D1.2 Social Lab Methodology Manual

Dissemination level	Public
Document type	R (Document)
Version	2.0
Delivery date	December 21st, 2018

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement #788047. This result only reflects the author's view and the EU is not responsible for any use that may be made of the information it contains.

Document details

Project number	788047
Project acronym	RiConfigure
Title of deliverable	Social Lab Methodology Manual
Due date of deliverable	October 31st, 2018
Actual delivery date	December 21st 2018
Work package	1
Author(s)	Eugen Popa, Vincent Blok, Renate Wesselink
Reviewer(s)	Ditte Degnbøl
Approved by	Coordinator
Dissemination level	Public
Document type	R
Total number of pages	55

Partners

- The Danish Board of Technology Foundation (DBT) - Denmark
- Institute for Advanced Studies (IHS) – Austria
- Wageningen University (WU) – Netherlands
- The Fraunhofer Society – Germany
- Association for the Advancement of the Sciences (ACAC) – Columbia
- The Adriano Olivetti Foundation (FAO) – Italy
- Corvinus University of Budapest (BCE) – Hungary
- Co-Lab Roskilde (CORO) – Denmark
- The Ludwig Boltzmann Society (LBG) – Austria
- Institute for Sustainable Process Technology (ISPT) – Netherlands
- University of Pompeu Fabra (UPF) – Spain

Abstract

This document provides information about the designing and implementing social labs in the context of collaborations between four types of stakeholders: science, industry, citizens and government. The term 'social lab' stands for a set of activities by which stakeholders tackle together a complex problem and learn from how others have struggled with similar problems. The methodology manual is a guiding document for social lab implementation in four work packages of the RiConfigure project (WP2, WP3, WP4 and WP5). The manual defines the roles and responsibilities of participants in the social labs. It provides an overall timeline to be followed by all of the four social labs, including phases of iteration of idea development and experimentation in relation to a number of quadruple helix cases, that take part in the social labs. It also provides an overview of toolboxes that may be used to inspire case interventions.

Social Labs for Quadruple Helix Collaborations

A manual for designing and implementing social labs in collaborations between industry, academia, policy and citizens

Wageningen University and Research
Hollandseweg 1 (Leeuwenborch Building)
6706 KN, Wageningen
The Netherlands

Social labs for quadruple helix collaborations: A manual for designing and implementing social labs in collaborations between industry, academia, policy and citizens/ Popa, Eugen; Blok, Vincent; Wesselink, Renate

This project has received funding from the European Union's Horizon 2020 programme for research and innovation under grant agreement no. 788047.

The experimenting society will be an active society, preferring exploratory innovation to inaction. Faced with a choice between innovating a new program or com-missioning a thorough study of the problem as a prelude to action, the bias will be toward innovating. It will be committed to action research, to action as research rather than research as postponement of action.

Donald T. Campbell, *The experimenting society* (1998)

How to use this manual

This book is a manual for designing and implementing social labs. Social labs are long-term actions in which individuals from different sectors of society work together in order to tackle a complex problem and draw lessons from their struggles with this problem. This manual will help you understand what social labs are and how they can be used in the context of collaboration projects between four sectors of society: science, industry, citizens and government. These four-sector collaborations are also known as quadruple helix (or 'QH') collaborations.

We strongly encourage you to discuss this document with others in your organization. There are several decisions that we leave to you and your organization. This manual will not answer all the possible questions you might want to ask regarding social labs. Feel free to take ownership!

If you have any questions, you can contact Eugen Popa by e-mail or phone using the details below.

Eugen Popa
Tel: +31 634030427
E-mail: eugen.popa@wur.nl

We hope you enjoy organizing the social labs and we are looking forward to hear your experiences with this method.

Wageningen, October 2018
Eugen Popa
Renate Wesselink
Vincent Blok

Table of Contents

1. Social lab basics 8
1.1 What is a social lab? 8
1.2 Main components 9
1.3 Roles 10

2. What happens in a social lab 11
2.1 From ideas to practice and back 11
2.2 The four social lab processes 12
2.2.1 Case meetings 12
2.2.2 Panel meetings 12
2.2.3 Implementation 12
2.2.4 Research 12

3. Case meetings 14
3.1 Describe 14
3.1.1 Stakeholder mapping 14
3.1.2 Storytelling 19
3.2 Evaluate 22
3.2.1 Taking the normative stance 22
3.2.2 The evaluation game 24
3.3 Refine 30
3.3.1 A visioning session 31

4. Panel meetings 35
4.1 Panel meetings: aim and groups 35
4.2 The inter-stakeholder learning session 36
4.3 Example of a panel meeting 38

5. Implementation 43

6. Research 44
6.1. Data regarding the cases 44
6.2 Data regarding the SL method 46
6.2 Data regarding the experimentation 47

References 48
Appendix 49

1. Social lab basics

In this chapter, we define social labs and explain some of their basic components. We then explain the relationships between social labs and quadruple helix collaborations. At the end of this chapter you will find an example of a QH collaboration in which you can test your intuitions regarding the social labs.

1.1 What is a social lab?

There is no theory-neutral way of saying what a social lab is. The term 'social lab' has become popular in both academic and non-academic circles and has acquired different meanings.[1] A social lab is, generally speaking, a *method for solving complex problems*. Before clarifying the method, let us say a few words about complex problems.

Complex problems are problems that are not clearly defined and whose solution does not fall within the responsibility and expertise of any single organization. Consider a relatively simple problem: the building of a house. There is a clear point of dissatisfaction (lack of house) and a clear methodology to approach it (external construction, internal construction, finishing). There might be hurdles along the way, and these hurdles might even need to be solved in collaboration with other stakeholders (e.g., the municipality), but the problem is relatively straightforward. Now compare this with one of the best known complex problems of our time: climate change. Who needs to solve climate change? What is climate change? Is climate change even a problem? These are open questions and their openness makes climate change a complex problem. Other examples of complex problems are: efficient transportation, sustainable food production, terrorism, financial crises and child abuse.

A social lab is thus a method for solving this type of problems. While methodologies for designing and implementing social labs differ, the following *core features* can be identified:

- Inclusion: stakeholders with different worldviews collaborate in order to understand and solve the problem
- Experimentation: the resulting course of action is first tested in a small environment with before scaling up the idea and applying it in the real world. This is sometimes referred to as 'prototyping'.
- Reflection: there is increased attention given to the problem-solving process, e.g., learning, trust-building, sharing, communicating.

[1] In fact, to complicate things further, social labs have a semantic relationships with 'policy labs' (Huitema, Jordan, Munaretto, & Hildén, 2018; McFadgen & Huitema, 2018), 'living labs' (Almirall, & Wareham, 2011) and 'collaboratory' (Muff, 2014).

A social laboratory is typically a long-term endeavor (six months to several years) in which individuals from different sectors of society work together in order to tackle shared problems and draw lessons from their struggles.

1.2 Main components

Let us now take a look at the components that make up a social lab. Four basic components can be identified in a social lab. These are: one or more complex problems, the stakeholders involved in the solving of that problem, the experimentation space, and the learning space.

Complex problem: social labs are typically deployed to solve complex problems that need to be approached systemically as opposed to locally. Solving those problems involves re-thinking (as opposed to fine-tuning) standard approaches.

A set of stakeholders: individuals that affect or are affected by the situation under investigation. The stakeholders need to be prepared to intervene (or aid others in intervening) in the reality under investigation and thus to trigger a transition process towards a new reality.

A space for experimentation and play: an agreed-upon environment in which new ideas can be tested this can be anything from a department ready to engage in a new business model to a governmental institution ready to experiment with a new idea.

A space for learning: this is a space where the stakeholder come together and reflect upon their experimental and gaming activities. The stakeholders' goal of this reflection is to better understand the complex problem and be better prepared for tackling it.

Please note! While these components can always be identified, it is not the case that they need to be *set* once and for all. Quite the contrary. In a social lab, the problem, the stakeholders that need to participate in order to solve the problem and the approach taken by these stakeholders are constantly defined in an agile, iterative manner (Timmermans et al., 2018).

1.3 Roles

A social lab results from the constant collaboration of different stakeholders. That does not mean that each individual take part in *all* the processes and share *all* their duties with others. Building on past work of Timmermans et al (forthcoming), we will identify four social lab roles.

Main-case owners: these are the participants in a project that want to implement social lab methodology within their process. The main case owner is expected to implement an intervention that is discussed with other partners during the design process. Ideally, main-case owners that participate in the social lab come from all four of the main 'quadruple helix' groups involved in that case: policy-makers, scientists, citizens and industry players.

Mirror-case owners: these are the stakeholders that are affected by (and thus have an interest in solving) the complex problem but that are not expected to implement the intervention that is discussed during the design process. A mirror-case is thus similar to the main case but its owners are not expected to (or supported in) the implementation of the intervention.

Researchers have a cognitive stake in the context under discussion. They participate in the social lab because they want to understand the phenomenon in question and they want to draw more general lessons that can be applied beyond that case. They can contribute with knowledge of communication models (discussion formats) and knowledge of the field under discussion (governance, industry, education, ethics etc.)

Facilitators. Social lab facilitators deal with the organizational side of the social lab. The managers are the ones making decisions regarding the organization; the facilitators are the ones engaging in a discussion with case owners (main & mirror case) during meetings.

2. What happens in a social lab

In this chapter, we investigate social labs more closely by looking at the processes that take place in a social lab. Four such processes will be distinguished: case meetings, panel meetings, implementation, and research.

2.1 From ideas to practice and back

A social lab is often described as being *iterative* – it consists of smaller processes that are repeated in a cyclical fashion. In our approach, we distinguish four main processes: case meetings, panel meetings, implementation and research. In Figure 1 below, each of these four processes is represented by a ribbon: research is blue, case meetings are yellow, panel meetings are red, implementation is green.

