIONS

Barriers to citizen engagement

Blagovesta Chonkova, ARC Fund
Blagovesta Chonkova continued the results presentations with a talk on barriers to the engagement of non-organized citizens. By this term PROSO refers to citizens engaging in a personal capacity and not on behalf of an organization or collectivity with a particular interest or concern (like for instance consumer protection groups or patient organizations).

The presentation explained that national citizen panels and an expert workshop have been the main methods of this research. National citizen panels were organized in each of the following countries: Bulgaria, Portugal, Germany, Austria, and the UK.

The objectives of the citizen panels were to generate insights into the barriers and incentives for citizens to engage with R&I, from the citizens' perspectives; and to understand what citizens' views are on a number of possible ways to strengthen incentives and lower barriers. Identification of these ways had been supported by a number of experts from various backgrounds including members of the academia, policy-makers, and science journalists.

In the main part of her talk, Blagovesta outlined five barriers to citizen engagement which are insights from this empirical research. These barriers were later dealt with at the conference in the small group work on citizen engagement.
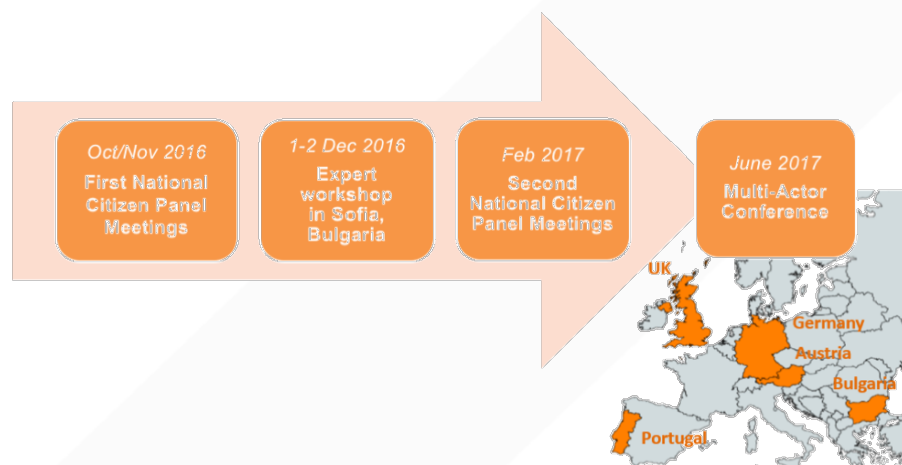
Figure 1: Citizen engagement: main steps of research

The slides of the presentation can be downloaded *here*, the video of the presentation is available *here*.

For details on the research design please see the following publications:

PROSO: Methodology Citizen Panels

PROSO: Manual – Citizen Panel Meetings

PROSO: National Reports – Citizen Panels

Further publications from PROSO

>>04 **GROUP WORK A**

>> GROUP WORK A

TSO engagement for RRI – ways forward

The first session (Session A) of work in small groups dealt with TSO engagement for RRI. Each small group (five in total) dealt with one of the five barriers to TSO engagement that had been outlined in the preceding presentation in the plenary and discussed possible solutions to the respective barrier.

The session comprised two parts. Part I lasted one hour. For this first part of the group work, the conference participants were assigned to the small groups with a color code on their name badge indicating the group to join. The rationale of the distribution to the five groups was that each group was diverse regarding stakeholder group, country in which the participants' organizations are established, and gender. In each group, the participants were first asked by the facilitator to comment on the respective barrier that the group dealt with. Then, the facilitator introduced three possible ways to deal with the barrier and collected feedback on these ways from the group.

 Part II lasted half an hour. For this part, the conference participants freely chose one of the other four barriers to discuss and moved to the respective room. Information about which barrier was dealt with in which room was provided by an information sheet on the small group work that the participants had received upon registration. Again, the facilitator first asked the participants to comment on the barrier. Then, the facilitator gave a short overview of what was discussed so far and asked for comments and additions.

Session A. TSO engagement for RRI – ways forward
Part I (60 min.): five groups deal with one barrier each, group composition was pre-defined by the PROSO team
Part II (30 min.): barriers are dealt with by newly composed groups, groups are composed according to participant preferences

Table 2: Structure of the small group work on TSO engagement

In the following, a short summary of the main points made in Parts I and II of the small group work is provided for each barrier. The selection of main points is based on the comparatively larger share of the discussion time in which these points were developed. The points do not necessarily present the opinion of the group, they can also be opinions of single participants which were not contradicted in the group. When different or opposing opinions were expressed in the course of the discussions, this is noted in the summaries.

The summaries include the three points that the group facilitators highlighted in the final part of the conference in which results of the group work were reported back to the plenary.

Group work sessions (Julian Koepff, DIALOGIK

TSO – Barrier 1

In the interviews carried out in the case study research on TSO engagement, the lack of money and time were cited as key reasons why engagement did not happen across all cases and research domains. This barrier dealt with in the small group work was phrased as follows:

BARRIER 1

There is a lack of resources to enable researchers to engage with TSO and other stakeholder groups, and a lack of resources for TSO to engage with researchers.

It is about more than just money

» When asked on their views of this barrier, participants made the point that engagement requires different types of resources both for TSO and researchers. Effective engagement required sufficient funds and time, appropriate processes and structures, and also capacity-building (for instance, by training of PhD students, university curricula, training for researchers).

The facilitator then introduced three possible ways to address this barrier. The participants in the group work were invited to comment on and discuss each of these three ways. The main points that were put forward by the participants are set out in the following.

WAY TO ADDRESS THIS BARRIER (1)

Require funding agencies to stipulate that a condition of funding is for part of the budget to be used for stakeholder engagement.

New funding strategies at different levels required

» While it was agreed among the participants that "engagement depends on more than money", it was also highlighted that the engagement of TSO is not possible without specific funding.

» The point was made that providing funding is not a task only for funding agencies but also for the government and responsible (research) ministries which define the conditions for research and innovation activities and take part in the process of defining the contents and the calls in R&I research programmes.

It is about more than sufficient resources

Several contributions underlined that sufficient resources are a necessary but not sufficient condition for mainstreaming TSO engagement:

» Motivations of TSO to accept invitations to engage could be low when they doubted that engagement is seriously intended; these doubts might grow with the flood of invitations that some of the TSO (for instance, bigger environmental or consumer organizations) were increasingly facing: engagement may appear as a box-ticking exercise imposed on researchers.

» The importance of the framing of the issue to be dealt with in an engagement process was stressed: The topic needed to be attractive for TSO, and TSO needed to feel equipped and capable to make a real contribution to the project or initiative. Capacity-building was mainly a long-term process and could be included in the engagement process itself only to a limited degree.

» TSO might also principally struggle with the academic jargon of researchers. In this context, it was noted that engagement was only an attractive option for TSO when engagement was carried out as a two-way-dialogue in which researchers and TSO met at eye level; this was currently often not the case. Hierarchies posed a challenge and equity would need to be promoted.

Innovative reward and merit structures and publication media required

» There was wide agreement that the way in which researchers are evaluated should change, too. The current system of evaluation in academia focusing on publications and citations would not fit the requirements of RRI. RRI publications were not well-recognised which had an effect on the choices of the researchers. RRI outcomes should have dedicated platforms for publications, new journals for RRI were not sufficient. The challenge here was illustrated for research on tropical diseases: Even though this field of research had a big component of RRI, RRI-research was difficult to publish in journals covering this field. The real goal of RRI-research, it was stressed, was to provide service to society, and papers would not do that.

» In this discussion context, the point was made that in Horizon 2020 public engagement partially is already a (partial) requirement. The real issue here was the lack of methods and indicators to measure success in engagement. How to check that alleged engagement is not misused as a box-ticking exercise? Effective measurement was identified as an important requirement and challenge for mainstreaming of TSO engagement. A related requirement and challenge was to organize reflection processes on whether RRI has a real added value really in all areas of research. It should not be taken for granted that *all* projects (for instance, certain modelling projects) would benefit from engagement.

» In this discussion context, the importance of building recognition of the efforts of researchers who are usually not engagement experts from the beginning and need to develop competencies in this field was emphasized.

Innovative support structures might help

» It was noted, that it could be valuable to have "engagement support offices" (similar to research support offices) that provide support both to researchers and TSO in relation to societal engagement with R&I. Ideally, the staff should have a background (also) in research.

WAY TO ADDRESS THIS BARRIER (2)

Treat social and technological innovations as equally important.

» In regard to this solution, there was wide agreement that social innovations should indeed be regarded as important. There was scepticism regarding equal importance. It was stressed that technological innovations on their own do not solve societal issues and may not work because of neglect of the "social factor", and that technology therefore should be understood as a means towards social innovation.

» Policy, it was noted in this context, was of crucial importance for social innovations.

» It was further pointed out that it was a big challenge and requirement for inter- and trans-disciplinary research to help the two research communities (technical and social) to exchange with each other.

WAY TO ADDRESS THIS BARRIER (3)

Mandate that research funding agencies must transparently and openly engage with societal actors.

Review existent forms of engagement

» In relation to this option, it was pointed out that there are already tools in place to facilitate TSO engagement, for instance Advisory Boards. However, it was noted, this tool sometimes did not work because feedback provided by the Boards was not sufficiently frequent and its work not related to the "heart of the project". Often, the tasks of Advisory Boards were restricted to validating the results of the project; no real input to and impact on the project could be made. Here, also different experiences were reported: One participant mentioned a project in which the Advisory Board was consulted in an iterative process which was evaluated positively by the participant.

Engagement in the full R&I process required

» The need was stressed to involve TSO in all main steps of research and innovation. These were identified as strategy development, project implementation, and project evaluation. Foresight was highlighted as an approach for strategy development for which TSO engagement could be improved. Further it was pointed out, that there are past and ongoing EU-funded projects with involvement of citizens (i.e. not specifically TSO) in generating visions and ultimately agendas for R&I (for instance, CIMULACT).

» Often, however, it was noted, alleged involvement of societal actors in strategy development and agenda-setting by research funders was actually restricted to researchers, excluding TSO. Possibly, TSO should be able to act also as coordinators of research projects and build the consortium with researchers able to deal with the TSO-defined research topic. This would give them access to a system where right now they were usually only receivers of information and communication. Doubts were expressed, if this was a feasible option also for project calls that were very much focused in a particular research field.

TSO's interest needs to be attracted

» The identification of TSO for engagement was pointed out as a challenge. In the health area, patient organizations were certainly relevant TSO, but who would be their counterparts in other R&I areas? Generally, it was important to ask TSO how they want to be engaged and to explore ways of attracting their interest. Social media could be helpful in this. There was no consensus among the participants on the actual role that the social media could play here. "Pint of science" and stand-up comedy were mentioned as other possible ways to attract TSO for research and engagement with research.
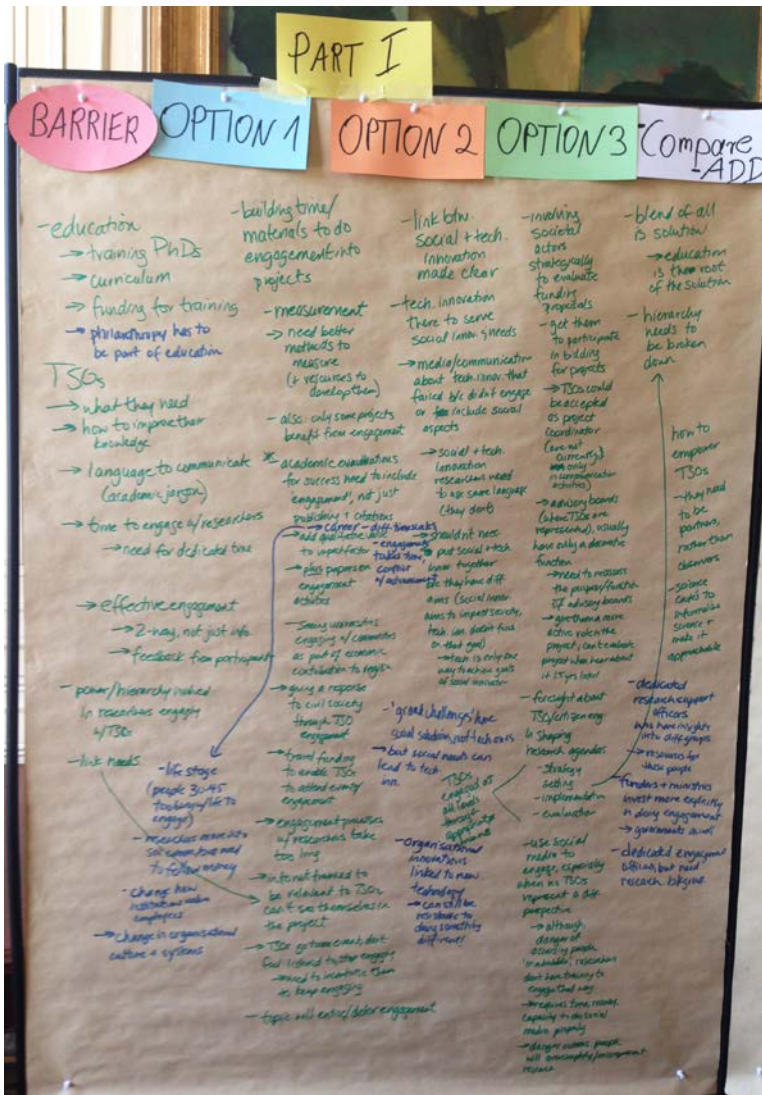
Metaplan chart of the group work to TSO – barrier 1 (Julian Koepff, DIALOGIK)

TSO – Barrier 2

Another insight from the interviews carried out in the case study research on TSO engagement is that stereotypes held by researchers and TSO can make researchers reluctant to engage with TSO, and can make TSO hesitant to engage with researchers or industry stakeholders. This barrier dealt with in the small group work was phrased as follows:

BARRIER 2

Both researchers and TSO hold preconceived ideas about particular stakeholder groups that make them reluctant to engage with those groups.

When asked for their views of this barrier, participants made the following points:

The challenge is rather organizational interests and related mindsets

» It was stressed, that preconceived ideas were important but should not be understood as barriers that could be removed. It was human nature to have preconceived ideas about everyone; stereotypes were a cultural phenomenon.

