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Report on co-RRI project concepts

Deliverable D3.1

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http://www.fotrris-h2020.eu

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Table of content

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About the FoTRRIS project

FoTRRIS develops and introduces new governance practices to foster Responsible Research and Innovation (RRI) policies and methods in Research and Innovation (R&I) systems.

FoTRRIS stresses that RRI is a collaborative activity from the very beginning. Therefore, FoTRRIS adds the prefix 'co' to the acronym RRI. Important present-day challenges are of a global nature but manifest themselves in ways that are influenced by local conditions. Thus, FoTRRIS focusses on glocal challenges, i.e. local or regional manifestations of global challenges and on local opportunities for solving them.

FoTRRIS performs a transition experiment, i.e. an experiment to support the transformation of present-day research and innovation strategies into co-RRI-strategies. It designs, tests and validates the organisation, operation and funding of co-RRI competence cells. A competence cell is conceived as a small organisational unit, which functions as a local one-stop innovation platform that encourages various knowledge actors from science, policy, industry and civil society to co-design, -perform, and -monitor co-RRI-projects that are attuned to local manifestations of global sustainability challenges.

Since research and innovation systems and practices in EU member states and within different research performing organisations vary, FoTRRIS experiments the implementation of new governance practices in five member states. These five experiments are evaluated, validated and constitute the basis for FoTRRIS policy recommendations towards EU and member states policy-makers in order to enforce co-RRI into the national and EU R&I systems. Training is dispensed to various stakeholders, so as to form them to establish other co-RRI competence cells.

For more information see http://www.fotrris-h2020.eu

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1. Documentation – The national reports

FoTRRIS – Fostering the Transition towards RRI Systems aimed to develop a concept of RRI based on a critical review of extant literature, interviews of selected experts, and survey the opinion of RRI quadruple helix stakeholders in WP1. The FoTRRIS concept of RRI has been named as co-created RRI or, briefly, co-RRI in order to highlight the primary requirement towards responsible research and innovation (RRI) as realising co-creation of multiple actors regarding the whole research and innovation process (from issues through process till outcomes/outputs). WP2 has developed a web-based platform to support co-creation and peer-to-peer interaction on developing and carrying out co-RRI projects.

WP3 aimed for putting the concept of co-RRI into practice through the implementation of transition experiments (TEs). Six transition experiments were carried out in five countries of FoTRRIS partners. In Austria, the TE addressed the topic of sustainable food systems in the greater Graz region. In Belgium, the TE was initiated around the topic of circular economy regarding waste from housing construction and electric/electronic equipments. In Hungary, a transition town community, Transition Wekerle was collaborated with in order to co-design sustainable local economic development for this garden city neighbourhood in Budapest. The Italian TE, in connection with ongoing policy initiatives, co-designed a LivingLab for supporting renewable energy development in the Madonie Region, Sicily. The Spanish FoTRRIS research team has executed two TEs, one on the issue of refugees, the other on the concern of women with disability.

All TEs, while received space for flexible adaptation to the characteristics of the substantive issue addressed and the context it is embedded, followed the "Mapping Innovations on the Sustainability Curve" (MISC) approach developed by Anne Snick.[1] This approach provides a conceptualisation of sustainability and a guidance of carrying out a process of systems mapping, visioning, and action design based on the collaboration and consensus-seeking of the multiple actors involved. It assumes a co-creation process in a constructive fashion. The MISC approach was operationalised into a guide and template to report which this deliverable is based upon.

This deliverable aims to provide a detailed description of all six TEs in a similar structure in order to allow deeper understanding of how co-RRI was attempted to put into practice and provide transparency. Evaluation of TEs was built into the process and reported in D3.2. The national reports below document the three workshops of systems mapping, visioning, and project concept design as the MISC approach was operationalised. Evaluative judgements or critical reflections are shared in some of the sections, most prominently that of lessons learnt, in each national report. However, no comprehensive evaluation or comparison is aimed for by this deliverable.

It should be noted that a fourth workshop was designed in all TEs aiming for outreach and validation. This fourth workshop intended to make relevant external stakeholders in each

[1] Snick, Anne (n.d.): MISC: Mapping Innovations on the Sustainability Curve – A methodological framework to accelerate the transition. Available at: http://www.slideshare.net/AnneSnick/misc-full-paper-as

country familiar with the FoTRRIS TE process as an operationalisation of RRI. Beyond broadening the outreach of the FoTRRIS TE process, it also aimed to initiate a dialogue between relevant experts and other stakeholders, on the one hand, and all types of participants of FoTRRIS TE, on the other hand. This way, critical reflection on the experience of co-created RRI is expected to be gained. D3.3 reports on this outreach/validation exercise.