As you notice, each of the four contains one or more tasks. The order of these tasks is given by the numbers. The cyclical motions between is also suggested by the arrows. Before describing each process, let us therefore clarify what we mean by 'intervention'. An intervention is an attempt to innovate within a certain organization: a business, a consortium or, more generally, within a socio-political network. An intervention is a sustained attempt to solve a problem perceived by some or all of those present in that organization. [2]

These four processes are in fact an adaptation of a very old idea that dates back to the American political scientists Harold Lasswell and the early days of post-WWII political studies. According to this view, policy making takes the form of a *cycle.* The policy-making cycle starts with the examination of the problem, then proceeds to some form of intervention, then to the evaluation of that intervention and back to the original problem in its now-transformed version (Janssen & Helbig, 2016, p. 3).

A terminological note. We employ the term 'social lab' to refer to the four main processes repeated a number of times. Some might refer to one stakeholder meeting as being 'a social lab'. While grammatically correct, these uses are short-hand expressions and can be confusing. Strictly speaking, thus, the term social lab refers to the entire four-step process. If we want to refer to one instantiation of the four processes, we speak of a *social-lab cycle* (or SL cycle) as in the title of the figure above. If we want to refer to each process, we can speak of a *social-lab process* (or SL process). Besides social-lab cycles and social-lab processes, it is generally advised to avoid as much as possible adding the label 'social-lab' to everything. We don't want

[2] Within the field of transition studies, scholars investigate various aspects of these transitions such as the drivers and barriers for the transition process and the parties' approach to technological risks (Brauch, Oswald, Grin, & Scheffran, 2016).

to have a social-lab exercise in which social-lab participants carry out social-lab activities over some social-lab coffee.

2.2 The four social lab processes

2.2.1 Case meetings

Case meetings take place with the main case and involve a diagnostic process on the QH collaboration. There are three types of tasks that are covered in case meetings: *Describe, Evaluate* and *Refine.* In the Describe task, participants analyse their state of affairs and obtain a better grip on the reality of their QH collaborations. In the Evaluate task, participants take a normative look at their past and try to distil the main issues or problems. In the Refine task, which takes place after a panel meeting, participants create a scenario that constitutes the starting point of the experimentation process.

2.2.2 Panel meetings

Panel meetings are meetings between different than case meetings because they involve stakeholders from different QH collaborations. The organizers must aim for large diversity and span of QH instances. In panel meetings, participants share their experiences and the lessons they have learned during the case meetings. Due to the setting of the meetings, participants also have the opportunity to obtain feedback on the scenarios they develop from actors that have dealt with similar problems in the past. If case meetings are intra-case interactions between the consortium partners in a case, panel meetings are inter-case interactions between actors working on similar cases.

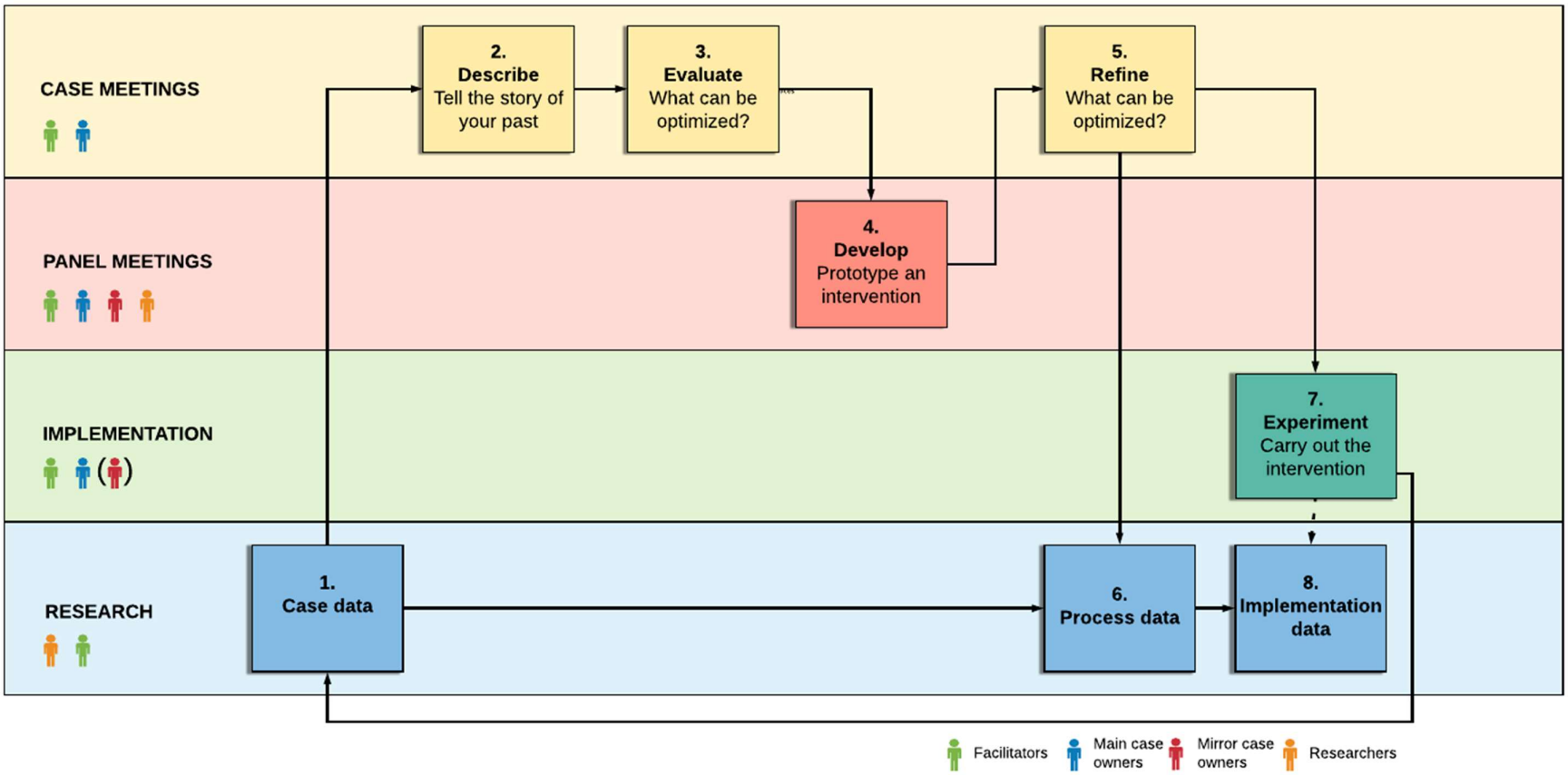
2.2.3 Implementation

According to the social lab philosophy (Hassan, 2014, pp. 78-90), the implementation process should be seen as an experimentation process. Implementing is not so much following a highly detailed plan but rather following an idea (or a prototype) wherever it takes. Of course, planning is important, but it is piecemeal: it is short term, highly flexible, dynamic planning. During experimentation, main case owners (and possibly mirror case owners) attempt something

2.2.4 Research

Of course, the main goal of the SL is to produce change. It is thus focused on engaging and supporting stakeholders in their attempt to improve their collaboration. Nevertheless, we also employ SL in order to obtain a better understanding of the QH reality we are facing. To this end, we gather data. There are three types of data that we are interested in: *Case Data, Process Data,* and *Implementation data.* The first one has to do with the specific cases that are taken as main or mirror cases: their timeline, their problems, the actors involved etc. The second one has to do with the SL process itself: the participants' experiences regarding the tasks designed here. The third one has to do with the implementation process within the main case.

Figure 1. The social lab cycle



3. Case meetings

Case meetings are interactions between the stakeholders participating in only one case. The three goals of case meetings is to obtain a better understanding of the current state of affairs in the case, to identify a set of problems and to develop prototypes for experimentation. Three tasks that cover these goals respectively are: *Describe, Evaluate* and *Refine.* As can be observed in Figure 1, the first two tasks take place before the panel meeting while the third one takes place after the panel meeting.

3.1 Describe

The first task of the Design process is referred to as "Describe". The aim of the Describe task is to have stakeholders share their visions of the situation/problem at hand. The describe task will consist of two activities: stakeholder mapping and storytelling.

Both stakeholder mapping and storytelling are highly interactive, engaging ways of having stakeholders express their views while working on a common product. The product built during stakeholder mapping is a stakeholder map; the product built during storytelling is a timeline.

Since we divide the descriptive and the evaluative activities, we will explicitly announce the challenge that the parties *describe* their experience with QH collaborations *and not evaluate it*. The participants ask questions such as: 'What?' 'When?' 'How?' 'Who?' and try to avoid evaluative questions such as 'Was that effective?' 'Did you like that?' 'How would you do it otherwise?'

3.1.1 Stakeholder mapping

> ***Basic idea****: Participants create a common map (spatial representation) of the stakeholders that affect or are affected by a case.*
> ***Aims****: To help participants understand the system in which they operate, create an initial practice environment for further activities, obtain a birds-eye-view of the relationships between stakeholders*

We will begin by identifying stakeholders that are relevant to each project. This will be done by using a so-called "stakeholder map" (Elias, Cavana, & Jackson, 2002; Reed et al., 2009). A stakeholder map is a systematic representation of the stakeholders that are involved in a certain process or organization. There are many ways in which you can create stakeholder

maps because there are many ways to categorize stakeholders: degree of involvement, expertise, power, interest etc. Also, there are many functions of a stakeholder map: a map can be used to identify stakeholders, to categorize them, and to analyze their relationships (Reed et al., 2009, p. 1936).

In our project we use a stakeholder mapping technique based on a degree-of-involvement scale. The degree of involvement can be measured using a circle: the closer stakeholders are to the circle, the more involved they are in the project (i.e., the more responsibilities they have). One such procedure was developed in the TRANSITION project using the diagram in Figure 2 below.[3] This particular map divides stakeholders according to their influence on the project, from outsiders (little or no influence), to insiders (providers of comments, providers of resource, advisors, and managers). Note that the outsiders are not just any other stakeholder *out there,* but stakeholders that are affected by the project even though they have little or no influence on it.