» The main challenge with organizations (vs. people) was not preconceptions. It was rather that different organizations have different interests, priorities, policies, and agendas as they pursue different goals, and that these shaped the mindsets of people working in the organizations. Further, there was often institutional inertia, and on the side of the people who are satisfied with their position and work in the

organization a fear of change (for instance, fear to lose comfort or power). It was noted that it was important to recognize that there are different interests involved, and that institutional inertia, fear of change of people, and power aspects do play a role when engagement is put into practice.

» One participant stated that they experienced such challenges when they started with Science Shops. Nowadays they cooperate with universities. This required long-term efforts and a willingness to not give up. It was important to start with small projects and activities and build continuously on small progress. It was the mindset of people which was hard to address. If part of the mindset resulted from a lack of knowledge and people were open for discussion, then there was a good chance that they would listen and engage in something new. It was both a challenge and requirement that organizations question their own practices.

The facilitator then introduced three possible ways to address the barrier. The participants in the group work were invited to comment on and discuss each of these three ways. The main points that were put forward by the participants are set out below.

WAY TO ADDRESS THIS BARRIER (1)

Provide opportunities to build understanding and trust across different sectors.

Communication and face-to-face interaction are essential

» There was general agreement that it is important to arrange for proper communication and bring all relevant stakeholders to the table. In this context, the importance of face-to-face interactions ("real human contact") was emphasized.

It was stressed that the spread of online communication would not render face-to-face contacts useless. Instead, trust could only be built if people met face-to-face. Direct contact would be the starting point to reconsider the pre-conceived ideas and diminish prejudice. The use of online media was easier when first connections via face-to-face interactions had already been established. Further, the importance of informal meetings, especially for "ice-breaking", was stressed.

There is a need for mediators, appealing topics, and same rules to all

» Contact and communication were to be carefully managed, it was underlined. It was proposed to involve a mediator, an external and neutral organization which all actors consider reliable and independent. This organization could act as a "broker" (serve as "glue") by providing all actors a common ground for exchange. Further, the potential of narratives, real-life stories, and practical examples (not just theories and models) to facilitate communication was highlighted. It was also stressed that the same rules must be applied to all actors involved: all actors needed to be able to listen, present ideas, and debate.

WAY TO ADDRESS THIS BARRIER (2)

Support the development of cross-sector groups and communities that have a common vision and purpose.

Support could take the form of co-creation processes and network-building through Science Shops

» It was pointed out that building understanding and a common vision requires a common language which, however, was often lacking. It would need processes of co-creation among the relevant actors (for example, in terms of building of epistemic communities) to develop this common language. It was noted, that establishing such processes of co-creation might work in the developed world but less so in developing countries. The assumption was that in developing countries it was more difficult to identify the different actors, and to involve those who are "hard to reach" and do not have access to power.

» The role of Science Shops was highlighted in regard to establishing multi-actor cross-sector communities. This was their basic idea: to serve as contact points where citizens'/TSO concerns could be addressed towards politicians, researchers, etc. In that way, Science Shops were instrumental in developing relevant networks. They should, however, be reflective and critical of what their own preconception about society is. Also other organizations could act as contact points such as churches or lobby groups. In any case it was important that the questions or issues that citizens or TSO bring up were really forwarded to the relevant actors, and that communication and cooperation with these actors was provided for.

WAY TO ADDRESS THIS BARRIER (3)

Move away from the paradigm of "consensus building" by respecting the roles and positions of different interest groups like TSO.

Moving away from consensus-building bears risks, transparency is a key requirement

» It was emphasized, that transparency and clarity regarding the intended outcomes of an engagement process and the way in which decisions will be made is very important and becomes even more important when moving away from consensus. How will decisions then be made, by a majority vote with the possibility of

dissenting votes, or a compromise? It was essential that the type of closure of the engagement process and also the way in which results will be acted upon were clarified and communicated to all involved at the outset. Transparency was also required for the reasons why a decision, for instance based on the views of a majority, was not translated into action. In this context, it was stressed that full transparency was rarely given. Even if the procedural rules were transparent, it was unclear what happened behind closed doors, for instance through interactions with lobby groups.

» Some concerns were expressed in regard to moving away from the paradigm of consensus-building. One concern was that this could make it easier for strong lobby groups to dominate the process. The need for a balanced composition of the actors involved would be particularly important, if consensus was not aimed for. Another concern was that it might be more difficult to legitimize decisions if there was no consensus. In response, it was stated by another participant that this was context-dependent. In the United Kingdom, for instance, consensus was not important in this respect. Further it was noted, that depending on the context consensus might be the better choice, for instance, with decisions in the area of food safety.

» Consensus-building certainly should not mean homogenization of opinions, it was noted. Variety of perspectives was important and a valuable resource.
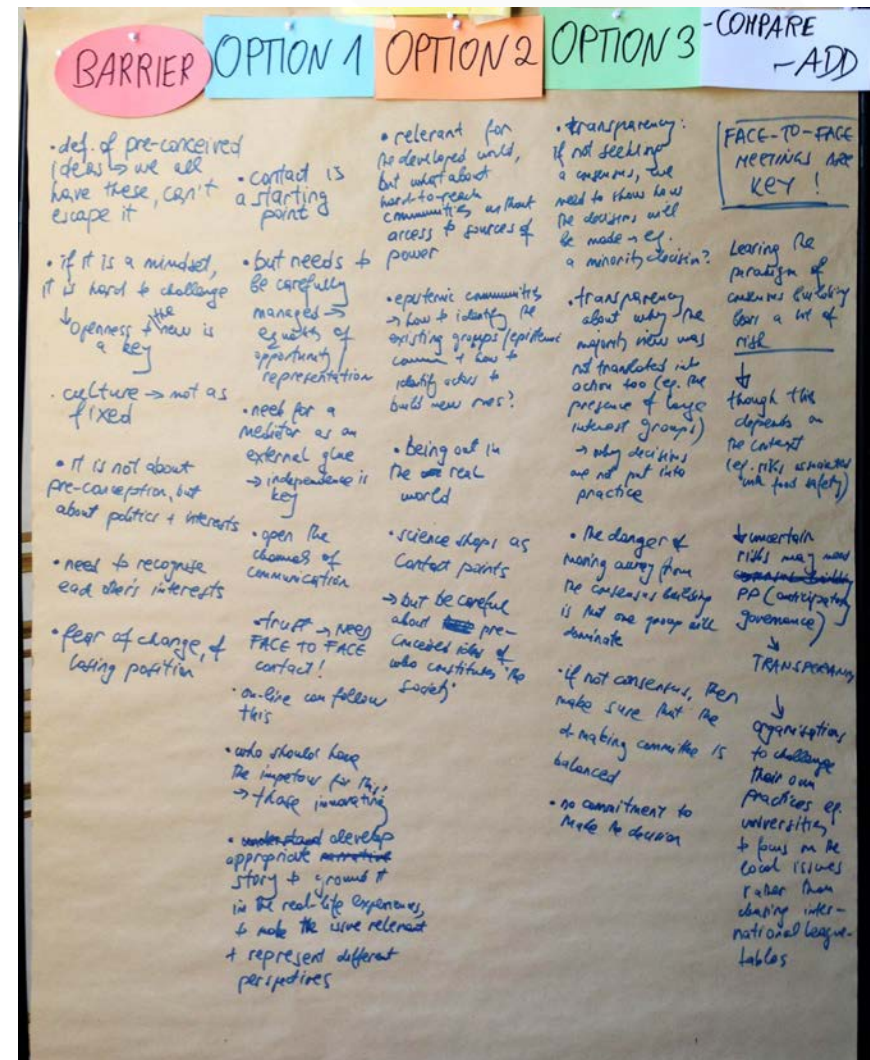
Metaplan chart of the group work to TSO – barrier 2 (Julian Koepff, DIALOGIK)

TSO – Barrier 3

One result of the case study research on TSO engagement is that worldviews about the role of innovation in solving problems may vary among actors of engagement processes. Worldviews also differ in regard to whether responsibility lies with individuals, organizations, or broader society. These perspectives, in turn, influence which innovations are prioritized and implemented. This barrier dealt with in the small group work was phrased as follows:

BARRIER 3

Different and often conflicting worldviews held by TSO and other stakeholders can lead to incompatible ideas about possible solutions to societal challenges.

When asked for their views of this barrier, participants made the following points:

» There was wide agreement among the participants that the barrier was a key challenge that needs to be addressed – this was illustrated with the issue of animal experimentation for research and development and the stance of animal protection NGOs. For engagement processes to be successful it was important to listen to each other, understand each other, be able to adapt and change positions. There was a need for "controlled translation" to bridge gaps between different organizations, and for discussion to take place on "neutral ground".

» At the same time, the barrier was identified as a well-known issue that had been subject of a lot of research, and there were existing approaches and standards for

resolving conflict (for instance ISO 26000). The barrier was highly related to politics and power.

The facilitator then introduced possible ways to address the barrier. The participants in the group work were invited to comment on and discuss each of these ways. The main points that were put forward by the participants are set out below.

WAY TO ADDRESS THIS BARRIER (1)

Increase transparency about the engagement process and its outcomes by reaching advance agreements about decision-making procedures and rules of engagement.

Transparency and openness are crucial

» Transparency was recognized as crucial. This included transparency about the fact that not all participant perspectives will be taken on board in decision-making and implementation. It was crucial that the engagement process was open for different outcomes including "option zero" of not doing anything; all should be considered legitimate outcomes.

Different views and conflict are important

» There was also wide agreement that engagement should not necessarily be about overcoming different views and avoiding conflict. Rather, it was necessary to recognize that there will always be incompatibilities between different stakeholder groups. Conflict was an important part of the democratic process to come to decisions on research and innovation.

Reflection, understanding and handling of conflicts are important

» More important than avoiding conflict was developing a shared system of goals, a common language, and certain processes which allow the minority position to be defended before engaging in multi-actor discussions for addressing a specific societal challenge; an early screening of potential conflicts in order to be able to address arising conflicts at an early stage; and reflection and understanding of how a situation of conflict evolved in order to understand its reasons.

» It was stressed, that setting up an inclusive dialogue takes time because it requires an understanding of different worlds, and that it was important to recognize this time requirement.

» Another view was that spaces allowing for discussion should be created virtually in the first instance. Everyone should be able to contribute and be involved, but not everyone was equal. The difference lay in the stake each individual had in the issues being discussed.

Power is the key to whether stakeholders are listened to

» It was stressed that reaching advance joint agreements about decision-making procedures and rules of engagement was challenging because some circles (for instance, NGOs) lacked the necessary governance power, and those with power were usually reluctant to share this power.

» The importance of power in engagement processes more generally was underlined by another participant. For TSO to force corporations and policymakers to engage with them and to be able to influence them they would need to have power, either on their own or collectively with like-minded organizations. In the view of this participant it was best to support such "ecosystems" to develop naturally:

All interested stakeholders should be allowed to participate initially, this would be a complex, fluid situation which over a period of time would "layer" with those having more power and greater stakes to come together to make decisions.

WAY TO ADDRESS THIS BARRIER (2)

Develop better ways to measure the impact of funded research on society, as well as in academia and industry.

Need for redefinition of scientific excellence

» Participants agreed that it often remained unclear what engagement processes such as consensus conferences and EU-funded engagement projects (such as the VOICE project) achieved. There was lack of evaluation of whether the methods applied were truly effective or not. It was, however, often difficult or hardly possible to carry out an evaluation and disseminate the results during the lifetime of a research project.

» One participant noted that engagement processes were not always really intending an impact: "Box-ticking exercises" were evident all the way through Horizon 2020. TSO were included in the consortium because the research call prescribed it, not because their participation was considered significant for reaching the project goals. Social responsiveness of research could only be reached when scientific excellence (as well as other aspects) was redefined. In this respect, "aristocrats" (academic professors) of science were a big barrier: they may perceive that their worldview is right, other worldviews wrong; such attitudes needed to change.

WAY TO ADDRESS THIS BARRIER (3)

Develop a mandate within existing funding programmes to explore and acknowledge non-technological options to address societal challenges.

This policy option was not dealt with specifically due to lack of time

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TSO – Barrier 4

The organizational culture can act to confine the organization to a narrow range of issues, this is another insight of the case study research on TSO engagement. This "culture" can include resource constraints, such as time or budget, or pressure from shareholders to focus only on certain topics and debates. Different departments within an organization can also have conflicting, yet well-established, relationships with each other that can act as a barrier. This barrier dealt with in the small group work was phrased as follows:

BARRIER 4

The organizational cultures of TSO, research funders, and research institutions can limit which projects they want to become involved in, and how they want to engage with others or be engaged with.

When asked for their views of this barrier, participants made the following points:

» There were some questions regarding the term "organizational culture" and different views on whether this actually formed a barrier. According to one participant, the issue was not organizational culture but economic interests, and cliques (closed groups). Interests were much stronger than organizational culture. In the view of another participant, interests belong to organizational cultures, and for research funding agencies a certain organizational culture could be identified ("there is a way we are doing things").

» From experiences with science debates it was reported that senior researchers and political actors were unwilling to engage with such debates when they were real bottom-up initiatives (even if they dealt with topics that people are concerned about such as nanotechnology and noise), and the initiators or organizers were not connected to public research institutions. Junior researchers who did participate in the debates did so at their own expense without support of and interest by their supervisors. Generally, it was difficult to recruit scientists under the age of 45 years to actively engage with science debates as they were under high pressure with their formal obligations ("publish or perish). In terms of organizational changes it was, however, important, another participant noted, that the younger generations of scientists get involved. In this context, it was pointed out that the engagement of science journalists with science debates (this refers to a private group of science journalists which hosts offline and online science debates) was all voluntary work without any funding which was a huge barrier. The question of whether it would help when the European Commission gave support to these debates was answered in the negative: This group of science journalists did not take money from the European Commission or governments for reasons of independence, impartiality, and trustworthiness.

» From the perspective of consumer organizations it was stressed that engagement or non-engagement was a political decision in the first place. Engagement would need to be useful for consumers; it was important to keep the focus on consumer benefits. Another participant said in response that it was understandable that TSO prioritized where to engage.

