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Co-Creation Toolkit

A Guidance on the design, development and implementation of effective co-creation in industry-citizen collaboration settings

Deliverable D4.3; Lead beneficiary: DIALOGIK

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Introduction

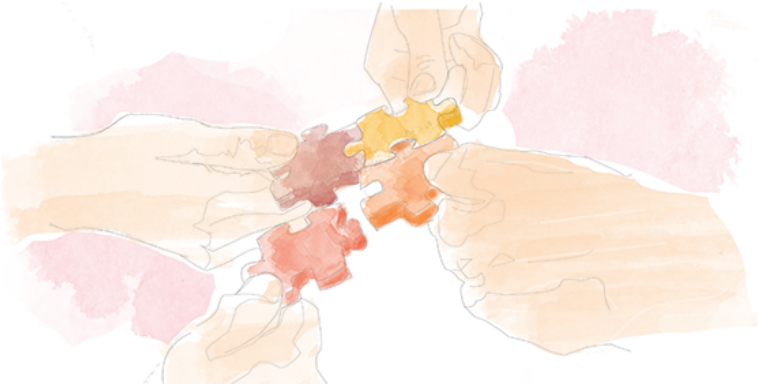
How can companies and citizens collaborate for the sake of embedding new technologies into the needs of both entrepreneurs and users? Tackling this challenge has been the objective of the EU-funded project Living Innovation (LIV_IN; cf. https://www.living-innovation.net) when bringing together industry leaders and lay people to co-create ideas and solutions for the way we will live in 2030. Relying upon the approach of Responsible Research and Innovation (RRI), LIV_IN sought to create innovations in the emerging fields of smart home and smart health technologies and services.

Over the years 2019 and 2020, a total of six so-called Co-Creation Labs were conducted in order to both arrive at deployable innovations adapted to user needs and practical knowledge how to conduct industry-citizens collaborations. The first round of Labs, performed by Siemens, Stichting Smart Homes (SMH), and Telefonica, took place in 2019. As the term Lab indicates, it is not a single event, but a Co-Creation Lab consists of a series of three or more workshops. The workshops were all held on-site at the participating companies with lead users.

Under the influence of the Covid-19 pandemic, direct face-to-face participation was no longer possible in the second round of the Labs in 2020. So, the Lab runners ATOS, De Montfort University (DMU), and Ottobock had to switch to digital collaboration formats. This brought new challenges while also enabling us to gather experiences from conducting online workshops.

Performing the LIV_IN Labs came along with two key challenges. First, to find a problem that is suitable to be solved in a co-creation partnership between lay people, users, and industry experts. Second, to set up, run, and evaluate each single workshop of a Lab, i.e. addressing all elements that are necessary to perform a successful co-creation process.

This Co-Creation Toolkit brings another aspect to the agenda. It takes the experiences of the LIV_IN Labs to draw generally applicable conclusions what to look for when planning for involving citizens or users in a commercial R&D project. So, while relying upon the LIV_IN Labs, the Toolkit is not about their results in terms of smart solutions for health and living but provides practical and methodological knowledge for all interested in engaging lay people to learn about user needs and making products and service more customer-friendly.



What can you expect from this Toolkit?

This Co-Creation Toolkit provides you tools and guidelines for starting and running a responsible innovation process. Based on our experiences from the 19 workshops conducted by six LIV_IN Labs and additional theoretical research, this Toolkit aims to provide an insight into the key principles and a variety of practical tips. Due to the limitations around Covid-19, we were not only able to gain experience with offline workshops, but also tested and analysed formats online. Thus, we are glad to present our generalizable learnings from both the offline and online Labs on how to efficiently perform responsible innovation within business-citizens' collaborations. We want to show you how Responsible Research and Innovation (RRI) can enrich your innovation process by giving you an insight on what Responsible Research and Innovation means and how to use tools to engage with Co-Creation and Design Thinking. As we have gained a lot of practical experience, we would like to share what we have learned and have bundled this with the practical questions from the start to the end of the participation process. This should help to consider and answer the questions that arise when setting up an inclusive process:

- What should I be clear about before I start?
- What are important success factors?
- Whom to involve when?
- What practical considerations are important?
- What do I have to consider at the workshop itself?
- And at the end?

Finally, there is always the question of the methods and tools that I want to and should use. Here, the selection should always be based on the goal, i.e. the question: What do I finally want to achieve with the process? The sorting of methods at the end of this brochure is based on this logic. This gives a pointed insight into the multitude of creative and established methods for working together with citizens on new and innovative ideas.

The Toolkit is thus divided into three large chapters:

1. How can Responsible Research and Innovation (RRI) enrich my innovation process?
2. How can I put co-creation into practice?
3. What methods to use? The Co-Creation Toolbox and a checklist for running a RRI workshop

"It is a disadvantage for companies if they develop products and services that are not suitable for a wide range of users and then get many complaints and enquiries from them. That causes considerably more work, creates additional costs and is not good for the image."
(Klaus-Peter Wegge, Siemens Lab Leader)

1 How can Responsible Research and Innovation (RRI) enrich my innovation process?

In modern economies with rapid technological change as well as rapidly changing markets it is decisive for industrial companies to know about the expectations and needs of their customers and users of their products in order to be economically successful. Users are individuals who have specific knowledge about a context or the application of a product. They are experts of their own lives and thus experts in applying technologies that fit with their needs and daily routines. It has been an obvious conclusion from this insight that engaging societal actors in research and innovation activities might be beneficial to business, research, and the general public.

A key approach in addressing the involvement of users in innovation processes is related to the term and concept of **RESPONSIBLE RESEARCH AND INNOVATION (RRI)** that had been emerging in the early 2000s. RRI helps you developing new technologies, products, services and business models that are socially acceptable and desirable. The principal idea behind RRI is to leave the ivory tower not only to follow a broader communication strategy but specially to build up a common research and innovation strategy with the society. RRI follows the principle to integrate the perspectives of the natural environment and a society's viewpoint in innovation and research processes.

"RESPONSIBLE RESEARCH AND INNOVATION IS A DYNAMIC, ITERATIVE PROCESS IN WHICH ALL STAKEHOLDERS IN RESEARCH AND INNOVATION BECOME MUTUALLY RESPONSIVE AND SHARE RESPONSIBILITY FOR BOTH THE PROCESS AND THE OUTCOME" (RRI TOOLS)[1].