Observe and comment: On the first layer, we place stakeholders that are the least involved in the QH project. These are organizations or individuals that are only present by virtue of the fact that they keep an eye on the decision-making processes within the project. Stakeholders that are typically placed within this layer are interest groups, media, and citizens

Provide: On the second layer, we place stakeholders that are involved in the project in that they have access to (and sometimes property over) resources that the project needs in order to succeed. These are organizations or individuals that are not present in the project as such, but that deliver goods and services on which the projects is based. Stakeholders that are typically placed within this layer are: suppliers of goods and services, freelancers, NGOs, other market players, citizens, volunteers

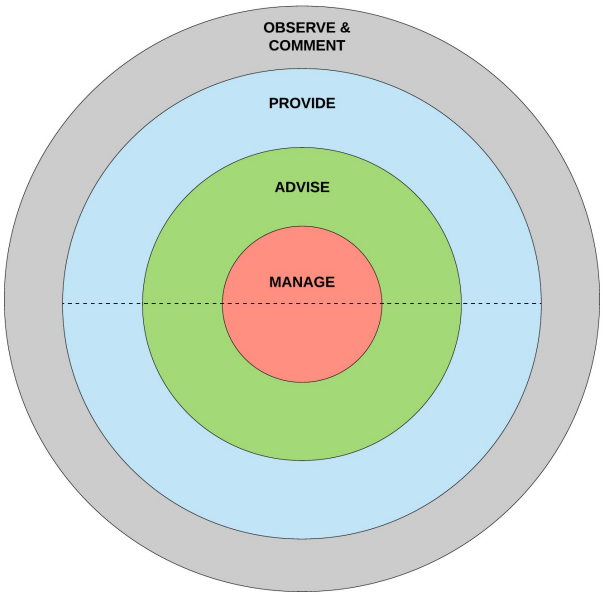
Advise: On this third layer, we place stakeholders that are involved in the decision-making process of the project even though they do not directly influence that process. They are involved because they offer advice to the managers regarding the decision-making process . This advice can vary in its force: it can be unsolicited, non-binding advice or solicited, binding advice. Stakeholders that are typically placed within this layer are: consultants, political supporters, governmental organizations that are not directly involved in the management process, NGOs, citizens.

Manage: This constitutes the core stakeholder group within a project. These are organizations that are directly involved in a project. Depending on the distribution of power within the QH, any organization can have managerial functions. Stakeholders

[3] Adapted from the Stakeholder Map tool availabe within the EC project TRANSITION at http://transitionproject.eu/the-social-innovation-journey-toolbox-is-now-available-online/

that are typically placed within this group are stakeholders that are contractually bound to take responsibility for a certain set of decisions within a project.

Figure 2. Stakeholder map based on degree of involvement



When inserting the name of a stakeholder in the figure, it is recommended, but not necessary, that to work with *a second measurement* aside from the stakeholders' involvement. In this way, comparisons can be made and discrepancies can be observed.

Say you want to represent not only the stakeholders' involvement but also the degree to which they are positively or negatively affected by a project's success. The positive-negative spectrum can be represented in some other fashion that is compatible with insiders-outsiders spectrum. For example, the spectrum of impact (positive to negative) can be represented by shades of gray: the closer to black, the more negative the impact. If you use this second unit of measurement, then you might observe that, e.g., those that are affected negatively by a project are further outwards than those that are affected positively.

Sometimes it is useful for participants to categorize a group according to the roles that the group members fulfil. Based on the work of Arnkil, Järvensivu, Koski, and Piirainen (2010), the following roles can be distinguished:

Proponents	Opponent
Enabler	Competitor
Decision maker	Critic
Supporter	Distractor
Utilizer	Fault-finder
Developer	Delayer
Marketer	Joker
Evaluator	Ambiguous ghost

Ask participants what those words can mean. Ask them whether they can think of an example from the present project in which they can identify individuals that fit the role. Thus:

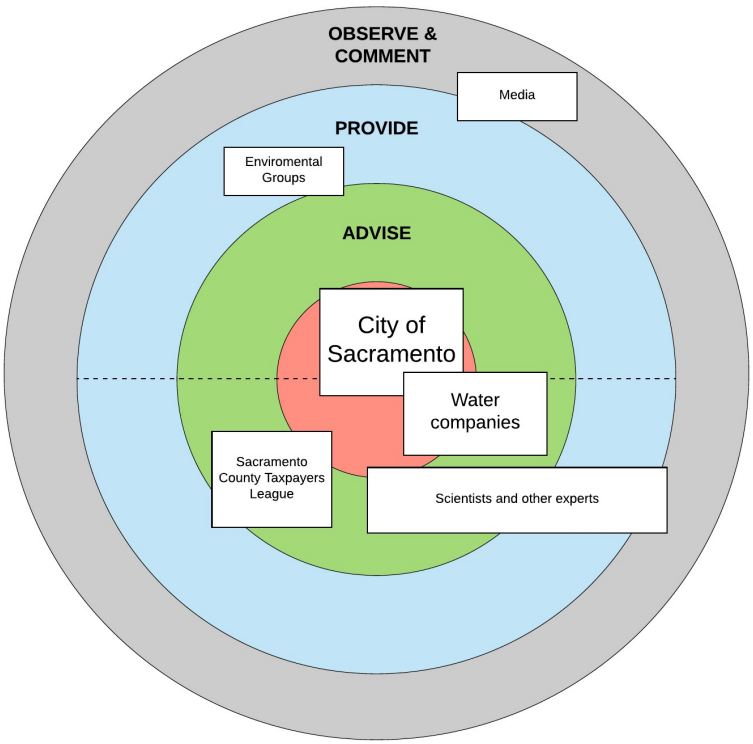
Q1: What do you think an Enabler does? What does 'enabling' mean to you?
Q2: Who is an enabler in your project?

Allow them to define their own terms.

Make sure you don't switch to normative questions. Do not ask: "Do we need an enabler?" "Is the enabler actually enabling or is he like that on paper?" We are just asking who fulfils that role (descriptively) not who should fulfil that role and how (normatively).

In our example below, we use another second measurement: we used the font size to represent degree of interest. The bigger font size for the very interest ones and lower font size for the less interested. For example, if the project is initiated and directed by, e.g., the government, then you can add the government in a large font (or a large square), and make other stakeholders, e.g., environmental group, relatively smaller. Also, you may choose to work with colors. If you want to distinguish stakeholders based on their field of expertise, then you will use, e.g., 4 colors for each of the 4 quadruple helixes. An example of the management of water in Sacramento is given below in Figure 3.

Figure 3 Example of a stakeholder map



Facilitating a stakeholder mapping session

Co-creating the stakeholder map

Make an A2 print of Figure 2. In Appendix 1 you will find a full-size image of it.

0-5. Give all participants post-it notes. Have them sited in a circle. Explain the aim of the stakeholder mapping session.

5-10. Facilitator begins by asking case owners to fill in as many post-it notes as they can in 5 minutes with "stakeholders that are affected by or affect" the problem at hand.

10-15. Facilitator asks for some examples. Participants give examples. Brief discussion.

15-20 Then facilitator brings the A2 page with the 4 levels of involvement (observe, provide, advise, manage) and explains these 4 levels.

20-25 Participants get extra 5 min to think about the function of each of the stakeholders they wrote down. Facilitator hands out an A4 version of the A2 file and asks participants to draw squares where the post-its will be placed.

25-30 Going clockwise, each participant adds one new stakeholder to the picture.

30-45 Participants discuss: Are there any differences between each individual's A4? Why? Can we agree on the final A2?
If participants are having trouble with coming up with stakeholders, use the following categories: media, market, culture, politics, environment, academics, interest groups, professional associations, students, religious organisations, NGOs, citizens. Every new stakeholder (post-it) that gets on the stakeholder map, add two of their main attributes.
If participants are very general in their description of the stakeholders (e.g., they add a stakeholder named 'media') ask them to be more specific.
If you use a second measurement, employ colored markers or stickers to express it (stakeholders with great power are red, less power is green, least power is blue).
Since this is the first exercise, try to be extra strict about timing and rules – without being unfriendly – so that people get used to the working style. If needed, have someone separate keep time. The timekeeper can be anyone in the facilitating team.

3.1.2 Storytelling

Basic idea: *Participants describe and arrange the main past and future events of a project chronologically*
Aims: *To create a starting point for the improvement of the collaboration (or the avoidance of problems), to distinguish between essential events and secondary ones in each stakeholder's view.*

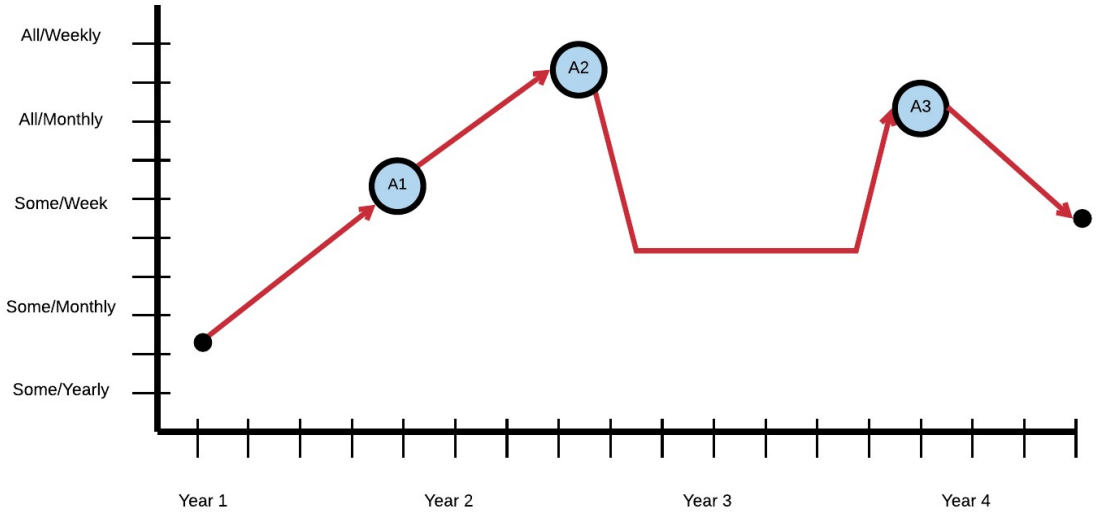
The task of describing current QH state of affairs will completed by engaging the stakeholders in storytelling activities. This means that participants will create narratives regarding these past experiences and forward-looking narratives about their expectations.