In sum, D3.1 aims to inform readers about the details of operationalising RRI in a co-creative way and read together with D3.2 and D3.3 aims to provide a more comprehensive picture (description, evaluation, critical reflection) on the FoTRRIS transition experiments. Next, in alphabetical order of the countries, the national reports can be read, altogether on six transition experiments.

2. Austrian report on co-RRI transition experiment[2]

2.1 General summary

The IFZ team chose the topic of *sustainable food systems* for the workshop series of the transition experiment (TE). The idea behind was to elaborate ideas for projects on the topic of "*Sustainable and social just food supply within the region of Graz*" (funding levels were not specified in the beginning). These project ideas should be developed with local stakeholders who have different backgrounds, but are all related to the topic of food from diverse angles - production, distribution, consumption or education (food activists, CSAs – community supported agricultures, authorities from the city of Graz, advocacy groups like the chamber of agriculture, biological farming or responsible people from e.g. large-scale kitchens and people with an educational focus, farmers). It was intended to include a broad variety of people in the process. The expertise on the topic of food within the team of the IFZ (represented by Sandra Karner) was a good starting point in selecting and inviting people because with her longstanding experience in the topic it was easy to map who are the important people on a local level (Graz-Umgebung).

Food production and consumption are neither (socially) fair nor sustainable. To open up the process it was intended to go from a mapping of the system (niches and regime) over a problem definition to precise actions and to define project ideas together with the different actors within the process.

To foster a transformative change within the current food system in terms of sustainability, food sovereignty and social fairness, it is necessary to work with a broad range of people on actions that are also of their (personal and professional) interest. The concept of a sustainable food system was defined as an interaction between different system components (actors, institutions and sectors).

Special about the Austrian case was that there were four workshops held within the series of the Transition Experiment (TE). This was not intended from the very beginning, but turned out to be the best solution because of two reasons. Firstly, the idea emerged between the second and the third workshop (and was affirmed through the process of the third workshop) that another meeting amongst the TE participants would be necessary in order to get a more concrete output and to explicitly work on a concrete project concept for the future. Secondly, the setting of the validation workshop was not seen as an appropriate setting to invite the TE participants, because it was intended to validate the TE with experts from academia and other stakeholders. Therefore, the CC members decided to ask one of the TE participants if he was willing to work on one of his project ideas in a more concrete way (one of the CC members is and was in closer cooperation with the participant in other projects related to the topic of sustainable food).

[2] Magdalena Wicher, Sandra Karner, Anita Thaler (IFZ)

The fourth workshop can be seen as a follow-up activity because there, a concrete project idea from one of the TE participants was taken up, discussed and explicitly worked on. Therefore, the CC members were preparing for the workshop with the person concerned (between workshop 3 and 4) to elaborate the idea and take steps for further collaboration with the other participants.