RRI is able to show fields of new perspectives and possibilities, ranging from the development of new products to sustainable concepts. Research, innovations and technology resulting from these open up new possibilities for the economy, society, and further every individual citizen, and are considered essential for improving modern life. For example, companies can obtain societal input for innovation strategies and thereby increase its societal relevance. Responsible Innovation also provides the opportunity to anticipate the impacts an innovation will have and work accordingly to benefit society and the environment. Furthermore, engagement can make policy and business decisions more transparent, comprehensible, and legitimate as well as it can improve the implementation and effectiveness of innovation policy.

[1] https://rri-tools.eu/en/business-and-industry

What does Responsible Research and Innovation mean?

RESPONSIBLE RESEARCH AND INNOVATION (RRI) is a key element of the European Research Policy, which seeks to foster uptake of RRI by stakeholders and institutions and to implement it as crosscutting theme. RRI is based on the following principles:

- **INCLUSIVE** - Involve diverse stakeholders (users, non-governmental organizations [NGOs], etc.) in research and innovation (R&I) processes.
- **ANTICIPATORY** - Researchers and innovators are asked to include new perspectives in R&I and agendas for risk assessment and management.
- **REFLEXIVE** - Researchers and innovators are asked to think about their own ethical assumptions and their role and responsibilities in public dialogue.
- **RESPONSIVE** - Flexibility and capacity to change R&I processes according to public values.

Public engagement is at the heart of all RRI principles aiming at embedding RRI across all areas of science and technology by mapping existing societal engagement with a focus on how and why citizens, stakeholders, civil society organizations (CSOs) and other actors can be engaged in research processes and highlighting how practices could be improved in the future. RRI also seeks to increase engagement practice by inspiring researchers, policy makers and other interested parties to connect science and society (cf. engage2020.eu).

Although RRI definitions (cf. box) slightly differ in the focal objective of RRI, they unanimously stress that RRI includes Responsible Innovation for and **WITH** society and that engaging societal actors is an indispensable part of Responsible Research and Innovation. Involvement can be pursued for both **DEMOCRATIC REASONS** (citizens having a say on needs, products and innovation agendas) and **INSTRUMENTAL REASONS** (more appropriate results by including societal knowledge, ideas and capacities; higher awareness of science and technology by citizens).

INFO-BOX: RRI definitions

RESPONSIBLE RESEARCH AND INNOVATION ***"SEEKS TO BETTER ALIGN THE PROCESS OF RESEARCH AND INNOVATION AND ITS OUTCOMES WITH THE VALUES, NEEDS, AND EXPECTATIONS OF EUROPEAN SOCIETY. THIS REQUIRES DIFFERENT ACTORS INCLUDING CITIZENS AND THIRD SECTOR ACTORS TO WORK TOGETHER TO COLLECTIVELY REFLECT ON AND DISCUSS THE QUESTION OF: WHAT DO WE WANT RESEARCH AND INNOVATION TO ACHIEVE? WHAT ARE PROMISING PATHS TO ACHIEVE THESE PURPOSES?".***[2]

RESPONSIBLE RESEARCH AND INNOVATION ***"IS A WAY OF THINKING AND DOING THAT GUIDES RESEARCH AND DEVELOPMENT IN ETHICALLY APPROPRIATE WAYS. IT ENSURES THAT SOCIAL AS WELL AS COMMERCIAL BENEFITS ARE HARNESSED; AND THAT ANY HARM TO THE SOCIAL AND PHYSICAL ENVIRONMENT IS OBVIATED OR MINIMISED".***[3]

RESPONSIBLE RESEARCH AND INNOVATION ***IS "A TRANSPARENT, INTERACTIVE PROCESS BY WHICH SOCIETAL ACTORS AND INNOVATORS BECOME MUTUALLY RESPONSIVE TO EACH OTHER WITH A VIEW TO THE (ETHICAL) ACCEPTABILITY, SUSTAINABILITY AND SOCIETAL DESIRABILITY OF THE INNOVATION PROCESS AND ITS MARKETABLE PRODUCTS".***[4]

[2] European Commission's notion of RRI in Horizon 2020; cf. PROSO 2018
[3] Wilford et al. 2016, p. 2
[4] von Schomberg 2013, p. 63

How to engage with Co-Creation and Design Thinking?

In order to unfold its potential in contributing to achieving more societal sound innovations, RRI needs to be built upon a strong practical component. The approach of **USER CO-CREATION** provides such a framework that helps in applying RRI in business contexts. Co-creation means that companies and users work together and that users have an active role in innovation processes. This requires a participatory understanding of creating innovations that differs clearly from the common industrial practice of designing for users in which users are only seen as customers and future buyers of a product. In principle, co-creation can be defined both on an overall and a business level:

BROAD APPROACH OF CO-CREATION: "(A)ny act of collective creativity, i.e. creativity that is shared by two or more people", with co-design being "collective creativity as it is applied across the whole span of a design process (…). Thus, co-design is a specific instance of co-creation".[5]

BUSINESS FOCUS OF CO-CREATION: "Co-creation is about *joint* creation of value by the company and the customer. It is not the firm trying to please the customer." It is about "(a)llowing the customer to co-construct the service experience to suit her context" and "(j)oint problem definition and solving".[6]

"HAVING AN INTERESTING ACTIVITY COMBINED WITH AN INTERESTING QUESTION, WAS ONE OF THE KEY FACTORS."
(CATHERINE FLICK, DMU LAB LEADER)

Key for any RRI-inspired co-creational innovation process is the availability of methods for creative problem-solving enabling the understanding of people's needs and matching those needs with possible new services or technologies. An outstanding approach for ***participatory*** practical and creative problem-solving is the **DESIGN THINKING METHOD**. Design Thinking can be defined as "a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what available business strategy can convert into customer value and market opportunity".[7] It is characterized by the facts that it "engages a person in opportunities to experiment, create and prototype models, gather feedback, and redesign",[8] and that this "creative process uses visual and tactile impressions more than other methods do (…). One strength of Design Thinking is that it helps to identify the needs that the user isn't even conscious of and is not able to articulate".[9]

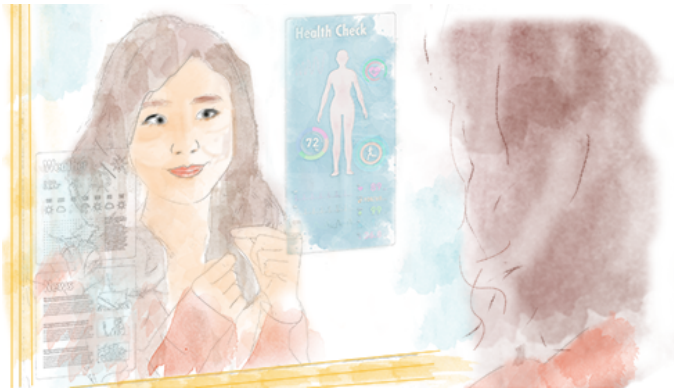
On the very practical level, there are a broad range of tools that incorporate design thinking elements and can be used in co-creation processes to facilitate a participatory engagement of both product and service developers and users. These tools serve the purposes of finding solutions, structuring information, collecting ideas, assessing impacts, fostering empathy, or learning about needs. In the Methods Chapter of this Toolkit, we have gathered a comprehensive repository of tools (**CO-CREATION TOOLBOX**) to inspire you setting up a co-creation event.