Storytelling is a method for the documentation and preservation of stakeholders' experiences and knowledge about crucial events in a project's life (Their, 2018, p. 18). Storytelling can be employed at any point before, after, or during a certain in the life of a project. The method facilitates the inclusion of various perspectives on the described situation prepares the way for the evaluation. Recent works into the organizational function of storytelling have brought this technique to the fore as a positive and pleasant method for setting the stage in points of improvement-solving group activities (Brown *et al.* 2005; Reismann, 2008; Hutchingson, 2018; Thier, 2018). Storytelling is also a great tool for creating out-of-the-box dialogue during transitions processes in organisations (Boyce, 1996) and can be combined very well with other forms of narrative management such as *applied drama and theatre* (Pässilä *et al.,* 2013).

The traditional output of a storytelling project is a so-called a 'learning history' (Thier, 2018). We will create a variation on this output by working with **learning timelines**. Instead of telling the story in the form of a text, participants in the social lab will create an annotated timeline in which the main phases (or events) of the collaboration are drawn. The timeline is shorter

and easier to interpret and can more easily be edited in a blank poster. Also a learning timeline goes further than the date at which the timeline is constructed (so it is not just a backward-looking history but also a forward-looking prediction). This entails that the participants must also project the future in a descriptive way, i.e., not what they want to happen but what they think will happen. This is sometimes referred to as "collective futuring", i.e., a collective and collaborative design of the future

Figure 4 *A simplified example of a timeline containing events A1, A2 and A3*



There are two scales: The vertical scales measures stakeholder interaction. The horizontal scale is the timeline. The lowest point on the vertical scale is 'no interaction'. In this case, stakeholders do not meet at all . The interaction grows as there are gradually more stakeholders meeting more often. The segments in the horizontal timeline represent two months but they can also be made for 3 or 4 months.

The red arrow represents the **collaboration flow.** The arrow goes up if stakeholders' participation is high (meaning that all or nearly all participate) or if the frequency of their interaction is high (daily or almost daily meetings). Of course, in some phases both participation and frequency of interaction can be high. The arrow goes down if stakeholders do individual work (low participation) and meet infrequently (low interaction). The collaboration typically, but not necessarily, changes according to the placement of events. Notice, for example, the changes in flow after the occurrence A2.

The circles represent **events**. This can be anything that the participants remember or expect. The necessary condition is that the event does not recur more than once. Note that in the case of a recurring event you can choose to place only the first occurrence (and then signal the recurrence) or place every occurrence.

Feel free to add other elements in the timeline. For example, you can add **milestones** or **phases** or you can make a distinction between different kinds of events (e.g., squares for meetings, circles for field activities). Also, via post-its, you can add notes directly on the timeline. Allow participants to design their own timeline.

Facilitating a storytelling session

Make an A2 print of Figure 4. In Appendix 1 you will find a full-size image of it.
0-5 Facilitator explains the elements of the timeline. Facilitator gives each group an A2 or an electronic version of the timeline.
5-20 Participants (or groups of participants) first design their own timeline of the project, then compare it and try to notice the differences. The timeline should involve the entire project: from the very beginning to the end. However, a good workable timeline can also be made by covering only the period from the beginning to the near future.
20-50 Participants tell the story of their timeline. Every participant refers to himself or herself in the third person (He/She, Jack, the director) and in the past tense (did, went). Every participant gets 5 minutes to tell his story in a detailed, interesting way. Encourage participants to think of this as a creative but also performance task – participants should tell the story as if they told it to a young child. The story must start with an intro describe the author's pre-project experience with QH collaborations
50-80 Participants try to come up with a common story regarding the past and the future. If they don't succeed in doing this, facilitator encourages them to leave these differences aside by saying 'We save this for later'. The differences are however noted down by the facilitator (or assistant)

3.2 Evaluate

3.2.1 Taking the normative stance

In a social lab, we separate clearly the descriptive and the evaluative activities. Separating description and evaluation helps stakeholders understand their standpoints *as standpoints* and not as unquestionable statements of facts. The message we want to send is that stakeholders attach their individual evaluations to a specific course of events, which is perfectly fine, but that these *evaluations are separate from the events themselves*. Separating the evaluation from the description is a process through which stakeholders learn to relativize their views and place them in context.

In general, an evaluative statement consists of four elements.

1. An *entity*: What is being evaluated? (an object, an activity, a performance, a gesture)
2. An *ideal*: What is (are) the best case scenario(s)? (productivity, effectiveness, reasonableness, morality, legality, beauty).
3. A *grade*: Where do we place the entity on the scale towards the best case? ("least/less/more/most", "go vs. no-go", "positive vs. negative", "7 out of 10")
4. *Criteria*: Why is the entity placed there? (reasons for upgrading or degrading)

Let us given an example. Consider the evaluations in gymnastics. A judge will evaluate an exercise (entity) as being a 8 (scale point) on a ten-point scale of complexity (ideally the jumps are complex) because the performer mounted the beam through the procedure known as a 'head spring' (criterion). A similar construction occurs in real life. Let's take the example above: 'So, we started the meeting with a 30-minutes lecture, which was awful". What is the entity being evaluated? The meeting. What is the scape-point? In this case the scale point is implicit in the choice of the word: awful is something like a 2 on a ten-point scale of satisfaction. Or maybe the speaker is evaluating the usefulness, then 'awful' is something like a 'NO' on the question of whether the lecture was useful. What is the ideal? It could be satisfaction, usefulness, interest etc. What are the criteria? This is also implicit because no criterion is mentioned: maybe the lecture was too long or too short, maybe the subject was wrong or the speaker was boring.

Applying these four components to QH collaborations, we obtain:

1. An entity: What is being evaluated? The QH collaboration or some aspect of it
2. An ideal: What is the best case? Efficiency (Are the parties collaborating in the most efficient way?) and Responsibility (Are the parties collaborating in the most responsible way?)

3. A grade: How do we grade the entity? Since efficiency and responsibility are not typically quantified, we will simply employ natural-language gradations such as “more efficient”, “less efficient”, and “very responsible”.
4. Criteria: What are the reasons for giving that grade? Here participants must support their evaluation with arguments.

We would like to direct stakeholders towards the evaluation of the *efficiency* of the QH collaboration and the *responsibility* that the parties share within the QH collaboration. These two dimensions correspond with the dimensions set up in D1.1 (“Analytical framework”). However, we do not want to impose these categories on the participants. We want to let stakeholders come up with the problems themselves, otherwise we intervene too much into the problem-finding process. We are thus faced with the following dilemma: If you don’t intervene in the discussion, the discussion might deviate from our focus in this project. If we do intervene in the discussion, the discussion might be unduly influenced.

We thus need to find the golden middle. Our strategy will be as follows. Facilitators will keep these questions in mind and will try to check whether stakeholders go in the right direction. If stakeholders run out of ideas, you can also ask the questions directly, without implying that there *needs* to be a problem in each of those sections.

For Efficiency we will use three categories:

(i) *Building structure*: How efficient are stakeholders in creating new organizational structures?
(ii) *Creating interaction*: How efficient are stakeholders in managing the interaction (communication) in QH?
(iii) *Creating value*: How efficient are stakeholders in creating social and economic value?

For Responsibility we will use these six categories:

(iv) *Ethics*: Is innovation morally grounded and acceptable to society?
(v) *Gender equality*: Are processes and outcomes relevant to and sensitive of the entire population as opposed to only one gender?
(vi) *Public engagement*: Are all stakeholders that affect or are affected by the project involved in such a way that they can employ their expertise and bring in their interest?
(vii) *Education*: Are there learning trajectories in which stakeholders learn and reflect about the process and other relevant themes?
(viii) *Governance*: Is the process embedded in a policy framework that is inductive of responsible innovation?

(ix) *Open access:* Is the process open to all stakeholders (both in terms of inputs and its outputs)?

To summarize, participants will be evaluating the process in which they have been involved according to two ideals, effectiveness and responsibility, each of which is being further divided into smaller, more specific categories. For a more detailed discussion of these issues, see the Theoretical Framework created by Fraunhofer Institute (Deliverable 1.1).

3.2.2 The evaluation game

> ***Basic idea****: Participants go through the evaluative questions in the pre-set tables and try to find possible points of improvement. They do this in a limited time following a reward system with points.*
> ***Aims****: To evaluate the QH process, to establish tasks for the implementation process*

In our social lab, the evaluation will be gamified. Gamifying policy procedures means turning the policy-making or policy-evaluation process into a game (Geurts & Joldersma, 2001; Mayer, 2009; Reiners & Wood, 2015; Spitters et al., 2017). A game is defined as "as experimental, rule-based, interactive environment, where players learn by taking actions and by experiencing their effects through feedback mechanisms that are deliberately built into and around the game" (Mayer, 2009, p. 825). Gamification is based on the idea that the skills that participants acquire during the game are transferable to the real world – just as a military strategist would learn something about the battlefield by playing with his miniature figures on his strategy board. While it is not always easy to formulate explicitly what is being learned and what is being transferred, games have become increasingly popular in both education, business and policy making (Reiners & Woods, 2015).

Our game has three phases: an individual pre-assessment phase (in which participants answer questions individually), a collective assessment phase (i.e., the game proper) and a debriefing.

Pre-game assessment

The evaluation process starts with a very simple question: What can be improved?. This question can be addressed to individual stakeholders from the main case or to the stakeholder group as a whole. You can employ the categories of efficiency and responsibility (and their subcategories) or you can simply ask this question during the case interview (see last question interview guide D1.1). In Appendix 2 you can find an example of an interview guide that can be used in this regard. However, you can also choose to keep the discussion open. The point of this task is to get the evaluative wheels in motion, rather than create a product. The product will be created in the game proper.