The facilitator then introduced three possible ways to address the barrier. The participants in the group work were invited to comment on and discuss each of the three ways. The main points that were put forward by the participants are set out below.

WAY TO ADDRESS THIS BARRIER (1)

Enroll "key individuals" who are already carrying out societal engagement and working interdisciplinarily in government-sponsored programmes that are designed to help promote a culture of sharing and engagement within organizations.

A role for agents of change and mediators?

» There were some questions regarding the precise meaning of this option, and it was noted that "government sponsored" should read "publicly funded projects".

» For some time the participants discussed who the key individuals could or should be, what features they should have, and whether they would be required at all. One point made was that key individuals would need to be determined according to context. Under specific circumstances, it could be important that these individuals were community members and not from the outside. Only in some instances, it could be necessary that they worked interdisciplinarily.

» Two concrete options for "key individuals" were identified: Agent of change and mediator. Agents of change or role models were considered helpful for bottom-up engagement approaches; mediators seemed more appropriate for top-down approaches.

» One participant fully disagreed with this option and the importance of particular

individuals. Everybody (not dedicated individuals) had a role and responsibility in regard to engagement with R&I.

WAY TO ADDRESS THIS BARRIER (2)

Develop external "ethics oversight" advisory bodies at all research funding levels that include philosophers and ethicists.

Ethics oversight advisory bodies were discussed controversially. There were different views on whether they are the right instrument, who should be included, and how they should be named.

Ethics committees or opening up to the public?

» One remark was that social scientists would need to be included in such bodies. Two participants agreed that "external ethics oversight advisory bodies" should be rephrased as "independent ethics oversight advisory bodies". Also, "RRI oversight advisory bodies" was proposed as a more appropriate naming. One participant reported that it was already part of their university practice to increase awareness for ethical issues and for what could be ethical issues. Another participant suggested extending the tasks of research and innovation management offices of universities with ethics oversight tasks, rather than developing new bodies.

» One participant reported that in South Africa ethics oversight is done but that is was a highly contentious issue ("between good governance and overregulation"). It could be a good approach, but it needed awareness that it also created a lot of dissent. Moreover, ethical oversight should not be understood or misused as a box-

ticking exercise, it should really induce organizational change.

» Another participant expressed doubts regarding such advisory bodies by referring to the words of Jack Stilgoe (a researcher who works on science and technology policy): "We should abolish the ethics committees, RRI means something differently – not experts discussing behind closed doors but opening up to the public." In response, the importance of transparent discussions and effective regulations, if required, was stressed by one participant.

WAY TO ADDRESS THIS BARRIER (3)

Provide grants that TSO can apply for to fund engagement activities with research.

» There was some support for the statement that TSO may need more funding to be involved in the dealing with important societal challenges.

Questions of independence, political culture, and funding systems

» The main part of the discussion revolved around who could or should provide these grants when independence is crucial. Both funding by governments and companies could conflict with the request of TSO for independence. One suggestion was that engagement of private foundations ("wealthy people and organizations") should be more promoted more in Europe. The US counterpart of the German science debates (sciencedebate.org), it was reported, managed within one year to get several million dollars from private individuals. This was countered by noting that this was US style which did not correspond with the political culture

in Europe. If foundations gave money, this took power from governments, and it was questionable that European governments would agree with this.

» Doubts were expressed if a separate system of applications and grants for TSO (outside of research project funding) would be a promising option. TSO should not be forced into the same system as research organizations. Instead, it could be more effective to dedicate a certain percentage of project funding to engagement and TSO participation.

More funding also for research organizations – or incentivising with quality seals?

» One participant stressed that also more funding for research organizations was required. Otherwise researchers did not have an incentive to invest in engagement. It was insufficient if only the researchers "convinced" of engagement became active. In response, one participant countered that there were also other ways to provide incentives to researchers. Networking opportunities and new collaborations with civil society actors were incentives in themselves.

» One participant suggested in this context a kind of "quality seal" – a label that stands for: "You are a research organization that reaches out". Ireland's "civic university" was given as an example in this regard. Achieving this quality seal could be made a criterion for funding. This would go back to the first option to address the barrier: In order to achieve such fundamental change in funding systems, "system breakers" were needed, a small group of people that took the initiative and drove the required developments forward.
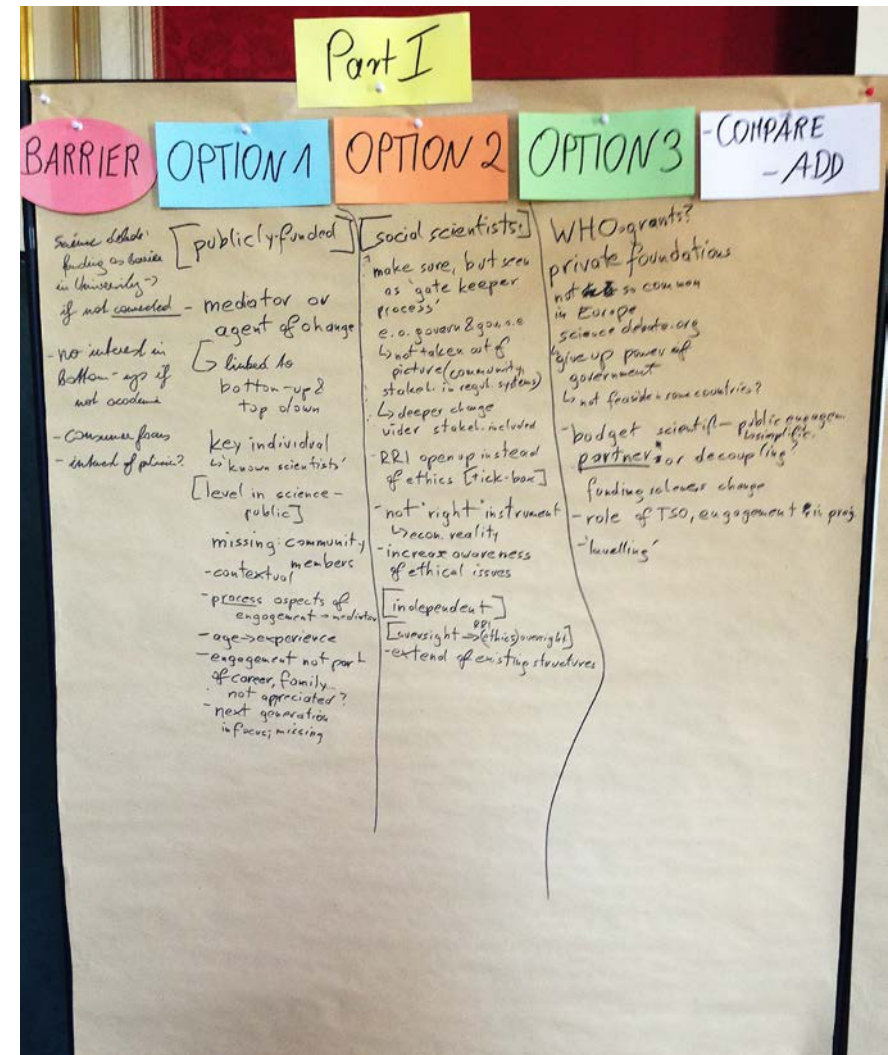
Metaplan chart of the group work to TSO – barrier 4 (Julian Koepff, DIALOGIK)

TSO – Barrier 5

From the case study research on TSO engagement it was derived that the following condition may work as a barrier: Innovation processes currently favour individual success and the free market, rather than societal good or responsibility. For mainstreaming of RRI these processes require expansion and a systemic shift to include other values, such as flexibility, inclusion, fairness, empathy, altruism, trust, reflexivity, and transparency. This barrier dealt with in the small group work was phrased as follows:

> **BARRIER 5**
>
> The values system that drives innovation processes is overwhelmingly focused on economics and wealth creation.

When asked for their views of this barrier, participants made the following points:

It is important to ask: What is beyond economics and economic statistics?

» First, the remark was made that a better understanding was required about the meaning of the terms "value systems" and "wealth creation". In response, participants noted that modernity could be seen as driven by one set of values focused on economic wealth, while in post-modernity there was a broader understanding of wealth creation. This included multiple factors that influence quality of life and societal progress such as wealth distribution, health, social inclusion, happiness, or biodiversity. In this broader understanding, the modernist view of "we boost the economy, the main thing is the growth of the gross domestic

product (GDP)" was questioned. The GDP should not be regarded as the only measure of the well-being of people.

» There was wide agreement among the participants that it was right to ask "what is beyond economics and economic statistics?" and "what is important for the people?". The problem with holistic indicators of quality of life or societal progress was, however, that they were not easy to measure, while "money" was very easy to measure. Moreover, such holistic or non-economic indicators were a contentious issue given the unbroken power and influence of industry and business in post-modern societies.

The facilitator then introduced three possible ways to address the barrier. The participants in the group work were invited to comment on and discuss the three ways. In this small group work participants did not deal with each option separately and specifically but directly entered into a broader discussion.

These were the three policy options that the facilitator introduced to the participants:

> **WAY TO ADDRESS THIS BARRIER (1)**
>
> Research funders, including TSO (for instance, Bill & Melinda Gates Foundation) and industry, need to lead by example and develop a system to ensure transparent research programming and agenda-setting.

>> GROUP WORK A

WAY TO ADDRESS THIS BARRIER (2)

Make ethics and philosophy an integral part of science education across education levels.

WAY TO ADDRESS THIS BARRIER (3)

Re-align the science and innovation policy agenda away from economics and towards a societal agenda.

Need for a more open framing of project calls, diverse consortia, and new tools of evaluation and impact measurement

» In response to this barrier, it was noted that stakeholders should be more often included in the agenda-setting. It was considered important that these stakeholders were not the usual suspects only. As prominent positive examples the EU-funded projects CIMULACT and VOICES were mentioned.

» Further it was proposed that funders make more usage of needs-driven research and challenge driven innovation. In this regard "Challenge-driven Innovation" – a programme (which is not formally labeled as RRI) run by Sweden's innovation agency – was highlighted. This programme funds collaboration in R&I within consortia of partners from different parts of society. The specific feature of the programme is that the consortia themselves define how to tackle one of the programme's identified challenges: in a first funding stage funding is given for the

initiation, development of the idea and the consortium, or for a technical feasibility study. It was suggested that funding agencies should follow such examples and aim for research calls with a more open framing. In this context, it was pointed out that funding authorities have considerable power to influence R&I processes ("As a funder you can actually establish a change"). In this context, it was underlined that researchers needed incentives to engage with such research. Money was not sufficient, appropriate structures and places were required too.

» It was noted, that this new type of research – needs- and multi-actor-driven research – requires new tools of evaluation and measurement of success. For instance, a Description of Action (research proposal that becomes part of the funding contract) for such research should work as a reference point and guideline of research with built-in flexibility and openness rather than precise specifications against which the project is evaluated. Neither the concrete processes nor outcome and impact could be fully foreseen for highly complex projects with a variety of actors and viewpoints. The observation was made, that in the "old world", before the "complexity turn", research and innovation were more predetermined, there was a goal and researchers and innovators worked towards this goal. In the "new world", after the "complexity turn", it was much more difficult to define a reasonable goal for research, and there was a need to inquire: "Are we brave enough to have non-predetermined research in the future, where we don't know where we end up?"

» In this context, it was stressed that impact is key for funding authorities. The key question was how to measure that. It was highlighted by another participant that it was difficult to measure impact when projects are concerned with social innovation. Social innovation was about changing mind-sets, and this change did not happen in the short-term but only over longer periods; it was difficult to see short term impacts in social innovation processes.

Creating a common vision – unrealistic or an ideal?

» In relation to multi-actor engagement it was stated that the idea of stakeholders stepping down from their interests, taking the perspectives of others, and creating a common vision was not realistic, and one would have to be realistic about what can be achieved. Another participant added that conflict was not only a barrier but also part of life and resulted from the plurality of value preferences. A different view expressed was that even if it was not realistic to put this idea into practice, it was still good to regard it as an ideal and pursue it as a goal. It was a dynamic process in which also small steps were important. Another participant put forward that shared trust was an important condition for making progress in this regard.

Exchanges between funding agencies required

» It was noted that funding agencies should establish a basis for dialogue and an effective exchange of experiences with innovative funding programmes and formats. This was essential for mainstreaming of RRI.

Co-creation of codes of ethics

» One participant referred to the proposed option of making ethics and philosophy an integral part of science education across education levels by suggesting an alternative idea. This idea was to have value systems (for instance, Codes of Ethics) co-created by communities. Projects realizing such co-creation contributed to social responsibility. A positive example of co-creation with a bushmen community (San) in South Africa was reported in this context.

A role for intermediaries?

» One participant pointed to difficulties of introducing new topics such as Responsible Research and Innovation and stakeholder engagement in the area of health care and health research. In this area, innovation was not necessarily focused on economic aspects. However, the doctors did not have the time and skills to engage with community or patient groups; they did have, however, the direct contact with the people. One way to address this challenge was intermediaries helping doctors and societal groups or patients to engage with each other; intermediaries possibly presented a newly emerging professional branch in the 'new research world".

» A different view expressed was that doctors should be able to explain what they do. Doctors and other professionals including scientists should be taught how to communicate, intermediaries were not the way to go.

» In this discussion context, different views were expressed of whether science museums could play a role as intermediaries between scientists and researchers on the one hand and societal actors on the other.

Communication with the public requires every-day life references

In this session, also communication with the public (i.e. not specifically TSO) was addressed. It was noted that the public was very skeptical about communication, many communication channels faced total mistrust especially from hard to reach groups. Willingness to engage required specific conditions. These included communication that relates to something which is of concern to the people and closely related to ever-day life and a specific product which can be touched and purchased (the example of non-smelling socks was given).