2.2 Workshop content

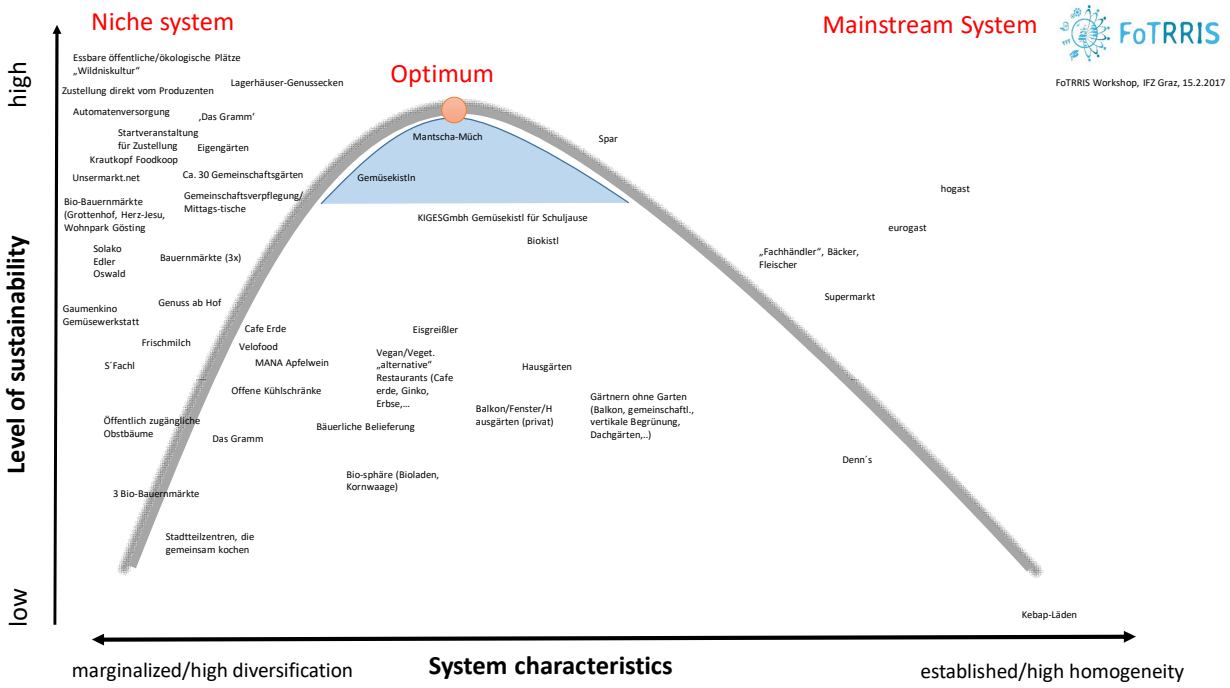
2.2.1 Workshop 1: systems mapping

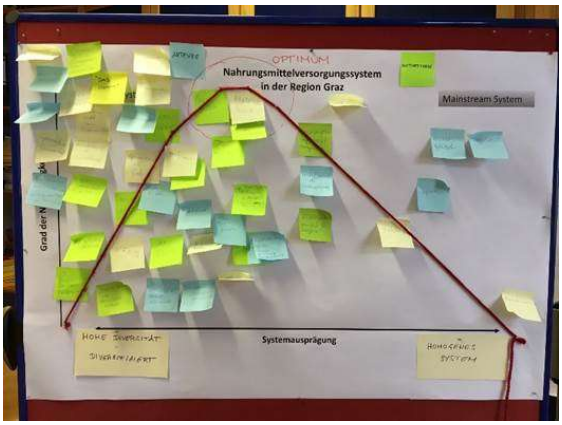
The first workshop was held at the IFZ on 15th February 2017 with the aim to get a common understanding of sustainability and systemic transformation in relation to the actual food system and to define measures to change the current system. The workshop started presenting definitions about food justice, food sovereignty and sustainability to give a clear understanding and common meaning about the terminologies we wanted to work with. The definitions and shortcomings within the current food system were put on the table in order to give a framing to the workshop series. This normative bottom-line and the goals were discussed and agreed on amongst the competence cell members, but were not co-defined and discussed with the participants. After the presentation of the definitions, participants were asked if they had further questions or remarks to add, but no objections were mentioned. The topic of food sovereignty was presented as an option to have a reference and a goal, but was handled with caution because it is a concept that comes from the alternative food networks and may have caused rejection amongst those participants who are more from the conventional side of the current food system. Nevertheless, particularly this concept of food sovereignty (and not food security) was the subject of discussion very often (also in the following workshops), also brought in by the representatives of the conventional food system.

We used the sustainability curve to map the current system (with actors and initiatives who characterize the system) after niches and mainstream, but slightly adapted the curve by changing the axis of "resilience" and "efficacy" to "system characteristics" with the manifestations of "marginalized/ high diversification" and "established/ high homogeneity" system. Participants criticized the duality approach because they agreed that the system could not only be described by two poles (e.g. it would be too simple to say that the one is less mainstream but more sustainable and the other one is more mainstream and less sustainable). They indicated that the food system is more diverse and the duality would limit the depiction, a black-and-white conceptualisation would not reflect the reality. The food system is hybrid, there are several aspects that are all linked to each together, where more and less sustainable aspects are closely linked to each other.

It is one curve, but the concept of sustainability alone has three dimensions, the relevance of the weighting is different, depending on where the focus is set. For example, there exist product lines that are very sustainable in the production, but socially unjust, i.e. not socially sustainable. The governance system is very much working on power hierarchies which are, for example, also relevant for pricing and dependencies (e.g. between supermarkets and producers). There

was not enough time to discuss these aspects in depth or to make a depiction and definition that would fit all participants and that would display the system in a satisfying way.