The evaluation game

In the evaluation game, participants categorize their identified problems according to a set of four given types each type being assigned a certain value. For every problem identified by one group member, the other parties vote its categorization. Thus, if participant A wants to submit *x* as a problem, then the other participants ask questions about the problem and then, based on the answers decide in which category they place that problem (i.e., what score they give to A's identification)

The four types are defined by crossing two features of problem: urgency and difficulty. The *urgency* of a problem is the importance that stakeholders assign to it: a building almost falling apart is more urgent than a building being a bit dirty. The *difficulty* of a points of improvement can be roughly quantified by the sum-total of resources that need to be allocated in order to solve that problem. A building almost falling apart will require more resources than a dirty building. The basic idea behind the game is that, identifying that the building is almost falling apart will get a participant a large number of points.

We use these ideas to define the following types of problems.

1. Phil (low importance, low difficulty)

"Gotta fix that step!" This is Phil Dunphy (played by Ty Burrell) often-heard line from the TV series "Modern Family". Phil, husband and father of three children, trips regularly half-way up the staircase and promises every time to fix that step. The broken step is of course easy to fix, and it is relatively unimportant in the lives of the Dunphies, and yet this does not take away the fact that it becomes rather annoying (perhaps because it is so easy to fix?). The step is a metaphor for a relatively low-impact, relatively simple points of improvement that remains unaddressed within the life of an organisation and thereby becomes a nuisance. Criteria for identification:

- not essential to the project (low importance)
- relatively easy to solve (low difficulty)
- annoying, bothersome

2. Maria (low importance, high difficulty)

"How do you solve a problem like Maria?" is a song from the 1965 musical *The Sound of Music*. Maria is a happy, free-spirited young woman studying to become a nun but: She climbs a tree and scrapes her knee, Her dress has got a tear, She waltzes on her way to Mass, And whistles on the stair. Maria is not really a very important points of improvement, nor is it very serious, and yet nobody really knows how to solve it). Criteria for identification:

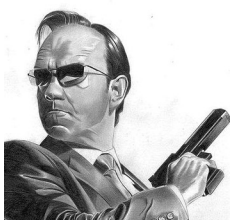
- not essential to the project (low importance)
- difficult (the expertise needed for solving it is either not accessible or not known)
- costly

3. Watson (high importance, low difficulty)

"Elementary, my dear Watson!" This is the explanation Sherlock Holmes sometimes gives to his assistant, doctor Watson. (In fact the line doesn't appear in the Conan Doyle books, only later in Sherlock Holmes' films.) This is an easy to solve points of improvement that is important and thus needs to be solved. It will typically not be very obvious because otherwise people might solve it. But it might also be very obvious once things are looked at from a certain perspective. Criteria for identification:

- essential to the project (high importance)
- easy to solve (low difficulty)
- the "Of course!" effect (one should wonder why the points of improvement is not already solved)

4. Agent Smith (high importance, high difficulty)



Agent Smith (played by Hugo Weaving) is the root of all evil in the famous Wachowski brothers trilogy *Matrix,* in which computers have taken over the world and humans fight to regain it. Agent Smith is a central points of improvement, a big, difficult, urgent points of improvement. But precisely because it is so daunting, stakeholders might avoid it or they might disagree on its appearance and meaning (Agent Smith can morph!). Criteria for identification:

- essential to the project (high importance)
- difficult to solve (the expertise needed for solving it is either not accessible or not known)

You can also imagine the problems being divided according to the following table:

Importance \ Difficulty	Low	High
Low		
High		

Gameplay:

The number of participants needed for this game is 4-8. Ideal is 6 – so that there is always 5 people categorizing and thus always a majority when they vote. Voting is done anonymously via this form: https://goo.gl/forms/SuCzuNJzTtLhy7Py1 . Make sure everyone uses the same name of the problem owner ("Mark", "B. Evans") so that the table with results is easily generated and easy to work with.

Step 1. Each participants writes down *one* problem on the sheet of paper or post-it. The partners can prepare for the questions they might receive in order to categorize the problem (3 min)

Step 2. In turn, each participant describes the problem he wrote down. The others ask questions in order to decide whether the problem is a Phil, Maria, Watson, or Smith. (4 min per participant)

Step 3. After all questions have been asked, all participants rate the problem via the Google Form as a Phil, Maria, Watson, or Smith. Majority wins. If there is equality, you go for the higher bid (e.g., you categorize it as a Maria if it is equality between Phil and Maria).

Step 4. Bonus time! Players can get bonuses. A bonus amounts to *doubling* of the points pertaining to the problem for which the bonus is achieved. Problems with high difficulty (Maria & Smith) get a bonus if a plausible solution is advanced. Problems with high importance (Watson & Smith) get a bonus if boosts (ways, tools, methods to prioritize them on the managers' agenda) the problem-solving process. Smith problems can get both solved and boosted. In this case you multiply by 4.
Step 5. Players count the points they scored. Most points wins.

The points of improvement are given as follows:

1 Phil = 10 points
1 Maria = 40 points
1 Watson = 80 points
1 Smith = 150 points

1 Phil = 10 points (no boost possible)
1 Maria + 1 solution = 40 x 2 = 80 points
1 Watson + 1 boost = 80 x 2 = 160 points
1 Smith + 1 solution = 300 points
1 Smith + 1 boost = 300 points
1 Smith + 1 boost + 1 solution = 600 points

Players need to be strategic about their choices. If they think they can come up with a point of improvement that can be proposed as a Maria, they should probably keep it for later and not use it during the first round.

Each player is allowed to 'veto' a proposed point of improvement 2 times.

Debriefing

The game ends with a debriefing session. The aim of the debriefing session is to give participants the space to 'snap out' of the game session and to reflect upon the relationship with the real-life world. They are asked about their experiences with other players during the game, the appropriateness of the game format and they

Facilitating a gaming session

There are two well-known pitfalls of gamification: (1) participants do not take the game seriously and (2) participants cannot see the relationship between what they are doing (game-wise) and the real-world context in which that is supposed to apply. In order to avoid (1), facilitators must themselves take all game activities seriously. Thereby, they help participants see the game as a personal challenge that can be instructive, fun and socially valuable. In order to avoid (2), facilitators must explain how the evaluation game fits into the overall design process, i.e. the relationship with the description and the prescription. Use this:

Description = what *is*

Evaluation = what *can be* better

Prescription = how can *what is be* better

3.3 Refine

The verb 'to prescribe' refers to the establishing plans and rules for action. People prescribe what needs to be done. In this third task (of the DESIGN process), parties will agree upon a plan for action and the associated rules. Before we explain how this will take place, let us take stock. At this point, we have created a shared view of the QH collaboration (during the Describe task) and we have identified a series of problems (during the Evaluate task). These two constitute an impulse for action *in nuce,* but have not produced something that leads directly to action. Statements of fact ("This is how it is") and judgments of value ("This can be improved") do not lead to action, but prescriptions ("This is what needs to happen") do lead to action.

The aim of the Prescribe task is to create commitment regarding action. In the way we use the term, prescribing does not result in a highly detailed plan that must be followed religiously, but rather in a rough-and-ready version that can – indeed *must* – be adapted later (Hassan, 2014; NESTA, 2018). In order to achieve this, we go back at the timeline that the participants created. Since the timeline contained their predictions of the future, the parties can now commit to change this future based on the results of the evaluation game. The prescription process can be seen as a description process tuned to the future: instead of describing what has happened, as stakeholders did before, now participants describe activities that are directed towards the problems they identified in the previous exercises.

In order to get ready for action participants will create a so-called *socio-technical scenario* (Elzen, Geels, Hofman, & Green, 2004; McDowall, 2014; Tsjalling Swierstra, 2009). A socio-technical scenario is the description of how the social and technical dimensions of a system – in our case, the QH collaboration – transition from one state to the other in which the latter state is more in the direction desired by the participants in the system. Because these socio-technical scenarios are created as parts of larger projects meant to assess and predict socio-technical innovation, we will have to restrict ourselves to the essential features of these tools. The essential features are:

- *STS take a multi-level perspective*. This means that the actors involved look at how the intervention can be triggered by, and affect, three levels of organizational structure (Elzen et al., 2004; Rip & Te Kulve, 2008): the macro level of governmental and international structure, the mezzo level of organizational structure and the micro level of inter-personal practice. They do so by answering these questions pertaining to the intervention
- *STS take non-economic aspects into consideration.* This means that they investigate not only the economic/organizational aspects of the transition but also the ethical, legal, social, environmental and health aspects.
- *STS start in the niche.* Niches have the important feature of protecting innovations (disruptions) from the forces that keep a system together. These niches have been likened to the 'cocoons' that protect the vulnerable from the outside world thus functioning as an "entry point for change" (Rip & Te Kulve, 2008).

- *An STS is a story about how actors began in the niche and ended up in the system*. In this story, participants describe how the actors identified started small and affected the system in the desired direction.

3.3.1 A visioning session

> *Basic idea: Participants create a story in which the problem is solved.*
> *Aims: To envision a situation in which the problem is solved, to create commitment toward action, to create a platform against which future acts can be judged*

In this activity, participants work with the timeline they constructed in the previous exercises. There are four activities involved. First, they start with a description of the actors; then they describe the story of these actors breaking through from the niche to the system; then, they analyse the socio-technical context in which the break-through took place.

Step 1: The actors

Describe the following characteristics of these three imaginary actors, the change ambassador (CA), protagonist (PRO) and contender (CON). The following questions can help, but others can be added:

- What are the roles of CA, PRO and CON in the organisation?
- What is a psychological trait of CA, PRO and CON that is most relevant in the story to come?
- How did CA, PRO and CON meet to form this coalition?
- What was their best moment, what was their worst?