One comment related to citizen science: The most problematic aspects of citizens science was that citizens did not want to be used to just count birds. Instead, they wanted to co-create the analysis and have a voice regarding the analysis of data; in short, they wanted to have proper involvement and impact. "We should let them make innovation".
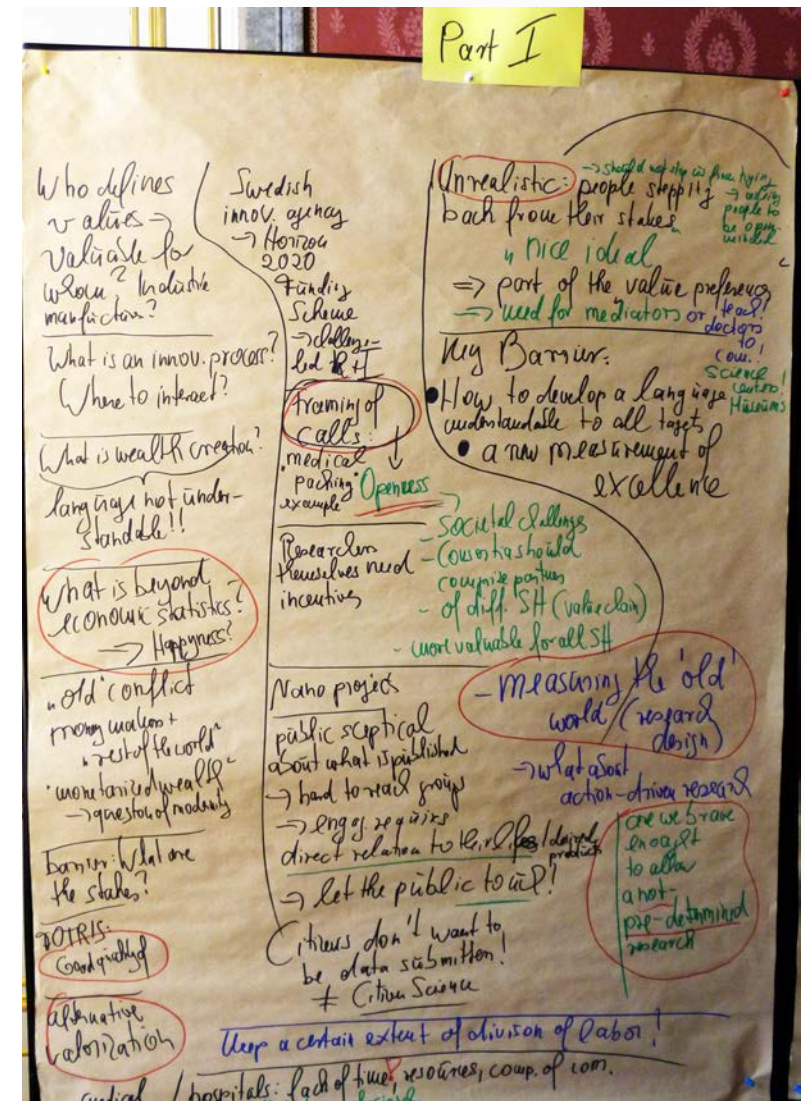
Metaplan chart of the group work to TSO – barrier 5 (Julian Koepff, DIALOGIK)

>> 05 **GROUP WORK B**

Citizen engagement for RRI – ways forward

The second session (Session B) of work in small groups dealt with citizen engagement for RRI. Each small group (five in total) dealt with one of the five barriers to citizen engagement that had been outlined in the preceding presentation in the plenary.

Also this session comprised two parts. Part I lasted 50 minutes. For this first part of the group work, the conference participants were again assigned to the small groups with a color code on their name badge indicating the group to join. The composition of the groups was different from that of the TSO small groups in order to allow participants to exchange with as many other participants as possible. The structure of the group work was the same as in Session A: In each group, the participants were first asked by the facilitator to comment on the respective barrier that the group dealt with. Then, the facilitator introduced three possible ways to deal with the barrier and collected feedback on these ways from the group. These ways in part correspond with recommendations that were made by the citizens in the citizen panel engagement process.

Part II lasted half an hour and had also the same structure as Part II of Session A: The conference participants freely chose one of the other four barriers to discuss and moved to the respective room. The facilitator first asked the participants to comment on the barrier. Then, the facilitator gave a short overview of what was discussed so far and asked for comments and additions.

Session B. Citizen engagement for RRI – ways forward
Part I (50 min.): five groups deal with one barrier each, group composition was pre-defined by the PROSO team
Part II (30 min.): barriers are dealt with by newly composed groups, groups are composed according to participant preferences

Table 3: Structure of the small group work on citizen engagement

In the following, a short summary of the main points made in Parts I and II of the small group work is provided for each barrier. The selection of main points follows the same logic as for Session A.

Again, the summaries include the three points that the group facilitators highlighted in the final part of the conference in which results of the group work were reported back to the plenary.

Group work session (Julian Koepff, DIALOGIK)

Citizens – Barrier 1

The research on barriers to citizen engagement (national citizen panels) has shown that some citizens hold the view that citizen engagement processes should involve large samples of the population. According to this view, engagement restricted to a small number of participants has severe shortcomings: Important perspectives will be missing in the debate (for instance, people living in rural areas, disadvantaged, etc.), those participating were expected to speak on behalf of the missing groups which was too much responsibility, and the users of the results (policy-makers, for example) may consider them invalid and illegitimate, thus results will not have an impact. This barrier dealt with in the small group work was phrased as follows:

BARRIER 1

> Citizens see the small number of participants in engagement formats as being insufficient to legitimately represent societal perspectives and achieve impact.

When asked for their views of this barrier, participants made the following points:

Don't dismiss small-scale engagement, work with citizens in their natural habitat, include the media

» It was observed that patient organizations, for instance, were very fragmented. It was difficult to recruit people/patients that were not already organized in relation to patient concerns.

» The point was made that work with small groups had advantages, particularly in terms of effectiveness with positive effects for the potential of making impact. One way to mitigate citizens' concerns was to try to achieve representativeness or at least broad diversity within the (small) group. Another option was to go for a homogeneous group with the rationale, for instance, to give those groups a say that are most affected by a certain challenge, policy, or technology (and not to society or the public as such).

» Another way that was suggested to mitigate the lack of (statistical) representativeness was to make citizens become advocates of their network. A different view in this regard was that imposing on people the task to represent their networks overburdened them and put too much pressure on them in engagement processes.

» One main reason of engagement processes ending up with smaller numbers of participants or less diversity than intended, it was noted, was the lack of resources, mainly lack of time: "The poorer you are, the less time you have". One way to address this barrier was that researchers went and looked for the citizens, instead of asking citizen to come to them. Targeting schools or contacting and speaking with people in the streets were mentioned as examples; these had been successful engagement strategies in the NanoOpinion EU-project. If it was not possible to work with citizens in their "natural habitat", it was important to invite people to places with a nice atmosphere to make participation attractive, it was stressed.

» It was proposed to include the media as partners in projects; these could help to reach out to diverse groups. In response it was stated that having a "preacher" was a good idea, and science journalists could play that role.

>> GROUP WORK B

The facilitator then introduced three possible ways to address the barrier. The participants in the group work were invited to comment on and discuss each of the three ways. The main points that were put forward by the participants are set out below.

WAY TO ADDRESS THIS BARRIER (1)

Introduce policy incentives for employers to facilitate engagement in R&I.

'Jury duty' options may have ambivalent effects, opportunities for participation in discussions with large numbers of participants already exist

» It was noted that financial incentives, for instance allowances for employees from the state to participate in engagement events (similarly to the "jury duty"), possibly combined with fiscal relief for the employers (in terms of governmental support of corporate social responsibility) may equalize engagement and support engagement particularly for those with lower socio-economic resources. However, this could be a great challenge for small and medium-sized enterprises (SMEs) and could have dramatic consequences for them. In this context, it was highlighted that motivation to participate could also be peer-driven.

» In Israel, it was noted, free range communities to discuss topics existed. Other opportunities of engagement with larger numbers of participants were the international communities of interest in LinkedIn and civic societies composed of volunteers (in this context, a White Paper on Science Education was produced, for instance).

WAY TO ADDRESS THIS BARRIER (2)

Encourage the development of engagement competence and support units within universities and other research institutions.

Refrain from overburdening researchers

» It was observed that many universities already had such instruments. Other participants noted that there existed indeed units for outreach and communication in many universities but less so for capacity-building and support for students and researchers concerning engagement activities.

» It was stressed that it was important to not overburden researchers by giving them extra work. Instead, specialized and dedicated engagement practitioners should be involved. This brought up the question of how best to fund these practitioners.

WAY TO ADDRESS THIS BARRIER (3)

Integrate online and offline engagement methods to capitalize on synergies thereof.

Combine offline and online engagement, have specialists moderate online engagement, explain small-scale engagement

» There was wide agreement among the participants that an integrated online/offline approach was the preferred option; a combined approach could increase participation. It was stressed that online resources do not make offline

resources unnecessary, face-to-face interaction remained important. Online tools could be useful in advance of, as a complement of or a as follow-up to face-to-face interaction.

» Reference was made to the development of free online video/conference/webinar tools. In this context, sufficient human resources was pointed out as a big challenge of online debates. For such online debates to be successful, it needed to be ensured that participant contributions were read and processed, and that this was noticeable for the participants ("Someone needs to summarize and answer the questions"). It was essential that real community managers, highly educated specialists, were involved and performing this task, they were co-creators of the process. Another participant underlined the importance that citizens felt that their opinion was really heard and valued. "Your Voice Counts!" was a key message in community-creation activities. In this context, a different view was expressed: "Stop telling citizens that they have to have a political view". This invitation or request to citizens was considered patronizing.

» One idea put forward was to bring celebrities into the arena of Responsible Research and Innovation (provided they were not sponsored by companies), possibly offering fiscal incentives to them. This could help to increase participation.

In the concluding parts of the group work the point was repeated (with reference to qualitative social research) that engagement formats with small numbers of participants were also legitimate formats; statistical representativeness was not a guarantee of high quality engagement. It was important to acknowledge the contributions that small-scale-studies could make, for instance, better understanding of citizen concerns through elicitation of informative every-day life narratives. In the

concrete engagement case, it was essential to develop the respective rationale for small-scale engagement and to clearly communicate rationale and expected contributions to the participants from the outset.
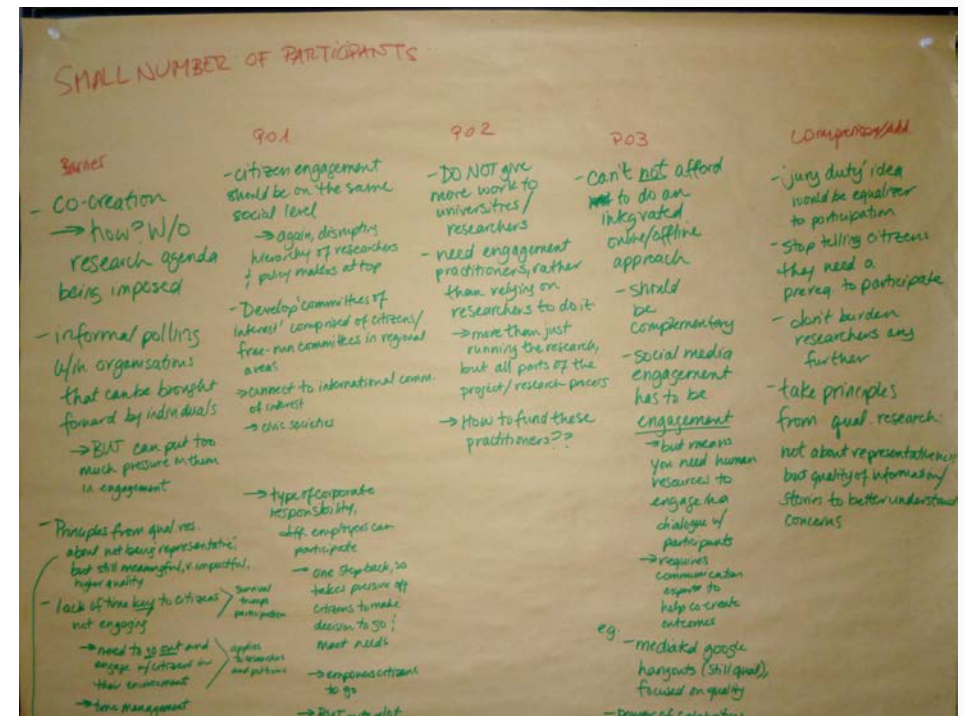
Metaplan chart of the group work to citizen barrier 1 (Julian Koepff, DIALOGIK)

Citizens – Barrier 2

Timing of engagement is important as it allows incorporating citizens' views, concerns and needs early on in the development of a particular technology. Engaging citizens in the later stages of R&I processes can make citizens lose interest in the engagement event as they might have the impression that their engagement serves as an "alibi" or a "box-ticking exercise". Research on barriers to citizen engagement (national citizen panels) suggests that early engagement, however, also brings a number of challenges: Citizens may not see the relevance of the subject to their own lives, and there is a lack of public debate and media attention on the topic. This barrier dealt with in the small group work was phrased as follows:

> **BARRIER 2**
>
> Citizens lack interest in scientific issues, especially in the early stages of development of a particular technology.

When asked for their views of this barrier, participants made the following observations:

Educational systems play role, we need appreciation also of bottom-up initiatives

» There was agreement among the participants that the phenomenon described through this barrier had great plausibility. It was noted, that there were hugely different levels of abstraction in talking about topics between the science community and ordinary citizens.

Another reason for citizens to shun such engagement was that they may feel they do not have the right (as non-experts) to participate.

» Especially in the early stages of development of a particular technology a common language in which citizens could exchange around such topics was missing. As there was a lack of public debate and media attention on the topic, citizens were rarely aware of it and had, if at all, only a very basic understanding of it. Information on the topic was not easily accessible (for example, via the Internet) in contrast to technologies (or other subjects) that were dealt with in academic and public debates already for some time.

» It was observed that the barrier was also related to the way in which educational systems worked. Teaching focused too much on explaining disciplines and sub-disciplines in broader terms and on innovations of the past. People were thus simply not equipped for exchanges around newly emerging technologies and their particularities.

» It was warned against suggesting that any engagement or movement of citizens had to do with science. Further, it was stressed, it was important to acknowledge that citizens also organized themselves. Monitoring was suggested around the topics and forms of engagement in bottom-up initiatives, i.e. when these are chosen by the citizens themselves.