[5] Sanders/Stappers 2008
[6] Prahalad/Ramaswamy 2004
[7] Brown 2008
[8] Razzouk/Shute 2012
[9] Innovations Report 2015

2 How can I put co-creation into practice?

In order to enable concrete experiences in the field of user involvement, LIV_IN became very active together with the partners in the practical field. In six LIV_IN Labs in total 19 co-creation workshops in five European countries have been performed. These co-creation workshops engaged industry representatives, lead users and citizens at eye level. They jointly developed solutions that simultaneously satisfy user needs, tackle societal challenges and create new business opportunities in the innovation fields of Smart Health and Smart Living. In this chapter, we present our learnings on what to consider for a successful co-creation process. We present you the learnings and insights structured by the quality criteria for co-creation workshops. Aim of this chapter is to make this practical knowledge available.

"IT WAS SO MUCH MORE INVOLVEMENT THAN JUST RUNNING A FOCUS GROUP. THE WORKSHOP PROCESS FORMED MORE AN ACTIVE COMMUNITY, THAN IT WAS JUST INFORMATION FROM A RESEARCH PROJECT TO THE PARTICIPANTS."
(CATHERINE FLICK, DMU LAB LEADER)



What should I be clear about before I start?

Goal and expected result of the workshop

Don't do a workshop just to have done a workshop. Before planning specific workshop steps, it is important to have an understanding of the results you expect of the workshop and under which goal the workshop is running. A key question will help you to find a framing for the workshop and to structure all steps following to answer this key question. If you are sure about your topics and expectations, you can go ahead with the following issues.

It must be ensured that the outcomes of the process are feasible and integral in the innovation process. That is why you should carefully think about which possible outcomes of the process are suitable for the innovation process.

Objectives of user involvement

Involving citizens or lead users can have different objectives beginning with information to collecting ideas, opinion polling, advise-seeking and, finally, Co-Creation and Design Thinking. It is your task to decide for what purpose users should be engaged and what kind of users would suit best for this purpose. Think in terms of the goal, as this will determine the guiding question of the workshop and which group of people should be involved. User roles, facilitation methods, timelines etc. may differ significantly depending on if you just seek to gather ideas or pursue ambitious co-creation objectives. Avoid disappointment or over challenge by carefully matching workshop scope and user types.

Decision-making scope

What is the decision-making scope? Shall the users just be asked about their opinions or

recommendations, or will they be endowed with decision-making competencies? That must be very clear and well communicated before starting the process. Otherwise the risk of misleading or disappointing the users is high. In order to characterize users' decision-making competencies in the innovation process, you basically can differentiate between consultation and co-decision:

- Consultation: Exchange of views between company and users, but decision-making power exclusively lies with the company.
- Co-Decision: Users are actively involved and take part in decision-making processes.

Role of your staff

Probably it is not your daily business to have lay people beside you when developing new products or services. That means, if you are going to co-create with users you need to familiarize your staff with this project. Of course, there will be communication barriers or knowledge gaps between your staff and the users. So, you may need to provide your staff with convincing arguments both for being open for contributions of users and to engage in eye-level discussions with them. In order to enable a broad diffusion of user inputs into the company's innovation processes, all relevant departments of the company should be involved (e.g. corporate strategy, R&D, sales, marketing).

Timeline

The best idea is to adopt a "back casting approach" and plan the innovation process "from the end" and then set up the timeline. Invitations with provided information, for example, need some time to be prepared. Keep in mind that they include a registration dead line. That enables you to adjust the concepts or invite more participants if needed.

Costs

The total costs consist of direct cost (facilitation, food, beverages, space rent, technical equipment) and indirect costs (staff involved). The biggest effort is the personal interaction with the participants.

EXPERIENCES OF THE LAB LEADERS

Interact with participants in advance.

Explain the value and importance of any contribution and use of the results for motivation and to give an incentive for qualitative inputs by the participants.

A workshop should be at least three to four hours if you "not just" want to inform the participants, because most citizens have basic knowledge about the subject and very little about RRI. You need time for an information phase to explain all topics in lay language, after these phases make use of creative methods. Formalities also require a lot of valuable time. Be aware of this and try to solve as many formal aspects before and after the workshop.

INFO-BOX: Real-time exploring the LIV_IN Labs for improvements and learnings

The Labs as well as the individual workshops were accompanied by a process-accompanying evaluation. This was done not only to assess the quality of the workshops, but also to learn from the individual workshops for the following activities and to improve them continuously. The data collection was carried out according to a structured use of research methods. In addition to participant surveys, the workshops were observed by the research team, interviews were conducted with the organisers and those carrying out the workshops, and workshops were held for interim evaluation. In this way, the process could be continuously improved and adapted to the respective needs of the Labs.

What are important success factors?

Clear mandate

Because it is not up to the users or citizens to take the final decision for an innovation, they have to be given a clear mandate. In most innovation processes, the task will be to provide specific recommendations about ideas or products. Whoever decides about whether these recommendations will be accepted or denied, must be willing to deal with them and consider them in the decision-making process.

Seriousness

It may sound trivial, but this is one of the most crucial success factors: All people involved in the process must take the process serious. That means, for example, that the decision makers communicate when they are going to decide, how users' contributions will be taken into account and what kind of feedback will be given. It belongs to the key tasks of the facilitators to ensure that all participants are well informed about, and do respect, the seriousness of the co-creation process.

The participants' attitude is one of the most crucial key factors for success. Only if all parties participate with a curious, constructive, respectful and honest attitude, viable solutions can be found.

Fairness

It is important that each participant has the same chance to have her or his say. Therefore, the process must be designed in a way that everybody – irrespective of age, sex, income – can participate equally. It is the facilitator's task to ensure a proper implementation of this requirement.