Step 2: The story

Create a new story within your timeline in which you add these four elements:

- The kick-off
  "It was a normal day at the office until…"
  "I remember that day when, all of a sudden…"
  "One day, CA, PRO and CON do something that has never been done before: they…"
  ...
- The incubation period
  "This continued for a period in which…"
  "Then, for many *x* (days, weeks), ..."
  "That was just the beginning, for CA, PRO and CON kept…"
  …
- The break-through
  "And in fact, after a while…"

"And you know what, it actually…"
"And believe it or not…"
…

- The realignment

"Today, almost everybody/nobody…"
"Looking back, it's funny how…"
"It started with CA, PRO and CON, but, you know, nowadays…"

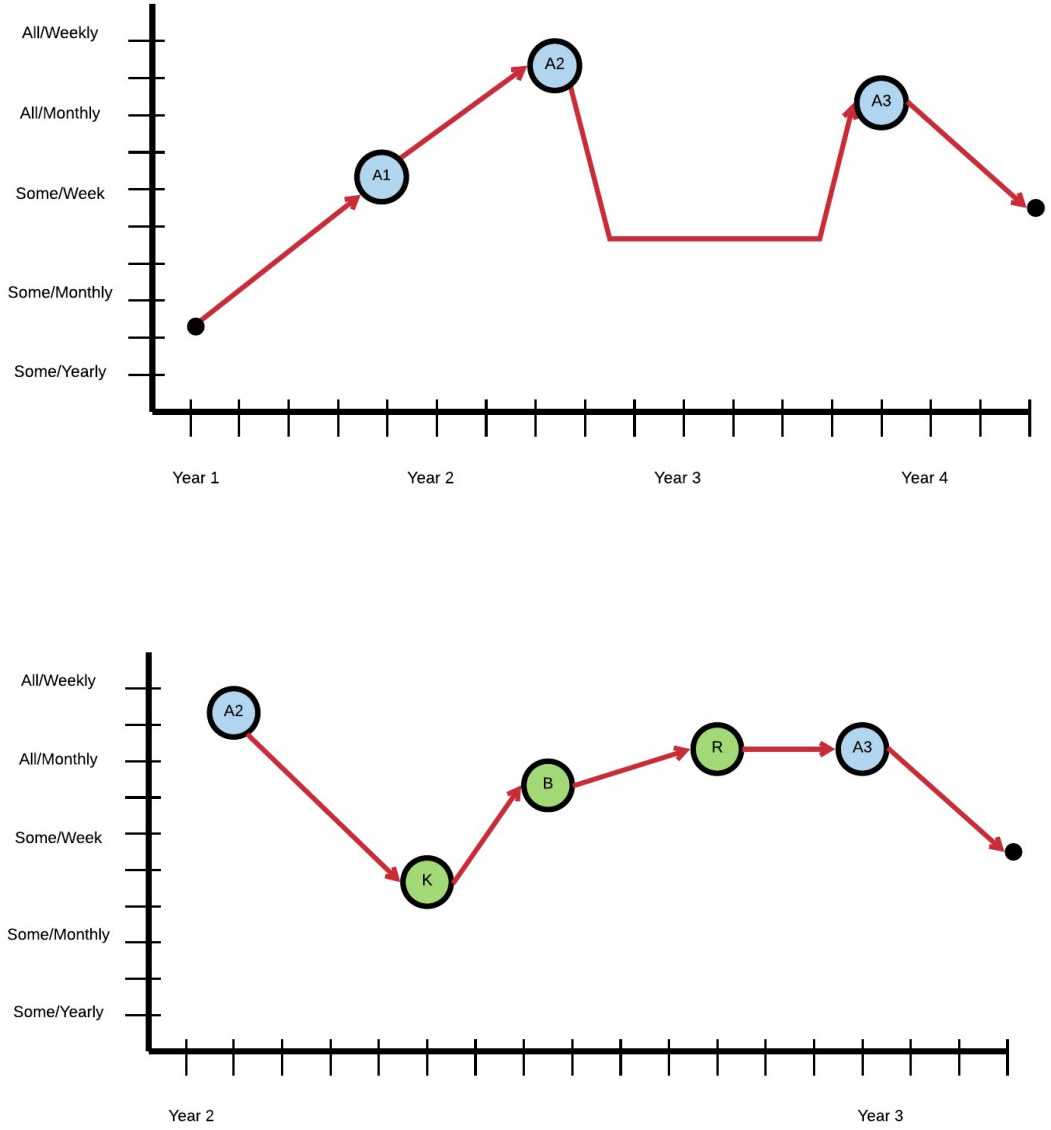
Step 2: The context

Discuss the socio-technical context in which the story takes place:

- The macro, mezo and micro levels of an innovation context
  - Are there any barriers stemming from governmental structure?
  - Are there any barriers stemming from the organizational practice?
  - Are there any barriers stemming from the inter-personal practice?
- The discuss economical, non-technical matters:
  - Are there any ethical barriers (values and principles)?
  - Are there any legal barriers?
  - Are there any environmental and health-related barriers?
  - Are there any social barriers

At the end of the workshop, the participants create a new timeline, one that is different than the timeline they created in the beginning. This new timeline will contain the events (and changes in interaction) described in the visioning session. An example is given below, where the period between A2 and A3 (two initial events) is populated with three extra events: the kick-off (K), the breakthrough (B) and the realignment (R).

Figure 5 *Original timeline and new timeline*



Facilitating a visioning workshop

In terms of facilitation, the visioning workshop is different than the other workshops because it requires a significant change from discourse about reality (how things are and whether things are good/bad) to a fictional discourse (how things could happen). It is always the facilitator's job to keep the fictional discourse on a golden middle between being too far-fetched (far away from reality) or too realistic (business-as-usual in different clothes). In other words, you have to encourage people to be creative, imaginative – why not – *wild* in their story, but you have to keep in mind that the goal of this fictional story is to serve as a catalyst for change. Too creative, too imaginative, too wild – and it will not achieve its purpose.

As a matter of procedure, the facilitator must go through the questions introduced above and keep the session fairly open. For example: define the three roles of change ambassador, protagonist and contender and ask the parties to answer the questions given. Anybody can intervene and the discussion should be allowed to deviate slightly. Importantly, when you start reconstructing the timeline, the participants should receive a new (empty) poster and new (green) stickers.

4. Panel meetings

4.1 Panel meetings: aim and groups

The panel meetings are significantly different than the case meetings. First, as the name suggests, panel meetings take place between owners of different cases and seek to foster interaction between these cases. Second, the participants' aim within panel meetings is not so much to understand the details of their own case, but rather to put their case in perspective; it is contextualizing rather than analysing.

The panel meeting format can serve a number of different objectives at once, among them:

- Improving participants' knowledge about quadruple helixes constellations and their potential benefits
- Encouraging participating case partners to formulate the cooperation issues in their project
- Stimulate case partners' considerations about interventions by introducing a series of tools addressing the cooperation issues they are facing
- Facilitating mutual learning across cases
- Letting participants from the same helixes learn from each other and sharpen their consciousness about their particular role in the QH
- Building network across related cases and case partners
- Observing and evaluating the particular processes and methods used during the social lab

Before explaining the kind of exercises involved in a panel meeting, it is important to understand the structure of the panel meeting. During panel meetings, three kinds of group formations will be used. These are:

(1) Round table grouping: one common group, everyone is included
(2) Helix grouping: four are formed according to the four helixes
(3) Project grouping: groups according to cases present

The groupings are given in Figure 6 below. A panel meeting will typically contain all three kinds of grouping. This is important because each generates a different kind of learning: grouping 2 generates intra-helix learning, grouping 3 generates inter-helix learning, and grouping 1 generates both. In other words, we hope that people can learn from other projects and other members of the same helix.

4.2 The inter-stakeholder learning session

The Panel meeting will consist of four exercises: an introduction, the QH Update, a Poster Session and a World Café. Below we describe each in brief. The details of these exercises are highly dependent upon the number of participants and the (equal) representation of each helix. The optimum is to have a maximum of 20 participants with each helix being represented by 5 members. In any deviation from this optimum, changes might need to be made in the description of the exercises below.

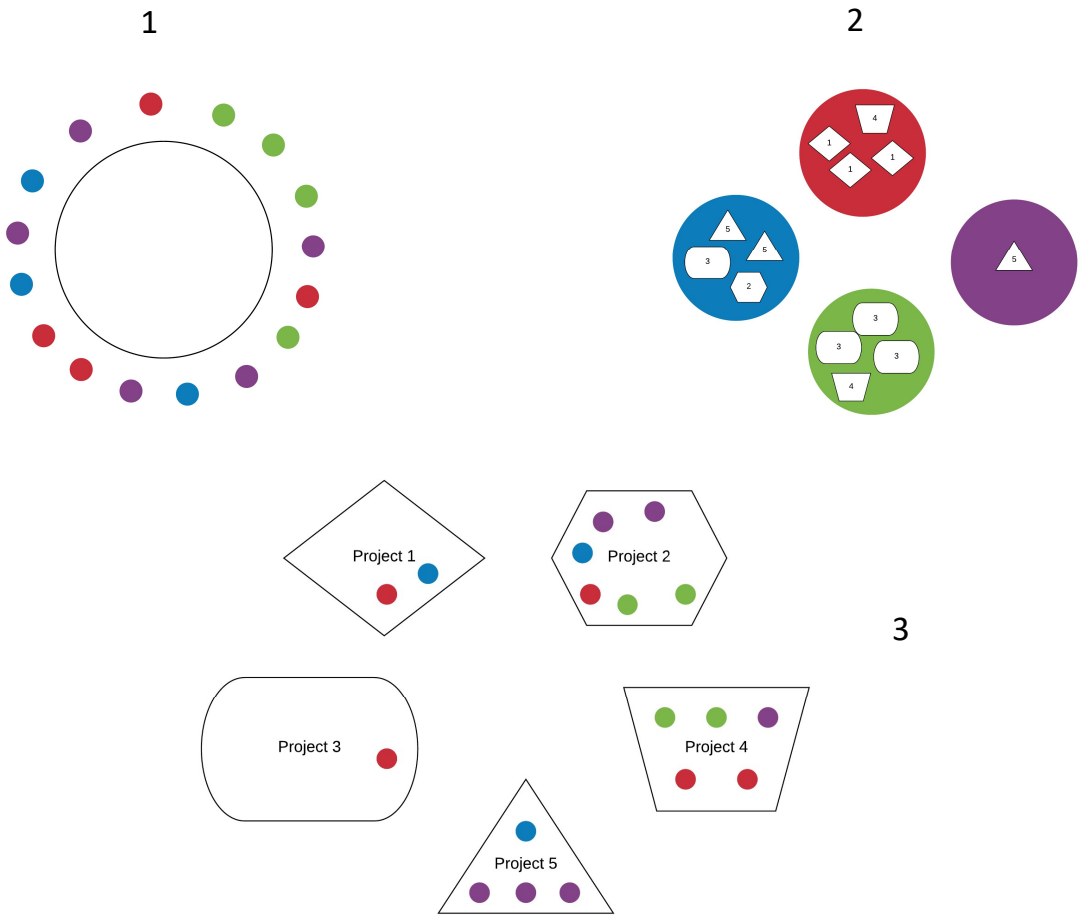
Introduction (Round table)

The panel meeting begins with a brief presentation of the RiConfigure Project followed by a quick polling of what participants expect to achieve/learn during the meeting

The QH Update (Round table)

There is a lot of literature on QH collaborations and variants thereof (cross-sector collaboration, transdisciplinarity etc.). But what are the results of this research? Do we use that knowledge? Is that knowledge accessible to those that need it? The QH update is a way of making that knowledge accessible to those that need it: members of QH collaboration. The QH update is at the same time a platform for communication and an exercise. Researchers from Wageningen University and Research, we will upload various kinds of easily digestible documentation on www.riconfigure.eu together with a series of instructions on how to use those materials. The materials will take the form of texts, podcasts and videos. The materials can be used as discussion starters during the first 30 minutes of the panel meeting for an open discussion. The questions for each element will be given beforehand to the facilitator. However, a free discussion is encouraged, especially since this will be the first exercise of the panel meeting. A first QH update, together with the associated questions, will be posted on the RiConfigure website before the 1st of December.