>> GROUP WORK B

WAY TO ADDRESS THIS BARRIER (1)

Require that research projects designate a minimum percentage of the budget for research activities to be spent for dissemination of results to lay citizens.

Provide incentives and communication training to researchers or take specialists on board, don't be overoptimistic about effects

» It was noted that there was principally little incentives for researchers in the current research systems to engage with dissemination of results to lay citizens as this was beyond the metrics of success for researchers. The key performance indicators for measuring the success of researchers were journal publications.

» It was highlighted that funding institutions indeed had a very important role in increasing the importance of disseminating research results to the general public. This view was met by skepticism from another participant: While the assumption might be that the availability of easy to understand information would enhance the public's interest in science and innovation, this could also have the opposite effect.

» The research teams, it was stressed, did not have the skills or time to produce information on research results that was appealing and easily comprehensible. It was necessary either to improve the skills of researchers or to bring specialists of communication to project teams.

WAY TO ADDRESS THIS BARRIER (2)

Improve training of researchers on science communication and engagement.

System changes are required

» It was stressed, that capacity-building would only work if there was a change at the level of the research system. Increase of training and instruction for the individual researcher, for instance, was not sufficient. Instead, scientific excellence would need to be re-defined by including the capability of communicating and explaining research and research results.

» It was suggested to include the topic of citizen engagement and training of capabilities to engage with societal actors earlier in university education. Moreover, another participant observed, cross-fertilization between different disciplines around engagement was required. However, it was noted, scientists were often not interested in citizens' issues and citizen engagement.

>> GROUP WORK B

Use media channels to promote engagement and the results of engagement in R&I.

Promote democratization of knowledge, include two-way-communication, report on outstanding engagement events

» It was observed, that currently it was not regarded very positively among research colleagues to have media exposure. Researchers should be made aware of the value of democratization of knowledge, i.e. providing access to more knowledge and information for ever more people, and learn about tools to contribute to that process. In this context, the importance of continuing to changing access rights was emphasized, so that more people get access to information, for instance in terms of consulting publications.

» It was noted, that media channels were the best way for dissemination. It was important, however, that these included also two-way-communication channels, where people, for instance, could ask questions, provide comments or contribute to chats and blogs. In this context, it was stressed that also the media needed training on how to communicate science.

» The media could more easily attract attention to reports on engagement processes, it was mentioned, when these processes included events which were not purely scientific such as cross-over events with artists.

» An important step was to divulge unsuccessful experiences in engagement. Management of expectations in regard to engagement processes was important. Citizens should realize that research including engagement projects did not always reach the expected results while nevertheless being worthwhile as part of a general learning process.
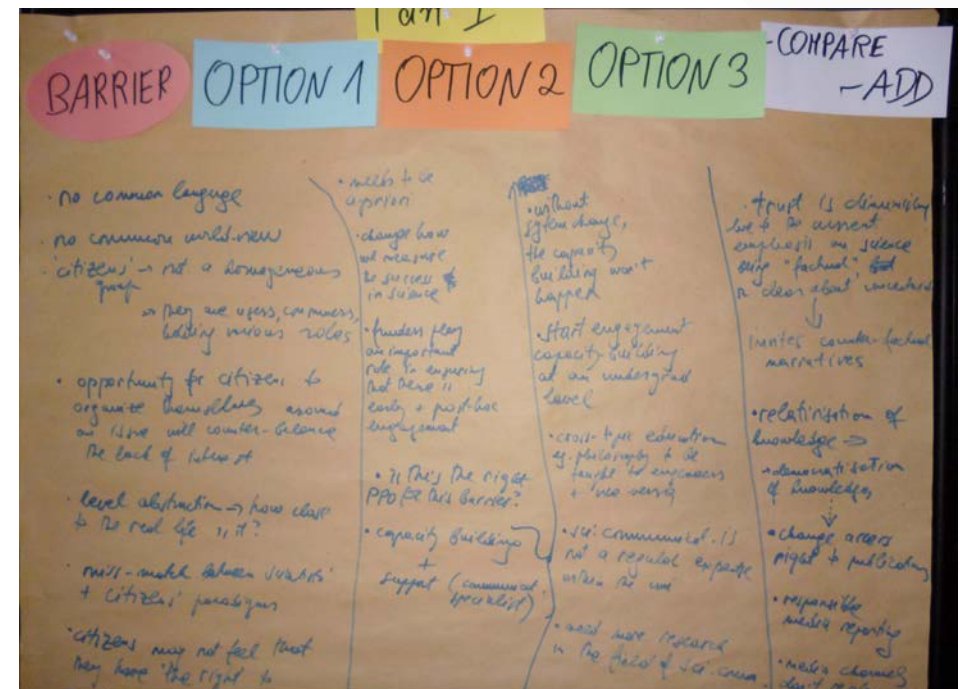
Metaplan chart of the group work to citizen barrier 2 (Julian Koepff, DIALOGIK)

Citizens – Barrier 3

Another insight from PROSO research on barriers to citizen engagement is that citizens may feel that they do not have sufficient knowledge and are not prepared to take part in discussions on scientific issues. The results from the citizen panels suggest that the reasons for this include perceptions of not having the cognitive abilities required by particular engagement formats and also a fearful attitude towards scientific issues and taking part in scientific discussions in general. This barrier dealt with in the small group work was phrased as follows:

> **BARRIER 3**
>
> Citizens feel unprepared and/or insufficiently knowledgeable to participate in engagement activities on R&I topics.

When asked for their views of this barrier, participants made the following observations:

The socio-cultural context and trust play a role, scientists need to be prepared to talk to citizens in their language

» It was observed that the importance of this barrier was likely to be influenced by the socio-cultural context. In Mediterranean countries, for example, the natural attitude was to question what research and innovation offered. Also, the barrier might be related to lack of trust in scientists and science, and the level of trust was likely to vary between countries. Trust required amongst other things that scientists were clear(er) about the role of uncertainties and unknowns in their work

and research and innovation generally. "Science weeks" or similar events did not contribute so much to developing a realistic idea of science and innovation. These events were more about success of scientific research and main outcomes while the process was often not presented or discussed. Furthermore, trust required that scientists were willing to act as points of contact for the concerned public.

» The example of vaccines was used to show that there are cases where it is not possible to restrict discussions to those who are educated on the topic: "Who has the right to decide whether a certain vaccine is mandatory for every child?" It was not possible in this case to exclude parents and other people from the discussion; everyone had the right to participate. It was important to forestall the situation that scientists were typically taking the lead in debates and excluding other voices.

» It was stressed, that citizens should be able to ask questions regardless of how "illogical" these questions appeared. Researchers needed to understand that they were required to clearly communicate and take positions on what citizens are concerned about: "They can't remain within their own 'universes'". Generally, it was noted, it was good for citizens if they developed an opinion on science and scientific issues. In this discussion context, it was emphasized that scientists, researchers, and students should be supported to develop their communication skills. Training needed to be included, for instance, in university curricula.

WAY TO ADDRESS THIS BARRIER (1)

Include engagement in school curricula.

Hands-on experience and a realistic idea about science and innovation are important

» It was suggested to develop deliberative skills in children through providing opportunities to discuss relevant innovation. Science should become a topic of conversation like football. Such opportunities should include hands-on-experience for children and young people. In Sweden, it was reported as an example, physicists had an "open box" where children came and asked questions. Another example of direct experiences with research and innovation were hubs where childrend, parents and other family members could come together and learn about innovative technologies, products or processes.

» Schools, it was observed, were a relevant actor in this context. It was reasonable to think about innovation from an early age on and get children to start thinking about innovations and what these meant to them. Schools should develop curricula with innovative contents of teaching that encompassed opportunities for pupils to learn science through exploring innovation and discussing it. This could then lead to further discussions between children and parents and children and their peers. This view met with scepticism of other particpants who stressed that influencing attitudes towards science and innovation required long-term approaches, and that schools needed to prepare pupils for many other things too. Further, it was important to realize that people were already engaging with innovation in their daily lives, for instance in terms of household appliances, cars, etc. The problem was that companies were hiding specifics of the innovation to the user, as they did not have any interest in explaining these: "We need to open up the black box of technology". In this discussion context, extra-curricular activities were highlighted which would also be important.

» It was once again emphasized that it was important that experiences with science and innovation included learning how science actually works – that scientists are, for instance, constantly dealing with uncertainties and knowledge gaps.

WAY TO ADDRESS THIS BARRIER (2)

Support longer-term (for instance, 3-4 years) projects which integrate both educational and engagement elements into their methodologies.

Think engagement beyond the "classic" research project

» It was noted, that citizens may indeed wish to be involved over a longer term, not just in a single event. In the Netherlands, this happened, for example, by including citizens in valorization reviews of programmes. Citizens had the task to assess whether these programmes had the desired impact on society. An FP7 EU-project on marine litter was given as an example. This project involved citizens in the design of programmes to clean up marine litter and also included parallel education activities. For instance, citizens participated in discussions about how to frame the issue in which they could directly experience the problem: The researchers used buckets of sand with both macro and micro litter in them in order to demonstrate to the citizens how significant the micro litter was.

» The necessity to understand the issues relevant for citizen engagement before undertaking the engagement was pointed out. However, this required a long-term

approach while research projects needed to be clearly defined and follow their research plan (Description of Action). This was one of the reasons why it was difficult to properly design engagement processes within research projects that had a short duration (2-3 years).

» In this discussion context, the suggestion was made to collect the common output from research projects funded under the same call and engage with citizens on this output, rather than individual projects.

WAY TO ADDRESS THIS BARRIER (3)

Choose engagement methodologies which do not require specific scientific knowledge.

Engagement needs to be selective, useful, and supported

» Generally, it was noted, that it was essential to provide relevant information (depending on the respective context and requirements of engagement processes) to the citizen participants. At the same time it was important to recognize that one does not need to be an expert to discuss the importance of innovation. To encourage citizens to participate it was further necessary to produce sufficient clarity (for citizens themselves and other actors involved) on why citizens should be involved in a particular process. Citizens may ask; "Why should I get involved? No one will listen to me". They easily suspected "sham-participation" and had an intuition for this; it was essential to explain the reasons for the importance of their engagement, how it would feed into decision-making, and whether citizens' input had an influence over final decisions.

» The point was made that citizens did not have to be involved with every research and innovation-related activity. For instance, there was no added value of citizen engagement with highly technical aspects such as substituting one chemical for another. Engagement needed to be selective. Perhaps it was advisable to focus on practical issues with a direct relevance to people's lives rather than highly technical developments with effects only at some (unknown) point in the future and not on "here and now" (such as CRISPR technology[1]). Another view was that citizen engagement was more advisable in regard to the overall directions of research and innovation; citizens should be involved in the framing of the broader issues of research and innovation.

1: *CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats and is a genome editing tool.*

>> GROUP WORK B

Citizens – Barrier 4

Organisers of engagement activities inevitably hold a degree of framing power which can influence the deliberations and thus the engagement results. Citizens in the PROSO national citizen panels demonstrated a degree of caution and mistrust towards the intents of the organizers of engagement activities (experts may influence citizens' opinions through manipulated and incomplete information; engagement events may be organised with a commercial purpose; engagement may be possibly a pure "box-ticking exercise"). This barrier dealt with in the small group work was phrased as follows:

BARRIER 4

Citizens mistrust the intents of engagement procedures.

The facilitator introduced three possible ways to address the barrier. The participants in the group work were invited to comment on the barrier itself as well as discuss the three ways. In this small group work participants did not deal with the each option separately and specifically but took the three policy options as an inspiration and directly entered into a broader discussion.

These were the three policy options that the facilitator introduced to the participants:

WAY TO ADDRESS THIS BARRIER (1)

Support projects giving a role to citizens in shaping engagement methodologies and framing of the discussed issues.

WAY TO ADDRESS THIS BARRIER (2)

Allow for open debate, report and reflect on disagreements and differences in opinions and perceptions among participants.

WAY TO ADDRESS THIS BARRIER (3)

Be aware of cultural/language differences when applying engagement methodologies and adapt them to the local contexts.

The main points that were put forward in the exchanges among the participants are set out below.

Expectations and transparency of the whole process are key, effort needs to be weighed against results

» Why would citizens distrust a process? In dealing with this question, it was argued that trust was linked with meeting or not meeting expectations. Mistrust could result from previous engagement experiences of oneself or others. When expectations had not been met (for instance, because the panel was insufficiently balanced, lobbying distorted the process, or people were not heard, etc.) this could produce disappointment which could lead to general skepticism or mistrust in engagement processes. Expectations were directly related to the format of engagement; expectations in regard to face-to-face interactions (which were said to create more commitment, include dialogue etc.) were likely to be different from expectations of, for instance, online polls (which were not considered as tools to create commitment and build on two-way communication). Expectations, it was stressed, were key, from the beginning of the process to the end.

» It was observed in this context, that the three policy options introduced by the facilitator only addressed earlier steps of the engagement process. However, it was stressed that the process needed to be regarded in its entirety. It was essential to create transparency about why participants were invited and also about what was going to happen with the results from the engagement process or project: "Is there a commitment to work with the results afterwards" was an important question that needed to be clarified at the beginning of the process. This was supported by another participant stating that people wanted to see their ideas reflected later on another level. One participant added to this stating that citizens should also be informed about the broader mission of the process. In the RRI-field that was building responsible research together which was a goal on its own. Further, it was important that efforts and results were well balanced.

» Several participants highlighted in this context the key role of transparency: It was important that the organizers of the engagement process created full transparency from the beginning regarding the purpose and objectives of the process, the roles, relations, and expectations of the different actors, the expected results, and the intended use of results. In creating transparency, it was noted, it was important to distinguish between project, programme, and overall strategy level as engagement events were organized in relation to all of these.

» The point was made, that it was important to distinguish between mistrust towards the message within an engagement process (for instance, when there is too little information), and mistrust towards the sender of this information. In the first case, when the sender was trusted but not the message, people were still receptive when more information was given. In the second case, when there was distrust towards the sender, the sender had to gain trust in order to be able to communicate at all. This case was more difficult to address, it presented a huge challenge altogether. One possible solution to such a situation was to invite organizations to the table that were well recognized, valued and trusted by the people.