"Persons with disabilities often have the impression that companies talk about them but not with them. Involving users in the design process makes them feel understood. Then the company can say: We have seriously considered the needs of persons with disabilities. This, of course, has advantages for the company in terms of business and reputation."
(Klaus-Peter Wegge, Siemens Lab Leader)

Transparency

It must be ensured that all participants are provided with clear and barrier-free information. Only this way it can be guaranteed that everybody can communicate and meet as equals. Beyond addressing immediate participants, RRI conductors may widen the scope of information recipients and give interested people in general the opportunity to inform themselves about the process and the innovation.

There are three stages of information: before the process, during the process and after the process. During the process visualization can help to keep everybody "on track". That can be done by writing important aspects down on a flipchart, on cards or writing a protocol via screen. In discussions the names of the participants are not given in the protocol. After the process a result protocol is given to the participants. It is also important that other parties can inform themselves.

Sustainable involvement

Sustainable involvement means that users are involved throughout the entire innovation process. That can happen either by single or accompanying involvement. It is important for both ways that all participants are informed about new developments and the outcome of the process.

Experiences of the Lab Leaders

Know your participants in advance.

Adapt information and methods to the knowledge and needs of participant groups.

Tell participants why you need them.

Facilitation should be stimulating but neutral.

Whom to involve when?

Early involvement

The right time to get users involved depends on the goal of the innovation process. Ideally, it starts at a very early stage, when developers can gain insights of the users' needs and preferences. That way both parties can learn from each other and are able to create mutual trust.

Recruitment and selection

Recruitment and selection of the participants are significantly important for the quality of the results as well as for the atmosphere of the process. You should carefully consider who is going to be affected by the results and who will be interested to contribute with ideas. The composition of participants depends highly on the purpose of the workshop. The deeper you dive into Co-Creation and Design Thinking, the more an involvement of expert knowledge beside the views and opinions of the participants or knowledge of the participants will be helpful. Successful co-creation processes depend crucially on involving participants that do represent the social groups most likely being affected by the outcomes of the innovation process. That can be more parties than just the users. It is not necessary to have all parties in the same workshop. But in advance you should consider who may have an interest which has to go along with a decision or who could be affected.

As a central point, the right recruitment strategy is a key factor for a successful workshop. Beside the reconsideration of how the participants were selected (self-recruitment, by direct communication etc.), a second key factor is if interested potential participants had the opportunity to be part of the process following principles of fairness.

"Recruitment is really successful using networks and multipliers."
(Catherine Flick, DMU Lab Leader)

About representativity

Representativity can basically be divided into qualitative and quantitative approaches. Quantitative approaches follow the idea of statistical representativity, whereas qualitative representativity aims at the representation of all relevant arguments.[10] Most participation processes follow the latter understanding: It is stated that comprehensive representativity in participation processes is achieved when the participants of a process represent all relevant social groups for a specific issue.[11] Thus, before deciding for the way of recruitment, you have to ask yourself who are the relevant actors, i.e. which groups you want to have represented in the workshops – depending by your topic.

Basically, it is agreed upon that representativity is necessary to consider different opinions in participatory processes, give legitimacy to the process and raise the efficiency of decision-making. Nevertheless, the necessity of representativity is strongly dependent by context: Especially concrete/specialized issues, as we covered in the LIV_IN Labs, allow for a more selective choice of participants – in contrast, for example, to issues with national scope.[12] In these cases of selective choice, representativity can be maintained by identifying all relevant target groups and then inviting participants' representative for those groups ("contextual representativity").

As described above, you should carefully consider who is going to be affected. Also, people who are known for being very sceptical might be involved to get a broad range of opinions when discussing an innovation.

How is the composition of the groups?

Depending of the purpose of the workshop, you can think about different compositions of participants. In an early stage of innovation processes, where the goal is to get better insight of the needs, it can be sufficient to conduct workshops with lead users or citizens, respectively. The deeper you dive into the co-creation process, the more an involvement of expert knowledge will be helpful. The role of the experts can vary, but keep in mind, that

[10] Alcántara et al. 2016
[11] Nanz/Fritsche 2012
[12] Alcántara et al. 2016

users or citizens are also experts on their own! They can provide a broad range of knowledge, from every day to empirical knowledge. When mixing the two kinds of participants, make sure they all share a common knowledge base by informing or educating the citizens. Bringing experts and "experts on their own" together can generate a mutual understanding, learning effects and ensure transparency. Although there might be an interest of some observers being in the workshop, make sure that there are not too many of them. A workshop with ten participants and six observers is not a safe environment. The participants would feel more under investigation than in a trusting and creative atmosphere.

For a productive atmosphere the group should not consist of more than 15 participants. If there are more, it is possible to build different groups and design the process with a switch between plenary and workgroup sessions. In general, there should not be more than two observers at all.

EXPERIENCES OF THE LAB LEADERS

Define selection criteria for the recruitment process.

If your goal allows it, mix diverse people.

People can always dropout, so be sure you have selected enough people to continue the workshop if that happens.

INFO-BOX: What are the challenges running RRI?

Given the contents depicted above, RRI entails a couple of challenges at least consisting of the items listed below:

- *CREATE RELEVANCE:* Citizens and users will perceive an engagement process as relevant if the questions and topics to be solved are connected to their own interests, concerns, goals and personal environment.
- *CREATE IMPACT:* Citizens and users will accept an invitation for engagement processes and be a constructive part of the process when they expect the process to have impact.
- *CREATE TRUST AND MUTUAL UNDERSTANDING:* Citizens and users will take an active role in the process when they trust the agendas and organizers of the engagement process and have positive views of other participants.
- *CREATE KNOWLEDGE AND SKILLS:* Citizens and users may refrain from engagement when they fear they lack the necessary knowledge and skills to engage in research or in research and innovation policy.
- *BUILD LEGITIMACY:* Citizens and users may refrain from engagement when they have doubts about the legitimacy of the engagement process or their own involvement.
- *PROVIDE AND SAVE RESOURCES:* Every engagement process needs a necessary amount of time and financial resources.

(Dreyer et al. 2018)

What practical considerations are important?

Continuity and flexilbility

An engagement process needs a continuous and flexible setup in which the workshops could react to the needs of their participants. Existing financial resources and time management should be considered over the process, too.