Figure 6 Group formations in a social lab



Poster session (Project Grouping)

First, a *poster session* in which each case creates a poster presentation with the results of the first two steps (Describe and Evaluate). This means that mirror cases also need to undergo those steps (albeit in a shortened form). The mirror cases can do this by receiving the *Social Lab Manual For Stakeholders* (see Deliverables folder). They can follow the steps themselves and reach out to the social lab manager in case something is unclear or difficult to achieve in their case.

Poster sessions are very common in academic and industry communication. It is a useful way of helping large group of individuals interact by exchanging information 'packed' in the form of posters. The poster session has two steps: the making of the posters and the discussions between different poster owners.

The posters are presented in 1 minute by each group. The focus will preferably be on the barriers ('problems') generated during the Evaluate task. Encourage participants to playfully come up with a different name and change the innovation they are working on if they do not wish to give details of their collaboration. For example: are the parties making a common railway? Make the story about John, Mary, Peter and Anna who are trying to build a road together.

World café (Helix Grouping, then mix)

World café session, in which participants are take a helix grouping and compare the barriers they have in their own project. Through this comparison, members of the same helix (e.g., industry) learn from each other in their dealings with the other helixes (e.g., academia). After 20 minutes of intra-helix talk around the barriers discovered in each project, all participants change seats except for one participant ('table host'). They mix together randomly and give suggestions (at each table) on how that barrier can be solved or ameliorated.

4.3 Example of a panel meeting

The following is one example of how a panel meeting program can be designed in detail. As a social lab manager, you have considerable flexibility in how you design the program and which aspects of QH-collaboration you choose to emphasize. In this example we emphasize discussions about citizens participation in the innovation process, but in your social lab you may want to emphasize other aspects, for instance common goal setting. This flexibility is necessary, because you have to design the panel meeting so that it is interesting and valuable to the participants. The limits to this freedom is that you must be able to provide the data required by work package 6. That means that the exercises in the panel meeting must produce inputs that help you in your reporting to WP6. It also means that when selecting the themes for your panel meeting, you should try to draw inspiration from the various factors included in the analytical framework (i.e. deliverable 1.1).

Room arrangement when the workshop opens

- Participants are seated at X group tables [X is the number of participating projects]
- One table facilitator at each table
- A screen and power point projector
- A buffet table for servings during the day
- At each table:
    - A recorder
    - A copy of Template A
    - Ten pens
    - For first group session: One sign on each of four tables indicating one of the four helixes
    - For the following group sessions: One sign on each table indicating one of the participating cases

Panel meeting programme				
Time	**Duration**	**Programme**	**Facilitators' guide**	**Purpose**
9:15-9:30	15 min	Registration and coffee		
9:30–9:50	20 min	Introduction	Main moderator introduces the panel meeting: • The RiConfigure project and social labs • This panel meeting: Objectives and programme • Let participants introduce themselves and absent partners and tell what they expect from the meeting. Write down expectations.	• Introduce participants to the project, the meeting and each other.
9:50-10:10	20 min	Institution bingo	Before the panel meeting, each participant is invited to tell something funny/ backstage about their institution. All these hints, but not the institution name, are written on a bingo plate. Each participant now receives a bingo plate and are invited to exchange with each other to find out which statement belongs to which institution. The one with most right guesses wins.	• Enabling people to get to know each other and network. • Creating a positive and informal atmosphere • Making it easier to share difficult issues
10:10-10:35	25 min	Introduction: Quadruple helixes	Rasmus introduces the concept of the quadruple helix: • What is it • What is it said to do for RRI/why should we encourage them Discussion: Do you recognize this from real-life cooperation projects you are/have been part of?	• Enable the participants to reflect on their own projects in a quadruple helix framework • Provide participants with a background for understanding RiConfigure and the activities in the social lab
10:35-11:25	5x10 min	Poster session	One representative from each project takes 10 minutes to introduce • The project • The partners	• Making everyone acquainted with each other's projects and partners • Get everyone thinking about cooperation issues and preparing mutual learning

			• Maximum 3 main cooperation issues they would like to address in the social lab – described in sufficient detail for the others to be able to reflect and contribute in the next session	
11:25-11:35	10 min	Coffee break	Announcement of institution bingo winner	• Enabling people to get to know each other and network.
11:35-12:20	45 min	Group session #1: Helix exchange	World café session. Where possible, participants are grouped according to their helix. The groups: • Compare their barriers (e.g. 'does anyone recognize the issue projext x introduced in the poster session in current or past projects you have been part of?') • Reflect on the role, challenges and strengths of their particular helix	• Facilitate mutual learning among partners belonging to the same helix • Facilitate participants' reflection on their particular helix and what this means to their role, strengths and challenges
12:20-12:50	30 min	Lunch break		
12:50-13:15	25 min	Toolbox presentation: Citizen and stakeholder engagement	An expert, e.g. Birgitte Hoffmann, gives a presentation about citizen engagement: • Key points to consider (e.g. aim, intended output/use who, timing… - or Birgitte's 10 bud) • 2-5 engagement methods for inspiration	• Stimulate and inspire the participants' discussions about potential interventions The toolbox presentation could also fit in after the quadruple helix session to allow for more continuity in the group sessions. The reason why it is placed here is that DBT has good experiences with varying the format and shift between deliberation and stimulation, two-way and one-way. Here it is placed as a stimulation just before the group session where participants will be discussing potential solutions/interventions.
13:15-14:00	45 min	Group session #2: Exchange on case challenges	One table for each case – signs indicate where to find which case. Cases are asked to place one representative at their	

			own table and mix at the others according to the project/cooperation issue they would like to learn from or contribute to. At each table: • The case representative is asked to give a four-minute brush-up of the issues they would like to address. • The table facilitator invites the others at the table to ask questions • A copy of Template A is distributed to each participant. They are given five minutes in silence to write down one reflection, suggestion or other input for each of the issues presented • (This round is recorded or documented by a note-taker.) One round where each participant is invited to share their reflection, suggestion or other input on each of the issues. The table facilitator stresses that what they wrote in the template is not binding – if they are inspired during the discussion and change their mind, they can give other input instead. After the round, participants are invited to discuss freely if time allows.	
14:00-14:15	**15 min**	**Coffee break**		
14:15-14:45	**30 min**	**Group session #3: Case debriefing**	The signs remains on each table indicating where to find which case. For this session there are no table facilitators or external note-takers. A template on the table suggests (but does not contrain the group to) the following structure. The participants sit down at their own case table. The main facilitator invites the group to debrief as they please and draws	

			their attention to a suggested structure on the tables: • The case representative who sat at the case table in the previous session introduces the others to what was discussed in the previous session. • Everyone shares what they heard in the first session. • Given these input and the toolbox presentation, what are the key take-away points to bring home? • What should be tried out in the implementation phase to address the chosen issue? (The group does not have to arrive at a conclusion – opening the discussion is enough.)	
14:45-15:00	15 min	Plenary update	Each case presents the key take-away points and their ideas for implementation exercises	
15:00-16:00		Go-home drinks and snacks	Wine and snacks.	• Enabling people to get to know each other and network. Creating a positive and informal atmosphere

5. Implementation

Participants come out of the first five tasks with a better understanding of their own situation and with insights into how other stakeholders understand and solve problems in their respective case. The last case meeting (Develop) will have also helped participants to come up with a prototype (a plan) for solving or avoiding deadlocks.

But eventually, they need to bring into the real world that which they have discussed about during case meetings and panel meetings. In helping your cases to experiment with the prototypes they have created, it is important to achieve a middle ground between *freedom* (let participants decide their own way of implementing a transformation) and *facilitation* (help participants by directing them towards specific tools).

Freedom might sound like the easiest thing to achieve, but you have to remember that, as a SL manager, you will have taken significant ownership of the case problems. You will have worked with cases for a long period so you might have the impression that you need to 'foster' (just a fancy word for controlling!) the achievement of the transition. However, the best thing you can do at first is let the participants tackle problems themselves. The SL manager, together with the facilitators and researchers, will need to trust the cases with the experience that they gathered (in the previous steps but more generally in their professional life).

Nevertheless, your cases might bump into various issues with which you can help. In this section we have gathered a series of toolboxes that can be used for helping stakeholders through their experimentation phase. We leave it up to you to make a selection of these tools. You can share this list with your cases or you can create a new list yourself.

- Problem-Solving Exercises for stimulating creativity and learning (here)
- Agile Management Tools for stimulating efficiency in transition (here)
- Intervision Sessions for reflecting and learning (here)
- Innovation Management Tools for facilitating the transition (here)
- RRI Tools for dealing with RRI issues (here and here)
- Public Engagement methods here.