» Language differences were indeed important, it was noted. Despite the willingness to get engaged, social scientists would not know how to talk to ordinary people and felt more familiar with people of their own social and educational level ("mostly middle class"). There did not seem to be an easy solution to this dilemma.

» It was noted that not being prejudiced against other partners in an engagement process was essential for getting all relevant parties at the table. However, mistrust between different actor groups was often the case (for instance mistrust by citizens of big companies and vice versa; "The problem is always the others"). Possible ways to deal with this in the concrete engagement case was to get into face-to-face dialogue with all actors and reflect jointly on the set-up of

engagement. Rather than anything else it was the organizer who became reliable and trusted. In this context, it was important for citizens to feel part of a big team and that all participants shared the same key objective in an engagement process.

» There were different views on whether all projects could benefit from engagement. One view was that that engagement generally made sense as it was only a matter of preparation and language whether it succeeded. Another view was that not all projects benefitted from engagement, especially those projects did not benefit where a low pay-off was expected. There was agreement, however, that organizers had to carefully weigh effort against results in order to avoid box-ticking exercises. There was a risk that engagement processes remained a lip service, it was noted, when engagement became a formal requirement (and projects were evaluated against this requirement), and researchers were not really committed to engaging with societal actors. This, in turn, could lead to badly organized engagement processes generating disappointment and mistrust with process participants or observers.
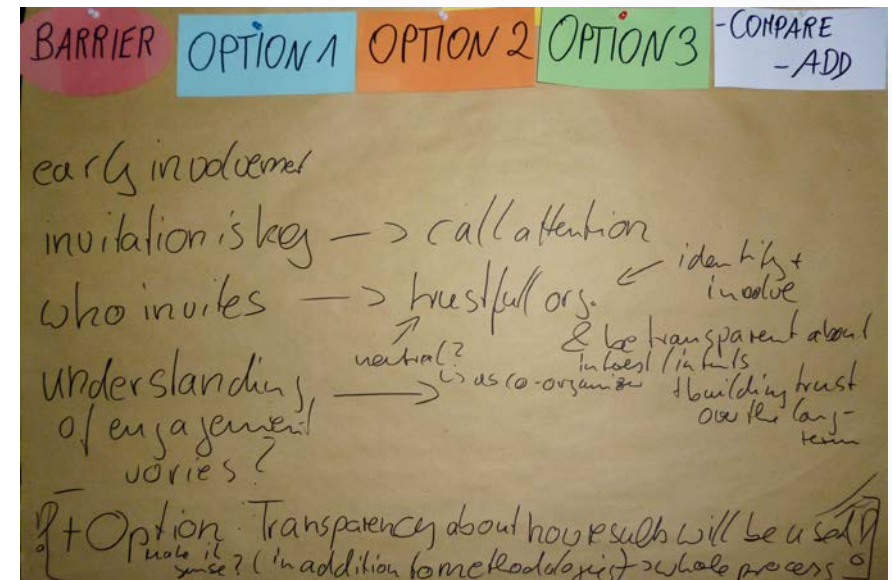
Metaplan chart of the group work to citizen barrier 4 (Julian Koepff, DIALOGIK)

>> GROUP WORK B

Citizens – Barrier 5

PROSO research on barriers to citizen engagement (national citizen panels) suggests that there are doubts on the side of citizens that the output of citizen engagement will actually be used in decision-making on research and innovation. The barrier dealt with in the small group work was phrased as follows:

BARRIER 5

Citizens mistrust R&I decision-making processes, they don't trust that their results will have an impact on R&I.

The facilitator introduced three possible ways to address the barrier. The participants in the group work were invited to comment on the barrier itself as well as discuss the three ways. In this small group work participants did not deal with each option separately and specifically but took the three policy options as an inspiration and directly entered into a broader discussion.

These were the three policy options that the facilitator introduced to the participants:

WAY TO ADDRESS THIS BARRIER (1)

Users of engagement results are obliged to report on whether and how recommendations of citizens are implemented.

WAY TO ADDRESS THIS BARRIER (2)

Support long-term engagement projects and require investing time and resources for monitoring and assessing the project impacts.

WAY TO ADDRESS THIS BARRIER (3)

Increase transparency in terms of use of results of the engagement processes.

The main points that were put forward in the exchanges among the participants are set out below.

Success stories, new impact assessment tools, work agreements and an elaborate culture of acknowledgement are needed

» There was agreement among the participants that there was too little transparency and publicly accessible communication on how engagement results were used. This needed to be changed in order to build trust in the seriousness and effectiveness of engagement processes among the wider public. One participant noted that there were indicators that lack of trust in the seriousness of citizen engagement may also exist towards the EU institutions.

» It was pointed out, that stories of success were needed to build or restore trust, told by those who had been engaged or by the recipients of the results, for instance policy makers: "We are convinced of the positive effects of engagement but lack the evidence". In this context, the difficulty to assess the impact of engagement processes with the "old tools" was emphasized. New impact assessment tools were needed. In this context, it was pointed to the possible role that Social Return on Investment (SROI) as an already existing tool could play for this. SROI is a principle-based method for measuring extra-financial value. Another possible tool, it was noted, could actually be the success stories told by the engaged or policy makers themselves. One participant pointed out in this respect that impact from societal engagement was a rather slow process which some policy makers and research funders did not accept. In this context, the plea was made: "Don't leave researchers or practitioners of engagement alone with the task of ensuring impact!" The decision-makers, for instance, should provide a track record that indicated when and why decisions needed to be taken. It was observed, that what was needed was more than simply a few adaptations in the research system but rather a real system change.

» The suggestion was made to co-design a memorandum of mutual understanding

or "work agreement" (in order to avoid academic jargon) at the outset of an engagement process in order to increase the chances of impact. This work agreement should be based on mutual understanding, commitment and respect between funders, decision-makers and citizens. It should include a clarification of what is expected of the citizens and what they can expect from the process and its outcome (comprising an agreement on the format of the presentation of results to citizens), and the concrete roles of other actors that might be involved. It was advisable to ask the citizens before, what kind of report on the results they expected. The work agreement should also include that the "Zero-option" (for instance, a certain product or technology should not be used) was also a legitimate outcome. The work agreement was mainly about respect for the citizens invited. Other participants added, that citizens should have the possibility to provide feedback during the process, and that there should be a "results meeting" at the end of the project or programme.

» The question was raised if it was advisable to commission companies to recruit citizens (for instance, opinion research institutes). It was often a challenge to provide the relevant information for citizens in the actual recruitment, and co-design of a work agreement could only occur at a later point in time. In this context, it was observed that recruitment strategies generally needed to be tailored to the level at which engagement occurred (for instance within a research project or concerning the establishment and implementation of a funding programme). If engagement took the form of co-decision-making on funding strategies, for instance, the invitation should come directly from the funding bodies, i.e. the actual decision-makers. In this case, recruitment companies were not an option, research councils would need to invite citizens personally, this showed not only respect to citizens but was appropriate to the level of responsibility associated with the task offered to the citizens. It was further suggested that in such a case citizens should be involved in mid-term evaluations and post-evaluations of the

implementation of the funding programme. In response to the question of whether and how such a "big job" (the estimation was three days in two to three years) should be compensated, it was stated that compensation was very much dependent on the particular context and culture in which engagement took place. In some countries, financial compensation was important, in others compensation was more an aspect of respect and acknowledgement. In this context, it was stressed that there was need to develop a more elaborate culture of acknowledgment. In the particular case these could be, for instance, personal letters of appreciation from the funding bodies or face-to-face expressions of gratitude. One participant pointed out that the issue of selecting participants for citizen engagement required fundamental debates around research ethics. The "casting system" for engaging citizens was finally a legitimacy issue. There was no apparent solution yet to the issues of "Who can and should take part?", "Which qualifications are necessary for engagement"?

» It was observed, that there was a fundamental problem with citizen engagement consisting of a mismatch between issue and interest in engagement processes. Most of the time, the issue dealt with in an engagement exercise was of a global nature while the citizens were interested in local issues. Ideally, it was noted by one participant, the issue dealt with should have direct connections to the everyday life of citizens. This would enhance the chances that citizens could see from the results that their input had been taken on board.
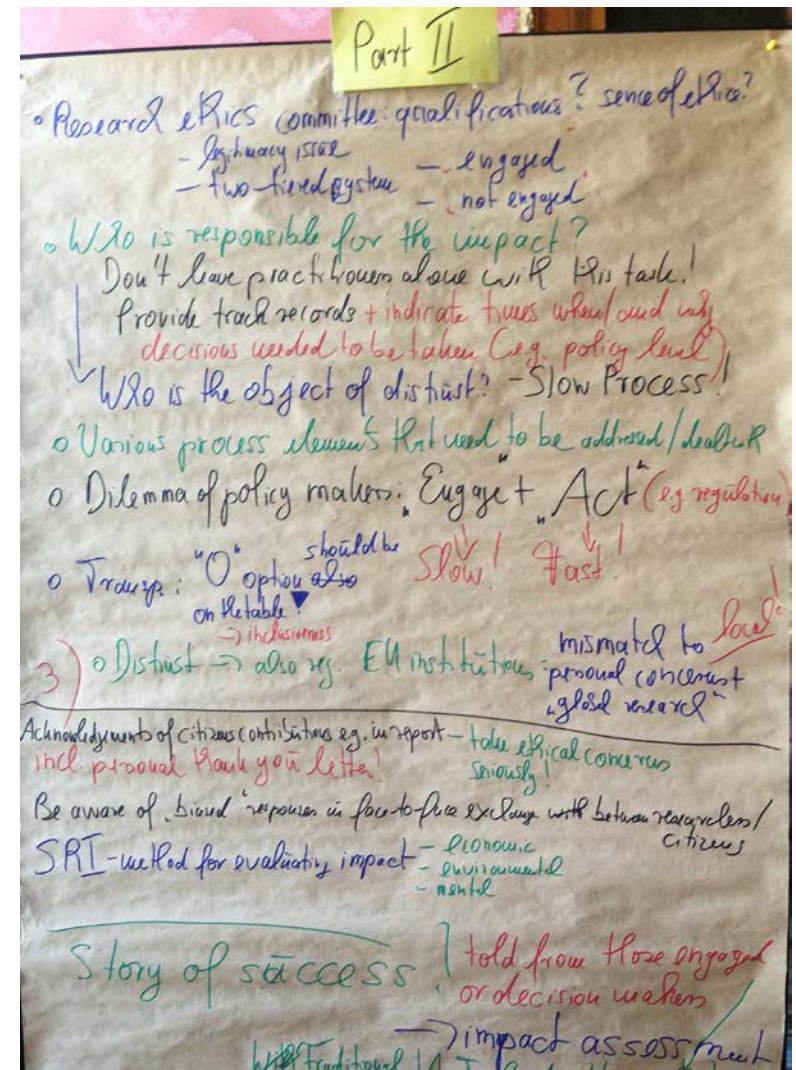
Metaplan chart of the group work to citizen barrier 5 (Julian Koepff, DIALOGIK)

>> 06 **CLOSING SESSION**

Closing Session and highlighted messages

In the closing session, Colombe Warin (PROSO project officer) and Katrina Sichel (main facilitator of the conference) highlighted some important messages of the small group work. In what follows, these messages are presented and for each are considerations added with regard to taking citizen and TSO engagement in research and innovation forward. These considerations take up points and comments made in the small group work.

> There are some areas of research that are rather easy to measure, and others that are much more difficult to measure such as RRI. For RRI, impact is much less tangible, the more important it is to share results and success stories.

Several conference participants saw the need to develop better ways (methods, tools, indicators) to measure the impact of engagement projects and processes. In order to be successful, proposals for research including societal engagement with R&I are required to make explicit the intended societal or political impact (the expected impact is usually roughly pre-defined in the project call). The performance and achievements of the projects funded will be measured against the specified impact. However, impact of engagement projects (for instance, influences on current funding strategies) is often neither short-term, nor can it easily be measured quantitatively and be attributed to the work of a particular project and engagement process. Social innovation, in particular, is often about changing mind-sets which happens only over longer periods of time. Also, the concrete processes, outcome and impact can hardly be fully foreseen for highly complex projects with a variety of actors and viewpoints, and levels of decision-making. Further, there is lack of knowledge about research approaches and methods for

promoting societal impact of trans-disciplinary projects; for instance, how can decision-makers support in ensuring it? In short, there are several questions regarding the assessment of impact of societal engagement with R&I. Evidence of impact is, however, essential for the funding authorities in terms of project evaluation, and guidance on defining impact and assessment indicators essential for the motivation of researchers to carry out engagement projects. Are success stories told by the engaged or decision makers as end users an appropriate tool for assessing the impact of engagement projects? *How to measure and also define impact is not a question only to be dealt with at the level of individual projects. Rather it is a question that needs to be systematically examined and openly discussed including societal actors.*

> Conflict is part of democracy.

It is a guiding idea of RRI that stakeholders step down from their interests, take the perspectives of others, and create a common vision. This idea is an ideal to which real practices can come more or less close. Pursuing it as a goal requires a favorable process design that accounts for the variety of interests and value preferences that different stakeholders bring to the table; for instance, sufficient room should be given to in-depth dialogue between participants of different nature and a mutual learning process. However, it is not necessarily the goal of engagement to reach consensus, to overcome different views and avoid conflict. The goal can also be to clarify stakeholder consensus and dissent and find on that information basis a set of options for creative and workable solutions.

Several conference participants stressed that variety of perspectives should be rather understood as a valuable resource, and conflict as a productive element in an engagement process. However, researchers and also engagement practitioners do not

necessarily have the competencies to deal with conflict as professional mediators have. Mediators, it was repeatedly noted at the conference, could act as boundary actors who are neutral and easy to trust, support group formation, and settle conflicts should they arise. *There is a need for better recognition of the possibility and challenge of conflict in multi-actor engagement processes and an infrastructure for networking between researchers, engagement practitioners, and mediators that can help to bring to the project teams the required specialist skills.*

> Transparency is key.