The invitation

There are three existing types of invitation: open invitation, focused invitation and random sampling. The kind of invitation depends on the goal of the process. If you have too many participants, you can draw a lot to choose. This must be communicated in the invitation. Very often trust is built by providing transparent information about "who is involved and how". Please consider that the character of an invitation between experts and lead users can vary. While for the experts the tone should be more formal, users could be deterred by a too sophisticated language. For them, mainly the benefits of their engagement should be focused.

The benifits for participants

It all starts with an important question: Why would participants take part in your workshop? You need to carefully consider what the benefits are for the participants and also what could the participants gain out of being part of the workshop and the process? You want something from your participants (time, knowledge) and that should be rewarded. The

incentives for the participants could be monetary, but do not have to be. You could also give incentives like a special insight, special knowledge or "just" a great experience. If participants see benefits in participating, they simply will take part. The concept and idea of Responsible Innovation could also be a good argument, if you find a way to inform the people in advance. The benefits are an important part of the recruitment strategy, which also includes good communication.

On the one hand, it allows ensuring the participation of people who are not intrinsically motivated, but provide a lot of knowledge you need (e.g. low-income groups). On the other hand, the incentives should not be that much, that the people are just participating with a subjective focus on the money. A rule of thumb can be 50 euros for a 3-hour workshop. Maybe there are even more incentives, like vouchers, a free breakfast/lunch/dinner, etc. Or if you have a specific target group, like single mothers, you can think about having a child care for the time running.

EXPERIENCES OF THE LAB LEADERS

Payment for participants is not the key element. Nonetheless, you should offer them an acceptable travel costs reimbursement.

The location should be accessible and easy to reach by public transport. It is helpful when participants are acquainted with the location.

Provide clear information how inputs and ideas will be processed and used.

The time frame

It takes time to achieve quality of a process and of results, especially, if the topics and the aims of the workshop are more elaborated. Be aware about the time you will need to inform the participants about the agenda, the concept of Responsible Innovation and the aims of the workshop, before you will be able to start with the working phase. This means for during the workshop: for good, tangible results, co-creation needs time.

A constructive culture of engagement needs to grow a while before it is enriched by an appreciative attitude and communication between all involved actors. Plan also time for after the workshop to reflect on the experience and results of each different part of the process as a learning tool.

Ethical requirements

It is important to have a concept for protecting personal data of the participants. If sensitive data will be collected and processed, justification must be included in a deliverable preceding relevant action. Therefore, every workshop needs to work out a plan regarding the following topics:

- The respective data protection regulation, e.g. General Data Protection Regulation (GDPR) of EU-projects.
- Conceptual design and facilitation guide of how to protect vulnerable people in the workshops and afterwards.
- Consent forms including all special needs and topics, whereby the participants need to sign their consent before any data will be collected.

"I ALWAYS TRY TO KEEP THE SCHEDULE, THIS IS IMPORTANT, IT MAKES THE WORKSHOP DYNAMIC. OF COURSE, THERE IS ALWAYS SOME DELAY, THIS UNDERLINES THE NEED TO HAVE ENOUGH BUFFER TIME. IN ONE OF OUR WORKSHOPS, FOR EXAMPLE, WE KNEW IT WAS DIFFICULT FOR THE PARTICIPANTS TO ARRIVE IN TIME, SO WE HAD A COFFEE AT THE BEGINNING, THINGS LIKE THAT."
(LYDIA MONTANDON, ATOS LAB LEADER)

Accessibility and inclusiveness

Accessibility refers not only to the location of the workshop, but also to any information and working materials. Make sure that these meet the requirements of the target group. These should be understandable, operable and perceivable.

If you want to do a workshop with vulnerable groups or people with special needs, there are even more requirements to consider.[13]

"If you really want to get some people from a specific group, you need to tailor your approach to their expectations and needs."
(Catherine Flick, DMU Lab Leader)

The location

The location of a workshop should have a nice and good atmosphere as well as should be easy to reach (public transport, barrier free etc.). Be sure you will have enough space and – even better – rooms, if you are planning small group work. The groups should not disturb each other by e.g. noise. Create a good atmosphere. If your workshop takes place online, create a pleasant atmosphere by minimising noise, for example.

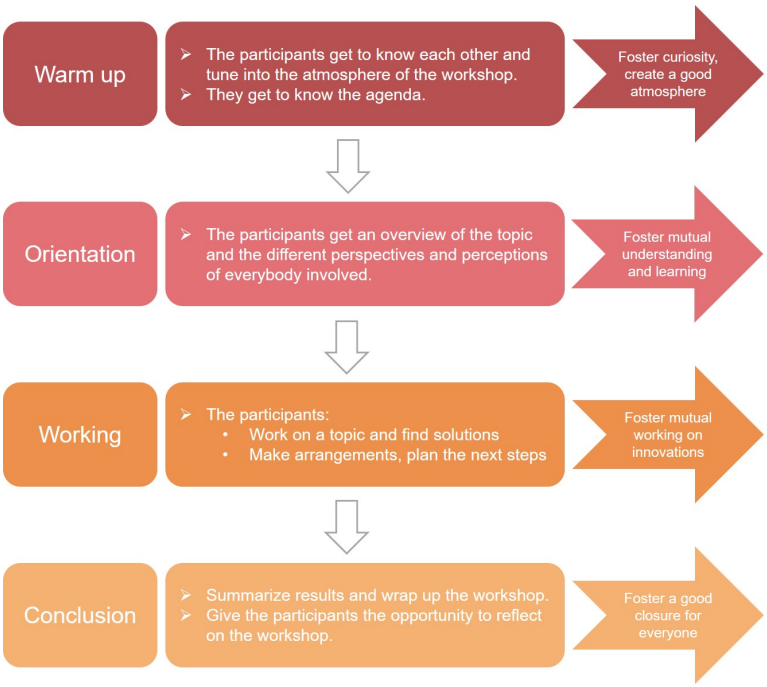
A few thoughts on catering

You may think catering is only a secondary aspect – if so, you are about to tap into a trap. Offering participants high-quality warm and soft drinks and tasty finger food or dishes is a kind sign of respect and helps you to raise participants' motivation. Therefor our urgent advice: Avoid keeping costs low by saving on catering!

What do I have to consider at the workshop itself?

Sructure of the workshop

There are roughly four phases of a workshop. The first one is the warm up, where the participants can tune into the topic, the agenda of the workshop and get to know each other.