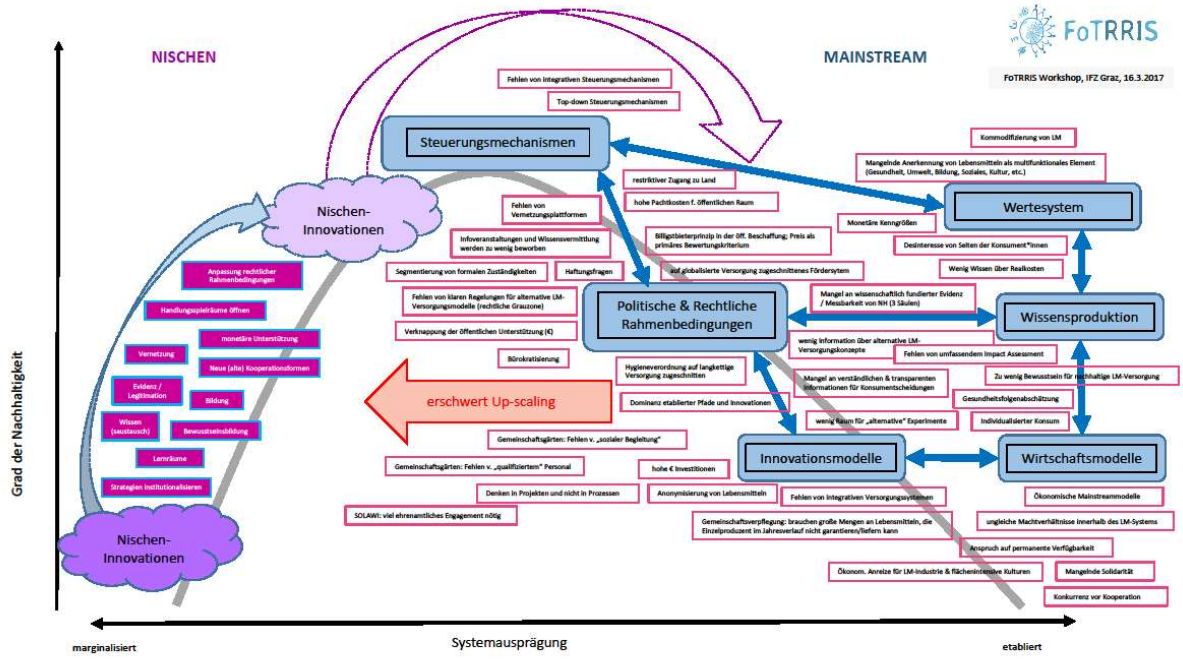


In the next step, the participants identified measures and enabling factors to change the current system and further on ranked them according to their feasibility (how likely and how fast the measures could be taken and implemented). From a high number of identified measures, it was apparent that strategies that were evaluated easy and fast to implement were those mainly targeted at *awareness-raising* and *educational measures*. Those measures that would transform the system more sustainably and for the long-term are *building upon cooperation*,

institutionalizing of strategies and *evidence-based implementations* – they need more time and are hard to implement.

Based on the information that was produced in the workshop, a presentation of the current food system was elaborated by the competence cell members after conducting the workshop. After giving a picture about the current supply structure, it was intended to elaborate with the participants, which measures would be necessary to reach the optimum of the sustainability curve and which fostering and hindering mechanism should be taken into account and tackled. The use of arrows to show these mechanisms and especially also the directions (hindering, fostering, feedback-loops) should have helped to get a complete picture of the system. It turned out that, one the one hand, there was not enough time within the first workshop to do all these tasks and, on the other hand, the conceptual frame was also too complex in order to discuss it within the workshop-setting. Finally, the CC decided to compile all produced information by the participants and merge it with the theoretical framework of the MISC between the first and second workshop.

The graph shows how the fostering and hindering factors become effective on niches and mainstream within the system. This illustration shows how governance mechanisms interact with political and legal frameworks, the production of knowledge, norms and the current value system as well as economic and innovation models and how these hinder the establishment of niche-innovations. The graph was further presented and used in the following workshops, but to time-related reasons it was not discussed in depth with the participants.



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2.2.2 Workshop 2: visioning

The goal of the second workshop (16th March 2017 at IFZ) was to define and prioritize four concrete project ideas from the whole bunch of measures that were identified in the first workshop. The decision to strive for four ideas was made by the CC because it was discussed that four would be a good and effective number of ideas/projects to further work with. But the process was held open in order to have room for further ideas, if more than four would come up.

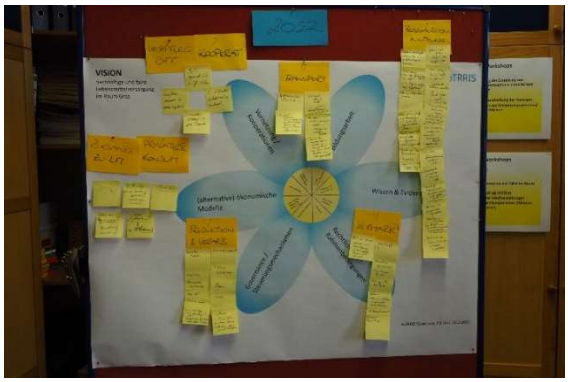
To make the goal clearer we elaborated a common vision for the realization of the projects. First, within the plenum, a timeframe for the vision was defined. In line with other food strategies, participants decided that 2022 was a reasonable time frame. The vision then was discussed in regard of the following factors and aspects:

- Networking/cooperation
- Educational work
- Knowledge & evidence
- Legal framework
- Governance
- Economic models

- Production and processing
- Use of ressources
- Transport
- Forms of cooperation
- Marketing and commercialization
- Catering in public amenity
- Access to food
- Private consumer behaviour

Figure 1. Framework for visioning – workshop 2

These factors and aspects resulted from workshop 1 and the brainstorming about the measures to change the current food system. The ideas – that contained not only measures, but also shortcomings, problem definitions – were clustered within the first workshop and complemented by the CC. Between WS1 and WS2 the members of the CC discussed the results and tried to summarize them in a logical way and focus on aspects that tackle the key elements that are essential for changing the system. On the one hand, there are thematic fields (in blue) and, on the other hand, there are areas (green) that should be tackled through the measures to be taken.



The measures identified in workshop 1 and classified as highly relevant (based on the ranking about how fast – from slow to fast – and how likely – from hard to easy – the measures could be implemented) to achieve the vision were then again discussed in small groups in order to clarify and specify them. Next, using a structured prioritisation method ("The wheel"[3]), the measures were prioritized and clustered and finally ended in four main topics: educational/training measures, food incubator, food strategy and innovative marketing channels.

The next step was to do a stakeholder mapping in line with the four topics in order to be able to include relevant people (beyond the already invited ones for WS1 and WS2) in the next workshop. Finally, the question which contribution research could do in order to implement the identified measures was discussed with the participants.

2.2.3 Workshop 3: project concept design

The goal for the third workshop (7th April 2017, facilities next to IFZ, rented a group room from the Evangelic church) was to elaborate the already identified measures (four topics) from workshop 2. There were 14 participants who already attended at least one former workshop and 6 participants who took part for the first time. To specifically define the problems behind

[3] The method was adapted from the FOODLINKS project, where it was also implemented; see Smith, J. & Barling, D. (2013). Deliverable D: 4.1 Final Report Work Package 4 – Re-valuing Public Sector Food Procurement (RPP) Community of Practice (CoP). Public report. http://www.foodlinkscommunity.net/fileadmin/documents_organicresearch/foodlinks/publications/smith-barling-d-4-1.pdf

the measures, it was necessary to go one step back: participants worked in small groups on the question which problems should be exactly solved with a particular measure – always in relation to sustainability and social justice. The procedure to go back one step was not based upon the fact that there were new participants, but that it was the intention to let all the participants again reflect and think about the problems behind the identified measures in order to get clearer results.

After, a definition of goals that should be reached by the four measures was conducted on two levels: on the one hand, activity oriented goals and, on the other hand, specific sub-goals and activities to reach these goals were specified. Furthermore, participants should indicate needed and available expertise and resources to achieve these goals and activities (see template). Thus, a target oriented collaboration should be reached for the implementation of the measures and activities.