It is essential for trust-building, participant satisfaction, effective pursuit of goals and impact realization that there is full transparency from the beginning regarding: the rationale, purpose and method of the engagement process explaining, for instance, the decision for a small-scale or large-scale-study, for citizen and/or TSO involvement; the roles, relations, and expectations of the different actors involved; the expected results and use of results; and the intended (possibly uncertain) impact. Several conference participants stressed that there was *too little transparency and publicly accessible communication on whether and how engagement results were used and integrated into policy making and decision-making processes.* It requires better strategies for creating transparency in this respect in order to build trust in the seriousness and effectiveness of engagement with R&I among the wider public. *Researchers, engagement practitioners, those engaged, and the targeted end-users (such as political or other decision-makers) could, for instance, co-design an advance memorandum of mutual understanding.* This "work agreement" should include the way in which the end users/decision makers will process the results and provide feedback to all those who produced them.

Media reporting on influential engagement processes may have positive effects on the conditions for recruiting citizens and TSO for engagement with R&I. However, it is also important, generally and in the individual case, to be transparent from the outset that commitment for results processing and feedback provision does not necessarily mean that all participant perspectives will be taken on board. Engagement is usually done to provide guidance or advice to decision makers, and it is up to their discretion about which perspectives they incorporate into either process; this would need to be included in the "work agreement". It requires realistic expectations to forestall frustration and a negative view of the respective engagement process or even engagement as such.

> Be selective in what is tackled.

Engagement is resource-intensive for all involved. Therefore, it is important to provide engagement opportunities in those cases in which engagement can lead to concrete results that have a chance to make an impact in relation to a particular task, concern or challenge. There needs to be more systematic reflection and exchange on the forms such results could take and the types of impact that different result forms could have (for instance, a research question which, mediated by a science shop, is dealt with in a degree thesis at a university).

Several conference participants warned that societal engagement with R&I may end up as a box-ticking exercise imposed on researchers rather than a valuable undertaking when engagement developed into a standard requirement of all research. This ignored, for instance, existing constraints. Some TSO such as bigger environmental and consumer organizations are currently facing a flood of invitations for engagement, and it is obvious that they can only accept a very small percentage of these. There are also

indicators from empirical research that citizens might be particularly interested in getting engaged with practical issues with a direct relevance to their lives rather than highly technical developments with effects only at some (unknown) point in the future and not "here and now". This needs to be accounted for in engagement policies. It cannot be taken for granted that all research projects benefit from engagement. *There is a need for reflection and exchange on the question of what characterizes the areas and types of research where societal engagement is most likely to have an added value. Funding agencies, for instance, could contribute to this by establishing a basis for dialogue and exchange of experiences from established and innovative funding programs and formats that include societal engagement.*

> Give results back to those that participated and acknowledge their efforts.

Participant satisfaction with engagement processes is important for the emergence of "ambassadors" for societal engagement with R&I and also positive media reporting and the dissemination of "success stories". One influencing factor of participant satisfaction is recognition and acknowledgement of the efforts made. *It was stressed at the conference that there was a need to develop a more elaborate culture of acknowledgment of the contributions by TSO and citizens.* This includes as a basic requirement to provide them with the results to which they have contributed in an appealing format. What further more explicit expressions of acknowledgement are suited depends to a significant extent on the particular context and culture in which engagement takes place. In some contexts and countries, financial compensation may be important (in some countries, small financial compensations are usually paid when citizen engagement is restricted to a smaller group of participants), in others, compensation can be more an aspect of respect and acknowledgement. Examples for

non-financial recognition are personal letters of appreciation or face-to-face expressions of gratitude by a project team or funding agency as the end user of results. Conference participants highlighted the *importance to build recognition also of the efforts of researchers who are usually not engagement experts from the beginning and need to develop competencies in this field.*

>>07 **NEXT STEPS**

>> NEXT STEPS

Publication of results

The conference participants were given the opportunity to comment on a draft version of the conference report. The current document is the revised version which takes this feedback into account. This final version will be published on the PROSO website (http://www.proso-project.eu). Further, the final report and a policy brief produced from this report will be sent via email to all the individuals whose contributions have informed the contents and outcome of the conference. These include the participants at the conference; the interview partners on PROSO's research on TSO engagement; the citizens participating in PROSO's national citizen panels; and the experts participating in the PROSO workshops (in Vienna, Austria, and Sofia, Bulgaria) on policies of promoting societal engagement under RRI.

Use of results

The conference results are an important input into the development of the policy and practice guide which is PROSO's main output. The guide will offer policy-makers, research funders and third sector organizations insights and inspiration around how to promote citizen and TSO engagement in European research systems. It will be sent directly to all the individuals who have contributed to PROSO's research and communication activities (and those who will still provide their contributions) and published on the PROSO website.

>> ANNEXES

ANNEXES

I. Agenda

From 9:15	Tea / Coffee and Registration
Welcome and first input by PROSO	
10:00 – 10:10	**Welcoming Remarks** *Katrina Sichel*, main facilitator *Marion Dreyer*, DIALOGIK, PROSO coordinator
10:10 – 10:25	**Societal engagement in Horizon 2020** *Colombe Warin*, European Commission, PROSO project officer
10:25 – 10:40	**Societal engagement under the terms of RRI** *Anja Bauer*, Austrian Academy of Sciences, PROSO work package leader
10:40 – 11:00	**Barriers to Third Sector Organizations (TSO): TSO's and other perspectives** *Lada Timotijevic & Emily Porth*, University of SURREY, PROSO work package leader
Work in small groups (Session A): "TSO engagement for RRI – ways forward"	
11:00 – 11:05	**Introduction to work in small groups** **Katrina Sichel**
11:10 – 12:10	**Small group work I (Session A)** *What are your views on the policy and practice options suggested by PROSO as possible ways to address the identified barriers to and incentives for TSO engagement?*
There are tea/coffee hubs allowing participants to take tea and coffee during the group work	
12:10 – 12:40	**Small group work II (Session A)** Same as above with change in groups that deal with the different barriers and incentives
12:40 – 13:40 Lunch buffet	
Second input by PROSO	
13:40 – 14:00	**Barriers from citizens' perspectives** *Blagovesta Chonkova*, ARC Fund, PROSO work package leader
Work in small groups (Session B): "Citizen engagement for RRI – ways forward"	
14:00 – 14:05	**Introduction to work in small groups** **Katrina Sichel**
14:10 – 15:00	**Small group work I (Session B)** *What are your views on the policy and practice options suggested by PROSO as possible ways to address the identified barriers to and incentives for citizen engagement?*
15:00 – 15:30	**Small group work II (Session B)** Same as above with change in groups that deal with the different barriers and incentives
15:30 – 15:50 tea and coffee	
Bringing discussion results together: Promising policy and practice options towards citizen and TSO engagement for RRI	
15:50 – 16:50	**Group discussion results** Promising ways towards TSO engagement for RRI Promising ways towards citizen engagement for RRI
16:50 – 17:00	**Short feedback round and closure**

II. Information on small group work

At the conference, the participants received upon registration this information sheet regarding the small group work.

Dear Participant: On your name badge there are two colored points, marked with **A** respectively **B**. The colors and letters tell you which group you will join and in which room you will meet in the **first round (Part I)** of the two sessions of small group work.

11:10 – 12:10   SESSION A: Small group work on barriers TSO – Part I

Session	A	A	A	A	A
Color	RED	YELLOW	BLUE	GREEN	ORANGE
Group No.	1	2	3	4	5
Room	Albert I	Leopold	Marie-Thérèse	Stevin	Lipsius
Barrier to TSO engagement that the group will deal with	There is a lack of resources to enable researchers to engage with TSO and other stakeholder groups, and a lack of resources for TSO to engage with researchers	Both researchers and TSO hold preconceived ideas about particular stakeholder groups that make them reluctant to engage with those groups.	Different and often conflicting worldviews held by TSO and other stakeholders can lead to incompatible ideas about possible solutions to societal challenges.	The organizational cultures of TSO, research funders, and research institutions can limit which projects they want to become involved in, and how they want to engage with others or be engaged with.	The values system that drives innovation processes is overwhelmingly focused on economics and wealth creation.

14:10 – 15:00   SESSION B: Small group work on barriers citizen – Part I

Session of small group work	B	B	B	B	B
Color	RED	YELLOW	BLUE	GREEN	ORANGE
Group No.	1	2	3	4	5
Room	Albert I	Leopold	Marie-Thérèse	Stevin	Lipsius
Barrier to citizen engagement that the group will deal with	Citizens see the small numbr of participants in engagement formats as being insufficient to legitimately represent societal perspectives and achieve impact.	Citizens lack interest in scientific issues, esp. in the early stages of development of a particular technology.	Citizens feel unprepared and/or insufficiently knowledgeable to participate in engagement activities on R&I topics.	Citizens mistrust the intents of engagement procedures.	Citizens mistrust R&I decision-making processes, they don't trust that their results will have an impact on R&I.

II. Information on small group work

For example: If one colour point on your name badge is blue with an **A** on it, and the other colour point is orange with a **B** on it, this means:

- In the session from 11:10 to 12:10 (Session A) you will join group 3 in the room Marie Thérèse and discuss the barrier "Different and often conflicting worldviews held by TSO and other stakeholders can lead to incompatible ideas about possible solutions to societal challenges".

- In the session from 14:10 to 15:00 (Session B) you will join group 5 in the room Lipsius and discuss the barrier "Citizens mistrust R&I decision-making processes, they don't trust that their results will have an impact on R&I".

In the **second round (Part II)** of the small group sessions (12:10-12:40 resp. 15:00-15:30) you are free to choose the group you want to join.

Be sure: The PROSO team will help and guide you to the rooms!

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SOCIETY
FOR RRI

III. Participants

Dr. Jonas Åkerman	Stockholm University	Sweden
Imane Baïz	Center for Research and Interdisciplinarity, Paris Descartes University, Paris	France
Marta Barrionuevo	Institute of Health Carlos III	Spain
Sönke Bauck	Swiss National Science Foundation	Switzerland
Dr. Anja Bauer	Austrian Academy of Sciences, Institute of Technology Assessment	*PROSO Team*	Austria
Thomas Bausch	Projektträger Jülich	*PROSO Advisory Panel*	Germany
Dr. Alexander Bogner	Austrian Academy of Sciences, Institute of Technology Assessment	*PROSO Team*	Austria
Dr. Robert Braun	Institute for Advanced Studies, Vienna	Austria
Blagovesta Chonkova	ARC Fund	*PROSO Team*	Bulgaria
Jozefien De Marée	Vrije Universiteit Brussel - R&D department	Belgium
Frank Dratsdrummer	DIALOGIK	*PROSO Team*	Germany
Dr. Marion Dreyer	DIALOGIK	*PROSO Team*	Germany
Rebeca Fernández	FoodDrinkEurope	*PROSO Team*	Belgium
Daniela Fuchs	Austrian Academy of Sciences, Institute of Technology Assessment	*PROSO Team*	Austria
Giacomo Galardini	European Schoolnet (EUN)	Belgium
Léa Gerbaud	Nouvelle-Aquitaine Region	France
Anne-Sophie Gresle	Barcelona Institute for Global Health (ISGlobal)	Spain
Dr. Attila Havas	Hungarian Academy of Sciences - Centre for Economic and Regional Studies	*PROSO Advisory Panel*	Hungary
Christian Hofmaier	ZIRIUS	*PROSO Team*	Germany
Julian Koepff	DIALOGIK	*PROSO Team*	Germany
Dr. Maria Lindholm	Vetenskap & Allmänhet (VA)	Sweden
Dr. Thaïs Machado-Borges	Stockholm University	Sweden
Dr. ilse Marschalek	Centre for Social Innovation	Austria
Dr. Mark Morrison	Optimat	*PROSO Team*	United Kingdom
Hanns-J. Neubert	Technisch-Literarische Gesellschaft, Journalistenvereinigung für technisch-wissenschaftliche Publizistik (TELI)	Germany
Carole Paleco	Royal Belgian Institute of Natural Sciences	Belgium
Sidonie Pauchet	EuroFIR AISBL	Belgium
Dr. María-Jesus Pinazo	Barcelona Institute for Global Health (ISGlobal)	Spain
Silvia Polidori	European Parliament	Belgium
Dr. Aida Ponce Del Castillo	European Trade Union Institute (ETUI)	Belgium
Dr. Emily Porth	University of Surrey	*PROSO Team*	United Kingdom
Joel Rothschild	ORT Israel	Israel
Anett Ruszanov	European Regions Research and Innovation Network (ERRIN)	Belgium
Dr. Lorena Sancho-Querol	Centre For Social Studies, University of Coimbra	Portugal
Susana Seabra	Sociedade Portuguesa de Inovação (SPI)	*PROSO Team*	Portugal
Katrina Sichel	Moderators Europe	*Main conference facilitator*	Belgium
Dr. Angela Simone	Fondazione Giannino Bassetti - SMART-Map project	Italy
Argyro Stavroulaki	Consumer Association "The Quality of Life" - EKPIZO	Greece
Norbert Steinhaus	Wissenschaftsladen Bonn - Bonn Science Shop	Germany
Carlos Teixeira	European Commission	Belgium
Dr. Lada Timotijevic	University of Surrey	*PROSO Team*	United Kingdom
Mónica Vásquez Moreno	Fundació per al Foment de la Investigació Sanitària i Biomèdica de la Comunitat Valenciana (FISABIO)	Spain
Sandra Vilaplana	K-veloce I+D+i	Spain
Dr. Retha Visagie	University of South Africa	South Africa
Dr. Thomais Vlachogianni	Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE)	Greece
Colombe Warin	European Commission	*PROSO Project Officer*	Belgium