Its purpose is to foster curiosity and create a good working atmosphere. Elements can be the welcoming words and an introduction of the participants. The second one is the orientation, where the topic is presented in depth with all its various aspects. The "real work" begins in the third phase working, where the participants dive into the topic and work on it. The last one is the conclusion. Here is time to reflect on the workshop and get to know the feedback of the participants.[14]

Competence building and new learning options in the engagement process

The quality of the process needs a well-defined relationship between organisers and participants as well as clear rules ensuring the quality of deliberative formats and methods.

[13] For more information, cf. LIV_IN-Handout Inclusive Innovation (forthcoming 2021).

[14] Illustration based on Straub et al. 2009

Following questions are important: Does the process provide participants with information material and important background information? Do participants have the opportunity to revise preliminary results and spontaneous ideas during the process? Do the participants have a chance to build up knowledge and competences while the process? Which methods and rules are the bases for acquiring information?

Facilitation

The facilitators play an important role when conducting any form of workshop: they help pave the way for a good discussion and a fair atmosphere in a group as well as they provide guidance and context to the audience. A trained facilitator can ask the right questions to provide a constructive and creative working flow and will ensure that everybody has the opportunity to participate. A facilitator can also help designing the workshop and ensures a target-oriented and effective process. At least, a facilitator should be neutral and should not have an own agenda. When you need a neutral and/or trained facilitator, it is a good solution to consult an external facilitator who is less involved in the work of the project. Further, every participant should be treated fairly and equally, regardless of their function or status.

"One of the reasons why the workshop went so well was that the facilitator already had so much experience with co-creation workshops and Design Thinking methods, especially online experiences. He motivated the participants, really listened to them and was very empathic while we as workshop leaders had the chance to observe and understand."
(Charlotte Erdsiek, ottobock Lab Leader)

EXPERIENCES OF THE LAB LEADERS

You need a professional moderator to be sure that all participants have a say during the co-creation session.

When you be part of the facilitation team, be sure you do not express your own opinion. You only give input for the discussion and elaborate on interesting insights.

Participants' opinions can widely differ, but all are equally important.

Avoid time pressure and any stress.

Adapt workshop phases dynamically to the work situation: give enough time for good results and abort when participants seem to be ready.

Consensual decision-making

If the scope includes decision-making there are different ways of how to achieve that. If a consensus cannot be achieved there is always the possibility of a "consensus on dissent". Showing the diversity of opinions and suggestions can be a helpful insight for decision-makers. It draws a picture which group of persons was for or against a specific topic. By that, individual issues can be discussed separately from the complex as a whole and individual solutions can be found. A simple vote is also possible and shows the distribution of opinions.

Management of expectations and feedback culture

The whole process needs to be based on clearly formulated objectives and an unambiguous mandate. At the beginning of the process, it also needs a transparent communication process which space of influence participants have on the engagement process. Both the freedom of design as well as the borders of the framework need to be mediated.

INFO-BOX: Engagement in Responsible Research and Innovation should...
...MAKE A DIFFERENCE.

...be tailored to the circumstances and objectives. Involve the right number and relevant people.

...be effectively embedded in the relevant policy or decision-making process.

...be reviewed and evaluated to improve practice.

...be transparent.

...be well communicated.

...keep those involved informed (feedback to participants).

...treat participants with respect.

...give priority to participants' discussions, needs and ideas while ensuring that interests do not dominate in RRI processes.

...build trusting working relationships.

...have integrity (ensuring real commitment, data and privacy protection.

And at the end?

Processing with results

It is not very satisfying for the participants if their work "disappears in the drawer". Participants are in the most cases strongly interested what will happen with the results of the workshop. Therefore, it must be very clear at the beginning how the results will be taken into account. Ensure results lead to something useful and keep the participants informed after the workshop. On this way you can avoid frustration of participants, bad image, losing trust. An engagement process needs indeed a close space in which the participants are able to discuss for example their feelings or expectations, but regarding the results a process has to be transparent. Even if it is decided that the results are not used right now, the participants should be informed with a proper justification. Also, patent rights must be clarified in advance.

EXPERIENCES OF THE LAB LEADERS

Keep participants informed, e.g. by providing them a few days after the workshop a report consisting of presentations and findings.

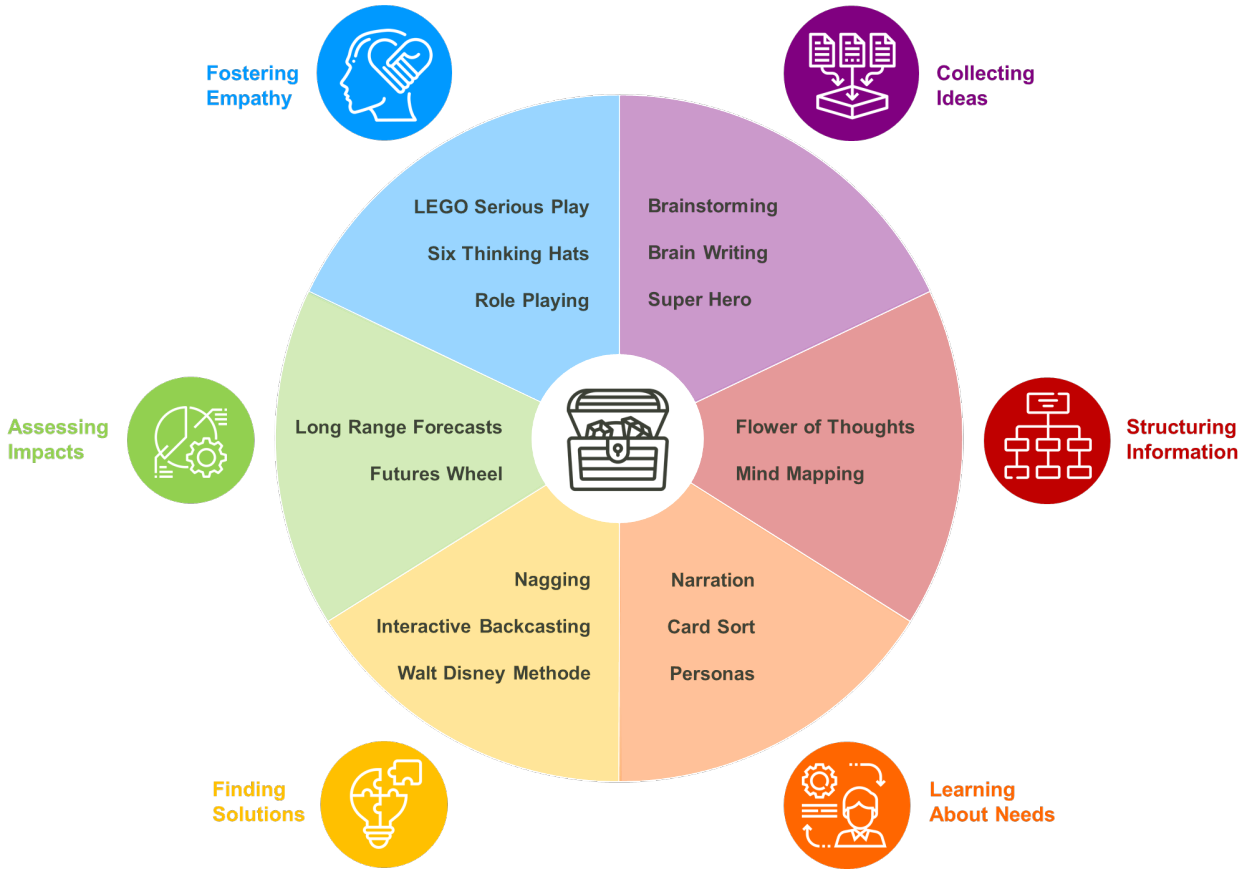
Be focused on taking up a potential idea for further and immediate work-out.