These resources are of course vast, but even scanning them quickly gives a good indication of the tools you can deploy to help your cases. The best approach would be to meet your cases regularly and talk about their problems in brief sessions. Then, exploring the websites given above (or other sources) you can make a selection for them of tools that might help. If you are struggling with the choice of tools, mention this in our monthly SL meetings or contact us.

6. Research

During social lab processes, three types of data will be gathered: data regarding the cases, data regarding the social lab process and data regarding the experimentation.

6.1. Data regarding the cases

In a sense, of course, you are always collecting data *regarding* the cases. However, what we mean here by that phrase is data regarding the variables that were selected for research in the D1.1 variable: building structure, creating value and interaction.

In order to gather data regarding the cases, you can use the following interview guide based on the interview guide created in D1.1. Please feel free to reword or rearrange any of the questions above, making sure that you maintain the gist of the question.

Intro:

Present yourself
Ask for permission, non-disclosure (sent beforehand?) etc.
Explain the project RiConfigure; pitch "we are interested in barriers and opportunities for collaborations between academia, industry, government and society"
In this phase, we are looking at past such collaborations (whether of all 4 groups or subsets)
Describe the case on the basis of which the will answer those questions

[1] How did the collaboration between [mention actors] begin?

Who initiated?
What was the planned timespan?
In what phase is it now?
What is the goal of this collaboration?

[2] What did the collaboration consist of?

How often did you interact/meet?
Was there a manager of the collaboration?
If there was a collaboration problem (misunderstanding, disagreement), how did you solve it?

[3] Do you use specific tools and methods to support the cooperation of the partners?

Did you use any specific:

- Software
- Facilitators
- Methods & techniques
- Spaces & facilities

[7] What would you say was the value produced by the collaboration?

Tangible value: products, information, economic value
Intangible values: lessons learned, community created, social value

[8] What role does trust play for the collaboration?

Can you identify an event in which actors behave based on trust?
Can you identify an event in which actors need trust?
How do you think trust can be improved?
Was trust an issue between actors with different status/power/authority?

[9] What was the role of society within the project?

How was communication towards society dealt with?
Were members of (civil) society involved? If so: how?
Were there socio-ethical aspects (social risks, gender issues, open access etc.) taken into consideration?

[10] Looking at the list below, choose two main points of performance (tops) and two main points of improvement (tips) for the collaboration.

Access and transparency
Management and coordination
Resources and infrastructure
Trust
Roles and division of labor
Governmental structure
Members' collaboration skills
Communication
Learning and Self-)Reflection

6.2 Data regarding the SL method

Facilitators play a great role in acquiring data regarding the SL processes. Since the SL manual is a dynamic document, we will aim to keep it up to date based on your feedback. You can give feedback regarding the SL processes and task on the following form

Concerns:
SOCIAL LAB:
PROCESS:
- CASE MEETINGS
- PANEL MEETINGS
- IMPLEMENTATION
- RESEARCH

TASK:
EXERCISE:

WHAT WENT WELL:

WHAT WENT WRONG:

SUGGESTIONS FOR IMPROVEMENT:

6.2 Data regarding the experimentation

In each case, participants will gain insight into what can and cannot be experimented with. Other cases can learn from this and improve their own experimentation. In order to gather data pertaining to the experimentation process, you can make use of the following form.

Concerns: SOCIAL LAB/CASE: WHAT WAS ATTEMPTED: WHAT WENT WRONG: WHAT TO DO NEXT TIME:

References

Arnkil, R., Järvensivu, A., Koski, P., & Piirainen, T. (2010). Exploring quadruple helix outlining user-oriented innovation models.

Brauch, H. G. n., Oswald, U., Grin, J., & Scheffran, J. r. (2016). *Handbook on sustainability transition and sustainable peace / Handbook on sustainability transition and sustainable peace*. Switzerland: Springer.

Elias, A. A., Cavana, R. Y., & Jackson, L. S. (2002). Stakeholder analysis for R&D project management. *R&D Management, 32*(4), 301-310.

Elzen, B., Geels, F. W., Hofman, P. S., & Green, K. (2004). Socio-technical scenarios as a tool for transition policy: an example from the traffic and transport domain. *System innovation and the transition to sustainability: Theory, evidence and policy*, 251-281.

Geurts, J. L. A., & Joldersma, C. (2001). Methodology for participatory policy analysis. *European Journal of Operational Research, 128*(2), 300-310. doi:https://doi.org/10.1016/S0377-2217(00)00073-4

Hassan, Z. (2014). *The social labs revolution : a new approach to solving our most complex challenges*. San Francisco: Berrett-Koehler Publishers.

Huitema, D., Jordan, A., Munaretto, S., & Hildén, M. (2018). Policy experimentation: core concepts, political dynamics, governance and impacts. *Policy Sciences*, 1-17.

Janssen, M., & Helbig, N. (2016). Innovating and changing the policy-cycle: Policy-makers be prepared! *Government Information Quarterly*.

Mayer, I. S. (2009). The Gaming of Policy and the Politics of Gaming: A Review. *Simulation & Gaming, 40*(6), 825-862.

McDowall, W. (2014). Exploring possible transition pathways for hydrogen energy: a hybrid approach using socio-technical scenarios and energy system modelling. *Futures, 63*, 1-14.

McFadgen, B., & Huitema, D. (2018). Experimentation at the interface of science and policy: a multi-case analysis of how policy experiments influence political decision-makers. *Policy Sciences, 51*(2), 161-187. doi:10.1007/s11077-017-9276-2

Reed, M. S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., . . . Stringer, L. C. (2009). Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of environmental management, 90*(5), 1933-1949.

Reiners, T., & Wood, L. C. (2015). *Gamification in education and business*. Cham, Switzerland: Springer.

Rip, A., & Te Kulve, H. (2008). Constructive technology assessment and socio-technical scenarios. In *Presenting futures* (pp. 49-70): Springer.

Spitters, H. P. E. M., van Oers, J. A. M., Sandu, P., Lau, C. J., Quanjel, M., Dulf, D., . . . van de Goor, L. A. M. (2017). Developing a policy game intervention to enhance collaboration in public health policymaking in three European countries. *BMC Public Health, 17*(1), 961. doi:10.1186/s12889-017-4963-7

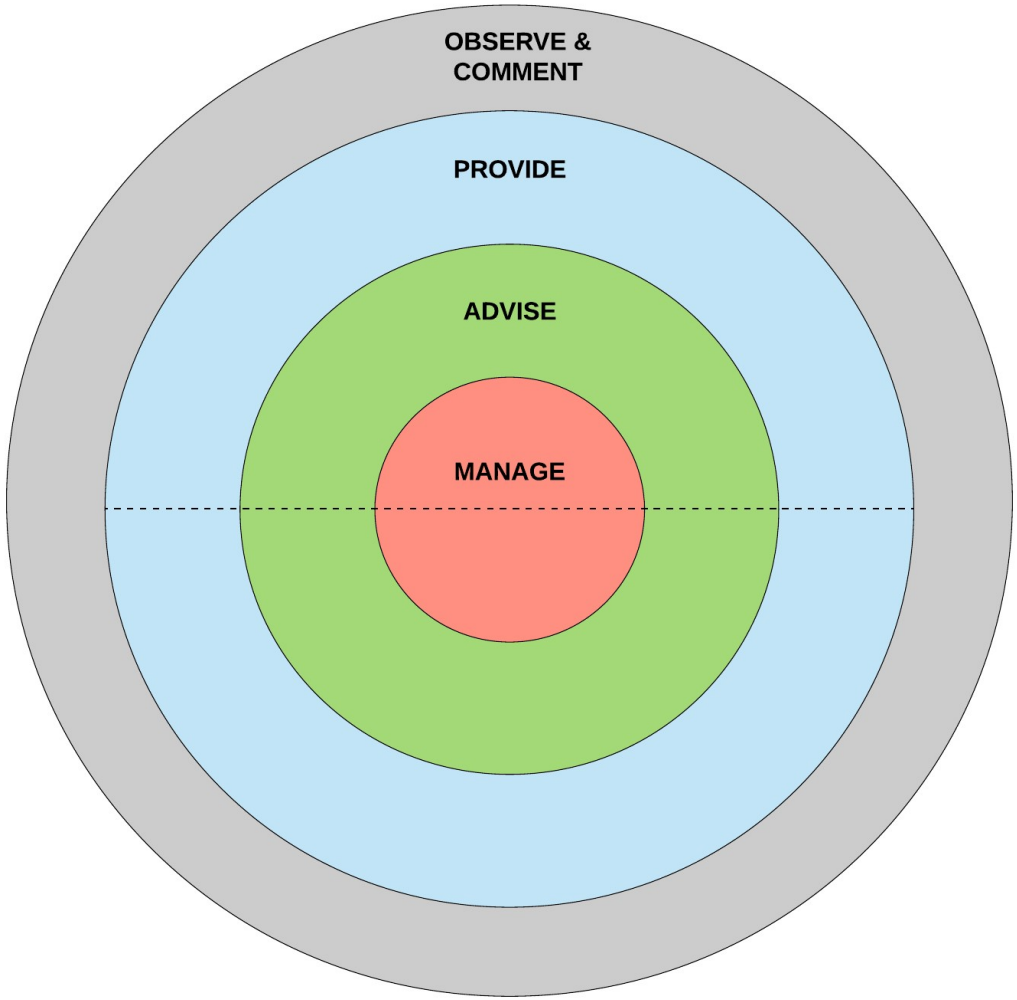
Tsjalling Swierstra, D. S. a. M. B. (2009). *Exploring Techno-Moral Change: The Case of the ObesityPill*. Netherlands: Springer Science +Business Media B.V.

Appendix

The following pages contain high-resolution images that you can print before your stakeholder meetings. For most of them, a colour printer is needed.

We advise to work as much as possible with the electronic version during the meetings. For example, in case you are meeting with only one group, you can project the image on the big screen and the facilitator can edit the image according to the participants' ideas. At the end, you have a final version which you can further improve (spacing, colours) and print into a poster. Participants can then use the poster in their intervision sessions.

Appendix 1 Images for use during facilitation


OBSERVE &
COMMENT
PROVIDE
ADVISE
MANAGE