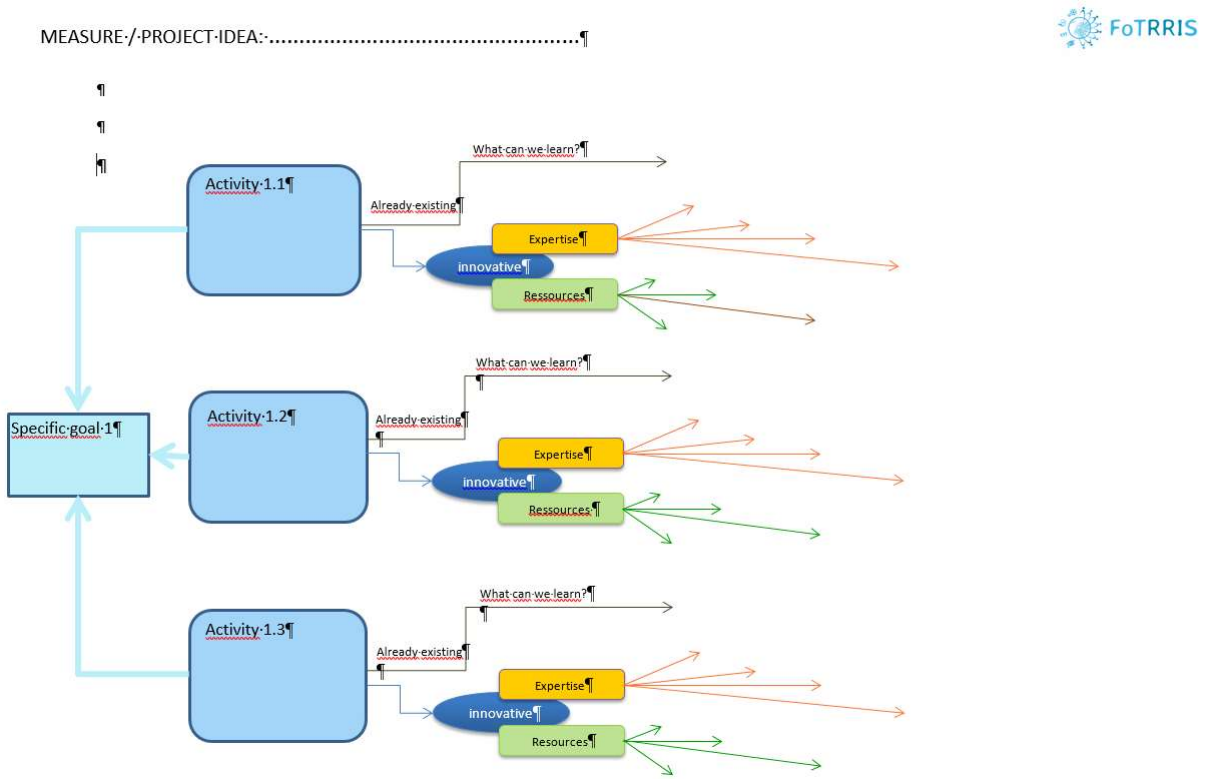


Figure 2. Template for activity mapping – Workshop 3

2.2.4 Workshop 4: status quo

IFZ did a fourth "Status-quo" workshop on the 7th June 2017 where the same participants as in workshops 1-3 were invited. We decided to make another workshop for different reasons: first, because we thought that it would not be expedient to invite participants of the transition experiment to the outreach workshop and, secondly, it was necessary to elaborate the ideas the participants gained in the first workshops to get a more precise concept.

We also wanted to use the workshop as a possibility to get an update about things that had been going on within the weeks following our workshop series. Thus, we started with an introductory round and a status-quo update about activities that had been going on in the meanwhile.

Another goal of the workshop was to introduce the web-based platform to the participants. Therefore, we registered the participants beforehand (with their email-addresses and a common password) and made a short introduction.

Next, Sandra gave an input about the framework that a possible proposal within a European funding (Horizon 2020) could have and combined it with the input of one of the participants about a pilot project with the focus on "food sovereignty" that is currently going on in Graz.

The idea of the workshop was to define specific actions together with the participants within the framework of Horizon 2020 calls (e.g. different geographical levels – local and global/international, open innovation, European cooperation, co-creation, cooperation between different groups – Quadruple Helix) in order to get a more precise project idea. There were a lot of ideas and activities named by the participants, but due to their broadness, it was not possible to define a common project concept. At the end of the workshop, participants expressed their desire for having a format (e.g. a regulars´ table) for networking and exchange in the near future, because they highly valued the possibility that was given within the TE workshop series.

After the workshop series, there were a couple of concrete steps for further cooperation and collaborations: IFZ was involved in a proposal for Horizon 2020 with a case study that included an initiative with educational work and cooperative activities in community centres in two districts of Graz about food security, with special regard to the inclusion of disadvantaged people. Then, the CC was invited to hold two workshops (together with one of the TE participants) within the Austrian-wide Nyéléni meeting about food sovereignty. A vision for sustainable food supply in the district of Jakomini (Graz) was elaborated with a group of about 30 stakeholders (local politics, food activist, representatives of civil society, etc.). The focus was to create a vision, plan steps and work on focal points like a farmers' market, food-coop and community gardening. The second workshop was about food councils in cities and had a focus on networking amongst Austrian initiatives.

Additionally, one of the participants submitted his project idea (that was also presented within the 4th workshop and supported by one of the CC members) at different offices at the provincial government of Styria (Austria) in order to get funding for this idea. Complementary there were explorations for an accompanying master thesis for this project with one of the STS (Science and Technology Studies) master students from the University of Klagenfurt, who also attended the fourth workshop.

2.3 Workshop process

2.3.1 Preparation process

2.3.1.1 Defining the systems goal

In Austria the definition of the case and the system goal was inspired by different discussions. It was the intention to build upon expertise that lies within the team of the IFZ so to have a content relation to already existing work and networks. First, it was the idea to connect the case to another project about energy transition (energy independence of a certain region in Austria and how to reach this by using sustainable energy systems). Because the project development did not work out as intended, we came back to the original idea to take the topic of sustainable food systems, which is a topic there had been work on for over a decade at IFZ. In order to give the very broad and comprehensive topic a good framework to work with, the decision was made to have a closer look at the situation in Graz (*Sustainable urban food system in the region of Graz*).

The idea was to elaborate a project, taking into account the principles of RRI, on the topic of *food* together with stakeholders from very different backgrounds. The very difference to a usual approach was that only the topic itself was given and – of course – a certain normative frame (sustainability, food sovereignty, socially just food system), but no other contents and activities.