"YOU SHOULDN'T CONDUCT A WORKSHOP WITHOUT SHARING THE OUTCOME WITH THE PARTICIPANTS. COMMUNICATING RESULTS DEMONSTRATES THAT THEY HAD CONTRIBUTED IN A MOST INTERESTING WAY AND THAT THEIR INPUTS ARE CONSIDERED SERIOUSLY. THIS WILL MOTIVATE THEM TO CONTINUE TO PARTICIPATE."
(KLAUS-PETER WEGGE, SIEMENS LAB LEADER)

"WE TRIED TO IDENTIFY THE ARGUMENTS TO HIGHLIGHT WHAT IS IN FOR OUR PARTICIPANTS. MAYBE IT WAS NOT REALLY THE OUTPUT, BUT IT'S THE EXPERIENCE OF THE WORKSHOP. THEY LEARNED TECHNIQUES, THEY LEARNED TO COLLABORATE, THEY LEARNED ABOUT SMART HEALTH, THINGS LIKE THAT. WE SHOWED THEM THE ADVANTAGES OF THINKING OUT OF THE BOX. AND THEY APPRECIATED TO HAVE THOSE HINTS BECAUSE IT'S USEFUL FOR THEIR LIVES."
(LYDIA MONTANDON, ATOS LAB LEADER)

3 What methods to use? The Co-Creation Toolbox

In the field of Design Thinking and Co-creation, there are many methods and tools that can be an important enrichment of your Responsible Innovation process. Especially when involving citizens and lead users, methods that promote creativity and are helping to build a vision should be used in such a process. The graphic gives an insight into the multitude of great tools and methods that can be used for such a process and on the following pages you can find short descriptions of selected methods. If you want to get more detailed information about a single process, please have a look at the LIV_IN Implementation Plan.[15]



[15] Konrad et al. 2019

Fostering Empathy

LEGO Serious Play

Participants answer questions related to an ongoing project, task or strategy by building symbolic and metaphorical models of their insights in LEGO bricks and present these to each other. Developed as a sophisticated means for groups to share ideas, assumptions and understandings; to engage in dialogue and to work out solutions to real problems.[16]

Six Thinking Hats

In a group of six discussants, each tries to argue via a specific way of thinking, symbolized by a coloured hat he/she wears. The basic directions are: 1) facts 2) emotions 3) judgement/caution 4) logic 5) creativity and 6) control. Each role should have been taken by each participant at least once. The method makes it possible to judge or improve ideas from different perspectives. Controversial ideas can be expressed without the danger of personal insults because of the role game character. Also, the characters' speaking can be ordered or excluded strategically to aim at a specific goal.[17]

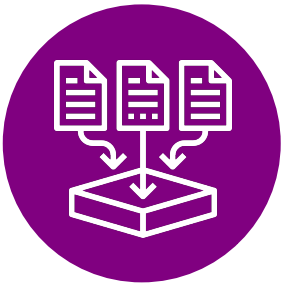
Role Playing

Workshop participants perform a hypothetical service experience in a role play. The implied condition is thinking that the service really exists and then building a journey through some of its functionalities. Especially when acting the same scene several times, using different character profiles ("personas"), the method helps to understand how different users would possibly act in the same situation and which functionalities of the product are needed/missing.[18]

[16] White Paper on LEGO®SERIOUS PLAY®, https://www.researchgate.net/publication/262636559_White_Paper_on_LEGO_R_SERIOUS_PLAY_A_state_of_the_art_of_its_applications_in_Europe/link/00b7d53849e27c9e0f000000/download

[17] https://xn--kreativittstechniken-jzb.info/die-6-denkhute-von-de-bono/

[18] Service Design Tools, http://www.servicedesigntools.org/tools/42



Collecting Ideas

(Structured) Brainstorming

Collecting a quantity of (diverse) ideas, following a structured, turn-based framework. Especially suitable for the beginning of a creative problem-solving process because of the vast number of ideas collected. Prior to further possible steps like scenario analyses, problem solving, decision-making or planning. Less suitable for highly specific topics, when no specialized knowledge is available. Ideas mentioned in the beginning may influence the ongoing process and hamper creativity. A minimum level of mutual trust between the participants is required for an open exchange.[19]

Super Hero

Participants make an inventory of famous super heroes and deliberately choose one. They explore his skills and special talents, then empathize with him with the underlying question: "How would I, as super hero xy, solve this problem?" Method to gather probably extremely unconventional approaches. These can initiate creative thinking processes into new directions.[20]

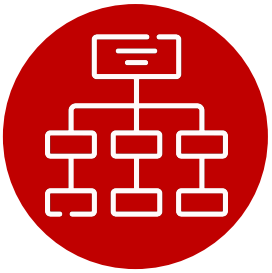
Brain Writing

Similar to the (structured) brainstorming, but the collection of ideas happens in written form and individually. Papers are then switched and new ideas added. Varieties of brain writing are the "collective notebook" or "6-3-5-method", for example. Advantage towards the (oral) brainstorming may be that participants are not influenced by each other. Also, the thinking process is not disturbed because of the silent work. Like all brainstorming tools, less suitable for highly specific topics when no specialized knowledge is available.[21]

[19] https://xn--kreativittstechniken-jzb.info/brainstorming/; King Baudouin Foundation: Participatory Methods Toolkit, https://www.kbs-frb.be