Table 4: List of participants of the Multi-Actor Conference
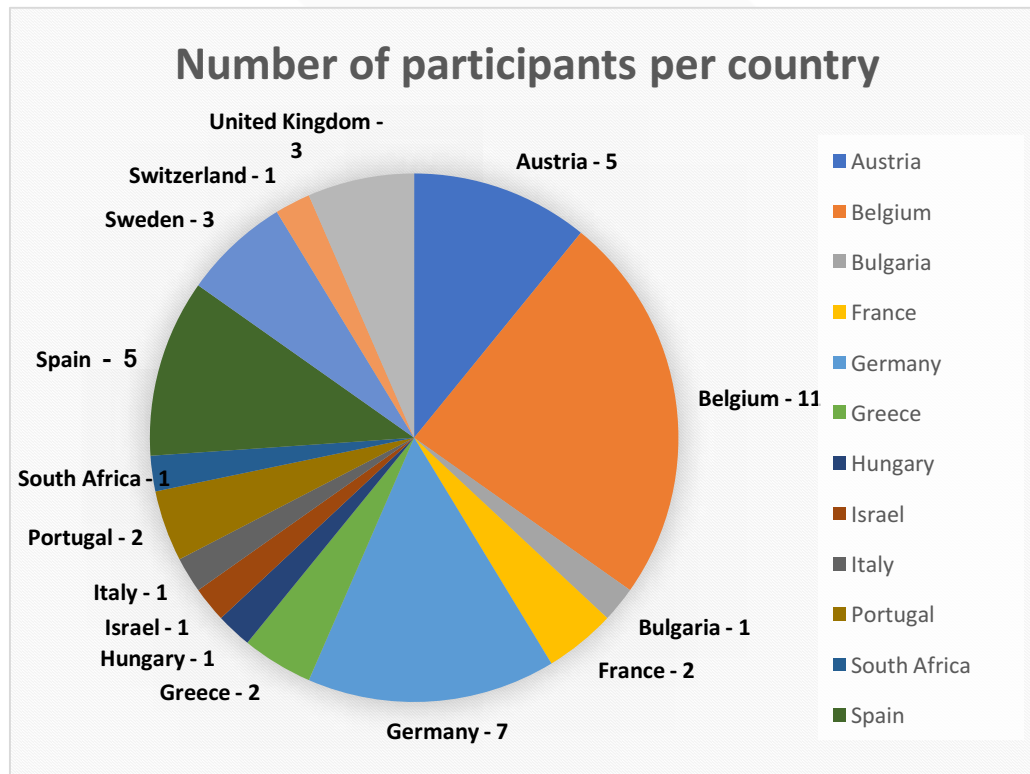
III. Participants

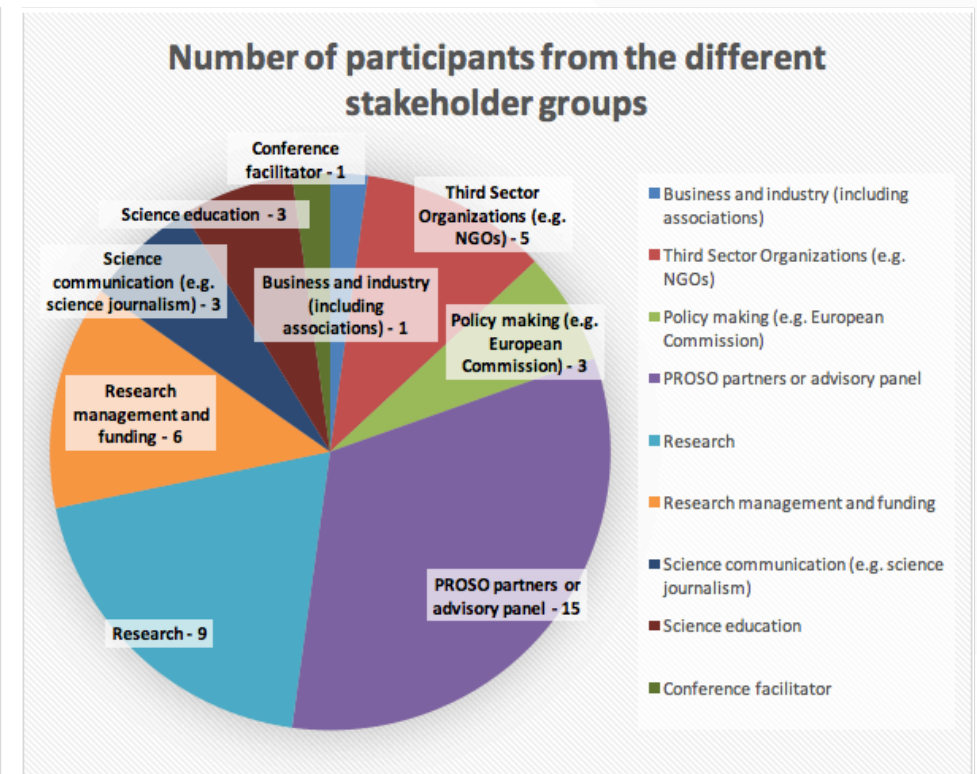Figure 2: Stakeholder groups at the conference
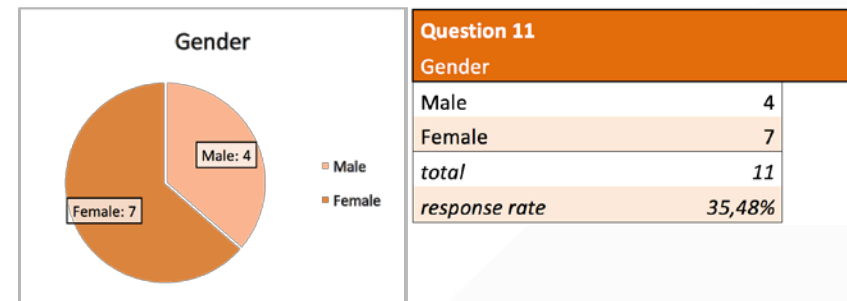

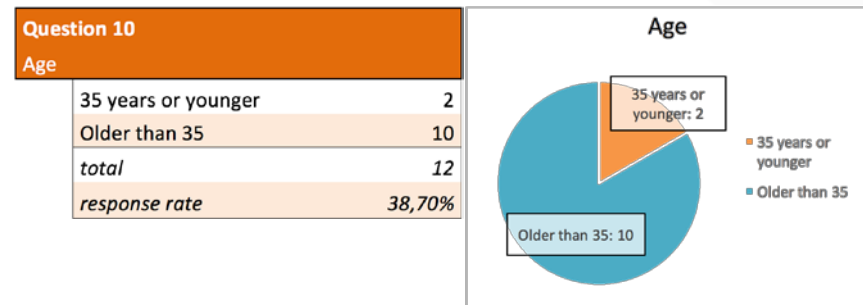Figure 3: Participants per country

ANNEXES

IV. Feedback of participants

In the closing session, the participants (excluding the PROSO research team) were

invited to provide feedback on the conference via an evaluation sheet which they could fill in at the conference or send to the organizers after the conference. Nearly half of these participants filled in the evaluation sheet (fourteen of thirty-one participants which is a response rate of 45,16%). These participants responded that, overall, they were very satisfied or somewhat satisfied with the event. Those who provided their feedback evaluated the conference generally predominantly good. The results are presented below.

The evaluation sheet included a few open or half-open questions to which the participants could provide free-text responses. Some short comments and input were made, these are also presented below. The need for "system changes" was noted as a barrier to societal engagement, and "participation of the public in RRI in hubs, schools, and street incubators" was indicated as a way to lower barriers to societal engagement. There were a few comments suggesting that some participants had wished that there had been a larger number of participants and a greater diversity of perspectives included. This had also been the intention of the PROSO team and, in particular, the conference organizers. However, more than 40% of the participants who had registered for the conference and achieved the information package in advance of the conference did not participate. This was a much higher percentage of "no shows" than assumed. The reasons for this are not obvious, and the PROSO team will reflect on why this happened.

Overall response rate:

14/31 participants	45,16%

Question 10
Age

35 years or younger	2
Older than 35	10
total	*12*
response rate	*38,70%*

Age

Question 11
Gender

Male	4
Female	7
total	*11*
response rate	*35,48%*

Gender

ANNEXES

IV. Feedback of participants

Question 1	
Overall, how satisfied were you with the event?	
Very satisfied	9
Somewhat satisfied	5
Somewhat dissatisfied	0
Very dissatisfied	0
Don't know	0
total	14
response rate	45,16%

Question 1: Overall, how satisfied were you with the event?

Question 2: How would you grade the quality of the discussions during the event?
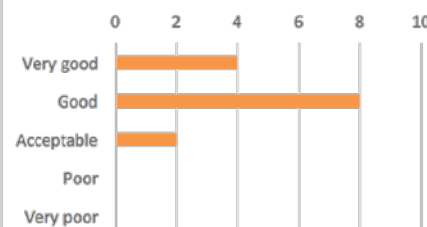
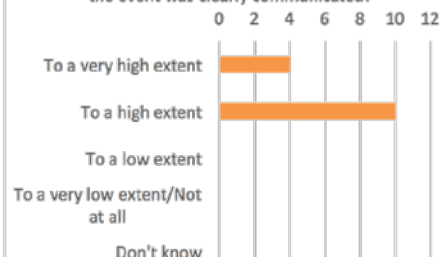| Question 2	
How would you grade the quality of the discussions during the event?	
Very good	4
Good	8
Acceptable	2
Poor	0
Very poor	0
total	14
response rate	45,16%

Question 3	
Do you agree that the purpose of the event was clearly communicated?	
To a very high extent	4
To a high extent	10
To a low extent	0
To a very low extent/Not at all	0
Don't know	0
total	14
response rate	45,16%

Question 3: Do you agree that the purpose of the event was clearly communicated?

Question 4: Do you think all relevant perspectives were adequately covered during the event?

Question 4	
Do you think all relevant perspectives were adequately covered during the event?	
To a very high extent	1
To a high extent	12
To a low extent	1
To a very low extent	0
Don't know	0
total	14
response rate	45,16%

Question 5
Please indicate the perspectives you think were missed/neglected
» policy makers, citizens, TSOs, industries «
» More time for discussions «
» Non-believers; opponents of RRI; Research & Innovation Practicioners; Industry; University Management «
» New ways for RRI «

ANNEXES

IV. Feedback of participants

Question 6
Overall, how satisfied were you with the practical organization of the event?

Very satisfied	9
Somewhat satisfied	4
Somewhat dissatisfied	1
Very dissatisfied	0
Don't know	0
total	14
response rate	45,16%

Question 6: Overall, how satisfied were you with the practical organization of the event?

Question 7: How satisfied were you with the venue of the event?

Question 7
How satisfied were you with the venue of the event?

Very satisfied	6
Somewhat satisfied	5
Somewhat dissatisfied	1
Very dissatisfied	0
Don't know	0
total	12
response rate	45,16%

Question 8
How satisfied were you with how time was distributed among the different sessions of the event?

Too much time was spent on some of the agenda items	0
The time spent on most agenda items was suitable	13
Too little time was spent on some of the agenda items	1
total	14
response rate	45,16%

Question 8: How satisfied were you with how time was distributed among the different sessions of the event?
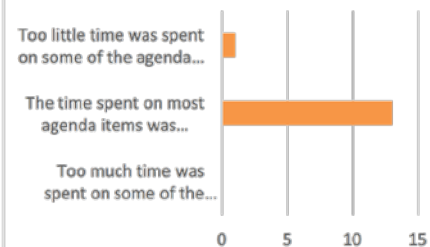
Question 12
Are there barriers to (ore incentives for) societal engagement which you want us to consider and which weren't mentioned in your groups or in the plenary?

» New approaches «
» System changes, Research Excellence «
» I think barriers should be expressed in a clearer way «

Question 13
Are there ways to lower barriers (or strengthen incentives) which you want us to consider and which weren't mentioned in your groups or in the plenary?

» Participating of the public in RRI in hubs, schools, street incubators «

Question 9
Do you have any suggestions for improvement of similar events in the future?

» Very good workshop format, good starting with PROSO results «
» Some time to discuss the final thoughts «
» Support our participation from an economical point of view «
» Better time management, more variation, big audience «
» Be ready for global warming «

V. PROSO project and team

PROSO at a glance

The main objective of PROSO is to foster engagement of Third Sector Organizations and non-organized citizens in the R&I systems in Europe. To this end, it is developing innovative and robust options for how research policy makers and research funding organizations can actively promote, and practitioners can successfully carry out (in accordance with RRI) TSO and citizen engagement in R&I at national and European levels. These options will be disseminated in a policy and practice guide for advancing the use of inclusive participatory approaches in R&I processes.

Main methods used are a literature review, semi-structured interviews, national citizen panels, the multi-actor conference, and a couple of expert workshops on selected topics. The figure below depicts PROSO's method design and highlights how the multi-actor-conference is placed in this design.
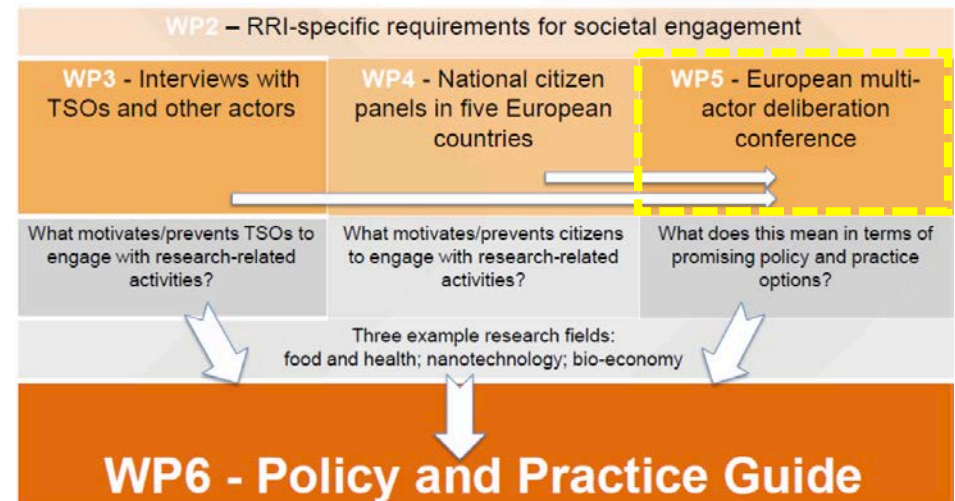

Figure 4: PROSO – Main steps of research

PROSO team

PROSO is carried out within a European-wide consortium comprised of four research organizations, a research-orientated civil society organization, two strategy consulting firms, and a European industry association.

An advisory panel with a multi-actor design guides the consortium in any research and policy related issues.

For more details please visit our website at www.proso-project.eu.

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