At the beginning, the funding possibilities to target were not totally clear (small projects could have been tried to be funded on a local or national level, bigger projects on European level), but within the process it was decided to define actions that fit within the framework of Horizon 2020 calls.

2.3.1.2 Selecting and inviting TE participants

The first mapping of possible participants took place on different levels: first, one member of IFZ who is an expert within the topic of sustainable food systems for several years, made a list of possible and important stakeholders to address. Second, within the multidisciplinary team of IFZ, respectively the members of the CC, a mapping was done together, complementing the list. Third, desk research was done about the topic of sustainable food and who is working on the topic (from whatever angle) in Austria. Fourth, personal contacts were addressed who are working in the field of sustainability and social justice and asked who could be invited for a workshop series alike.

For all workshops, participants were invited via email and/or telephone. For the first workshop, all selected participants were invited to indicate their availability in a doodle poll. Due to illness of the IFZ team, the workshop had to be postponed. Thus, the same people were invited for another date (which was prescribed by the IFZ team members). For the second workshop, the same people who participated in the first workshop and all the others from the defined list were invited again. The dates for the second and third workshop were fixed at the first workshop so to make it more predictable for the participants. For the third workshop, the same people were invited plus experts, who were added in the expert mapping that was conducted in the second workshop together with the participants. For the fourth workshop, only those people who attended the third workshop were invited.

2.3.1.3 Selecting and inviting competence cell members

The competence cell in Austria consisted of the team members from the IFZ-FoTRRIS team. This decision was made upon a reflection within the core of the Austrian FoTRRIS team. In terms of expertise about the topic of food we felt well equipped as one of the team members has a long-lasting expertise within the topic of sustainable food systems (e.g. the projects: Foodlinks – Knowledge brokerage to promote sustainable food consumption and production: linking scientists, policymakers and civil society organisations[4] and FAAN – Facilitating Alternative Agro-Food Networks: Stakeholder Perspectives on Research Needs[5]) and thus holds many contacts and networks as well. As we are also experienced in process management and the implementation of workshops (conceptual elaboration, organisation and moderation), we decided to not include any other person for this task.

2.3.1.4 Web-based platform used

The web-based platform was only used at the fourth workshop (where an introduction to the platform was given). There the participants were introduced to the idea behind the platform and "parenthoods" for certain topics (that had been elaborated within the workshops) were assigned to have responsible people who should keep topics updated and alive after the workshops and after FoTRRIS.

2.3.2 Workshop 1

2.3.2.1 Outline of WS1, 15.02.2017, 13.00-17.00

13:00-13:20	Welcome, introduction to the background of the FoTRRIS project, organizational stuff (participants list, etc.)
13:20-14:10	Introductory round: participants introduce themselves within 3 minutes
14:10-14:40	Input: Presentation of the project „Graz ernährt sich" ("Graz feeds itself")
14:40-14:55	Break
14:55-15:25	Introduction to and formulation of the intended goal of a systemic transformation Definition of terms like sustainability, food sovereignty, social just food supply
15:25-15:40	Mapping 1st step: regime and niche initiatives
15:40-16:15	Mapping 2nd & 3rd step: Fostering measures and facilitating factors for a sustainable food system on the example of Graz

[4] http://www.foodlinkscommunity.net/foodlinks-home.html

[5] http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/FAAN_Booklet_PRINT.pdf

16:15-16:45	Concretization of measures for transformation ("ecosystem of solutions"); definition of how fast/slow and with which level of probability (low/high) measures/activities could be implemented
16:45-17:00	Wrapping up and next steps towards the 2nd workshop
From 17:00 -	Conclusion of the evening with food and drinks

2.3.2.2 Facilitation

The first workshop took place at the premises of the IFZ, where one office room is equipped with a large table and is also used for meetings. There is enough place for 15 people and thus fit well for the invited group. We decided to hold the workshop here because it seemed to be a more subliminal surrounding for different kind of people/stakeholders than renting some facilities. Moreover, in these premises it was also easier to convey our expertise towards the participants.

All needed materials (flipchart, projector, pin boards, post-its, etc.) were used from IFZ. One table was prepared for dissemination material from the IFZ (from FoTRRIS and other food-related projects done by IFZ) as well as for the participants (they were informed in the reminder email that they could bring their material).

The preparation of the content and agenda – in line with the MISC and the given framework for the workshops – was done by the three IFZ team members (in several meetings, phone calls and emails). For the implementation of the workshops, work was distributed amongst us three: Magdalena did the moderation together with Sandra, Sandra did inputs related to the content of food, Anita did the minutes and pictures.