[20] DesignThinkersAcademy continuing education material, https://www.designthinkersacademy.co.uk

[21] DesignThinkersAcademy continuing education material, https://www.designthinkersacademy.co.uk



Structuring Information

Mind-Mapping

Collecting key concepts and its relations to a previously defined topic by a drawn "tree" or "map" with the core issue in the center. Structuring information and knowledge, giving an overview and possibly generating a common knowledge base over a complex topic. High level of complexity reduction. Mind maps capture individual/subjective impressions that can differ much.[22]

Flower of Thoughts

Similar to mind-mapping, however the "flower of thoughts" is usually created in group work. Each association becomes a "petal" of the flower. Some of the more extraordinary petals are chosen and participants shall make an effort to show how the petal/word can be fit with a solution to the question. Structuring information and knowledge, giving an overview, generating a common knowledge base and generating first ideas about possible solution ways.[23]

[22] King Baudouin Foundation: Participatory Methods Toolkit, https://www.kbs-frb.be
[23] DesignThinkersAcademy continuing education material, https://www.designthinkersacademy.co.uk

Learning About Needs

Narration

When executing a specific task related to a product, participants are asked to describe aloud what they are thinking. This method generates useful insights into lead users' motivations, concerns, perceptions and reasoning.[24]

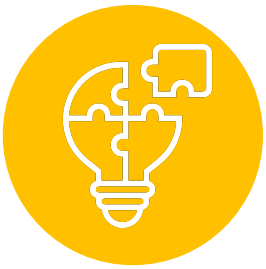
Card Sort

Lead users name possible features, functions or design attributes on separate cards and are asked to organize them spatially in a way that makes sense to them. The lead users' "mental models" of the device/system are revealed, along with expectations and priorities about the intended functions.[25]

Personas

Participants create several character profiles ("personas") of different types of users who are addressed by the specific product. The creation includes textual description as well as images. Tool for the creation of a shared knowledge about the service users inside the workshop group. The profiles offer a clear and visible picture of the different kind of users that are the centre of development activities. Furthermore, the profiles can be used for other workshop methods like role plays.[26]

[24] IDEO Method Cards, http://www.gillianhayes.com/Inf231F12/wp-content/uploads/2012/10/IDEOMethodCards.pdf
[25] IDEO Method Cards, http://www.gillianhayes.com/Inf231F12/wp-content/uploads/2012/10/IDEOMethodCards.pdf
[26] Service Design Tools, http://www.servicedesigntools.org/tools/6



Finding Solutions

Nagging

Group is motivated to complain about existing products and solutions, then to present solutions for the criticized characteristics in a next step. Suitable for learning about the most urging weaknesses of the product from users' perspective.[27]

Interactive Backcasting

The lead users choose one or several future images for their analysis. In "working backwards" to the present situation, they interactively explore which interventions are needed to realize this future, which opportunities to be taken, obstacles to be overcome etc. Suitable method to shape the diversity between future and present, but also between the different views and perceptions of lead users.[28]

Wald Disney Method

An issue is discussed out of three perspectives consecutively: Single participants/teams of participants take the role of the "dreamer" (1), the "realist" (2) and the "critic" (3). Each participant should have taken one role at least for one time to allow a change of perspectives. Through the specific order of "speakers", the main purpose of the Walt Disney Method is to generate ideas that are ambitious but viable as well.[29]

[27] http://www.lead-innovation.com/blog/ablauf-lead-user-methode
[28] King Baudouin Foundation: Participatory Methods Toolkit, https://www.kbs-frb.be
[29] https://xn--kreativittstechniken-jzb.info/walt-disney-methode/

Assessing Impacts

Future Wheel

Actually, a way of structured brainstorming: Name of a trend/event is written in the middle of a paper and small spokes are drawn from the centre. Primary impacts are written at the end of each spoke. Secondary impacts of each primary impact form a second ring of the wheel. Suitable for collecting and visualizing the range of possible impacts following a future development. Like all brainstorming tools, less suitable for highly specific topics when no specialized knowledge is available.[30]

Long Range Forecasts

Participants are asked to develop scenarios that describe how social/technological trends might influence people's behavior and the use of a specific product, service or environment. Predictions and reflections about future changes in behavior, industry or technology can help participants to understand the implication of design decisions during the development process.[31]

[30] King Baudouin Foundation: Participatory Methods Toolkit, https://www.kbs-frb.be
[31] King Baudouin Foundation: Participatory Methods Toolkit, https://www.kbs-frb.be

Checklist for running a RRI workshop

A successful workshop is based on good preparation. This checklist will help you keep the most important points in mind and set up a successful process. On the day of the workshop itself, good facilitation and a motivated organisational team can help to deal with minor changes and unforeseen changes.

Setting up the Workshop

- The purpose of the workshop is clear
- We have an exact timeline
- We know who we want to involve in the workshop
- Our invitation strategy is clear
- A reward for the participants is set up
- A participant information sheet is written
- The decision-making scope is defined
- The expected results are clear and we know what to do with them afterwards
- The workshop plan is developed, taking into consideration:

    1. Audience
    2. Workshop objectives
    3. Constraints and strategy for overcoming constraints
    4. Materials needed
    5. Consent procedures

At least two months before the workshop

- Invitations of participants with all information they require are sent
- Facilitator is found
- The venue and catering are booked

Two weeks before the workshop

- Dates, times, travel information, etc. with the participants are confirmed
- Dates with the venue are confirmed
- The materials for the workshop are assorted
- The workshop is communicated with the facilitator

{ THE MORE YOU PREPARE IN ADVANCE,
THE MORE LIKELY IS A SUCCESSFUL WORKSHOP. }

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Useful Links

- *Co-designing Digital Interventions and Technology Projects with Civil Society:* https://rri-tools.eu/en/-/co-designing-digital-interventions-and-technology-projects-with-civil-society
- *Expert Network on Living Innovation:* https://www.living-innovation.net/network/discussions
- *Guidance How to complete your ethics self-assessment (EU Horizon 2020):* https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/ethics/h2020_hi_ethics-self-assess_en.pdf
- *How to make good group decisions. Simple tips to help organisations become more collectively intelligent:* https://rri-tools.eu/en/-/how-to-make-good-group-decisions-simple-tips-to-help-organisations-become-more-collectively-intelligent
- *RRI-Tools Landing Page for Business and Industry:* https://rri-tools.eu/en/business-and-industry

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