2.3.2.3 Role of participants

The participants were asked to introduce themselves and their relation to the topic of sustainable food systems. One participant gave an input (presentation of results) about a project he did. All participants took part in all of the activities (plenary discussions and group works).

2.3.2.4 Role of competence cell members

The preparation and implementation of the workshop was done by the IFZ team members (see also 2.3.2.2.). Within the workshops, the moderation took care of the process and the timeframe, the other two members also took part in group activities and content related discussions.

2.3.2.5 Interactions and deliberation (group dynamics)

It can be said for all workshops, that the communication and the process was very harmonious even though those people who participated had very different worldviews and opinions. The process was designed to have a lot of small group work in order to give all people the same

possibility to bring in their expertise and voice. The atmosphere was always very good and respectful, people listened to each other and gave others the possibility to speak out.

There were moments when others did just not take up topics (due to reasons that were not entirely obvious). For example, one participant brought up the topic of agricultural aid in relation to workforce two times (in two different workshops), but this was simply ignored by the others and thus not further pursued. There were ideas that were followed by many people and consequently elaborated further on and other ideas, in contrast, which did not arise much interest. It was decided to not intervene and leave the process open to this development.

Another interesting process was that ideas or measures that became more concrete, immediately caused ownership claims amongst the participants (e.g. the topic of food councils) or were simply not further discussed because it was clear that the topic was already within the hand of another research institution (e.g. the topic of food incubator).

2.3.2.6 Web-based platform used

The web-based platform was not used during the first workshop.

2.3.3 Workshop 2

2.3.3.1 Outline of WS2, 16.03.2017, 13.00-17.30

13:00-13:45	Welcome, wrapping up of the 1st workshop, goals for today Introductory round by all participants
13:45 – 14:45	Visioning: common development of a vision, based on the framework (sustainable food system in Graz) and the measures identified in WS1; defining a common temporal frame for the vision
14:45-15:15	Break
15:15-15:30	Discussion of the prepared graphics with lock-ins and systemic loops
15:30-16:30	Concretization and prioritisation of the measures from WS1 (Using the method “the wheel”)
16:30 – 17:00	Role of science regarding the measures that were finally identified as most relevant
17:00 – 17.30	Mapping of expertise and actors
From 17:00 -	Conclusion of the evening with food and drinks

2.3.3.2 Facilitation

See 2.3.2.2

2.3.3.3 Role of participants

The participants were asked to introduce themselves and their relation to the topic of sustainable food systems. All participants took part in all of the activities (plenary discussions and group works).

2.3.3.4 Role of competence cell members

See 2.3.2.4.

2.3.3.5 Interactions and deliberation

See 2.3.2.5.

2.3.3.6 Web-based platform used

The web-based platform was not used during or prior to the second workshop.

2.3.4 Workshop 3

2.3.4.1 Outline of WS3, 07.04.2017, 13.00-17.30

13:00-14:00	Welcome, wrapping up of the first two workshops; giving a clear definition of the goals for today (concrete elaboration of the 4 topics/measures identified in WS2)
	Introductory round by all participants (every participant stated 10 terms describing his/herself)
14:00-14:20	Problem outline: Why are these measures so important to reach the vision?
	Group work: participants assign themselves for one of the four topics
14:20 – 14:55	Reporting back
14:55 – 15:15	Goal definition: Group work on what should be reached by the measures
15:15-15:35	Break
15:35 – 16:20	Activity planning: group work on how these measures can be implemented
16:20 - 17:15	Market place: one person is hosting one topic, the others move around and ad their expertise to all measures/activities
15:15-17:30	Wrapping up and forecast for next steps
From 17:30 -	Conclusion of the evening with food and drinks

2.3.4.2 Facilitation

The premises for the third workshop were different to the first two because we learned in the second workshop, that the maximum amount of people for our own premises was 15, especially when doing interactive parts, group work, etc. Therefore, we rented a room from the Evangelic church, which is next door (the facilities of the IFZ also belong to the church) and offers space for about 25 people. We arranged the tables from the beginning for the group work. The room was adequate for the purpose (right size, everything needed was there), but the atmosphere was not too good (a bit run-down, bad air quality).

All needed materials (flipchart, pin boards, post-its, etc.) were used from IFZ. One table was prepared for dissemination material from the IFZ (from FoTRRIS and other food-related projects done by IFZ) as well as for the participants (they were informed in the reminder email that they could bring their material). The workshop was prepared and implemented by the IFZ team members (see also 2.3.2.2).

2.3.4.3 Role of participants

As the third workshop was the one with the most attendees and there were some new people within the group, we did a very short introductory round at the beginning of the workshop.
All participants were actively taking part in all tasks of the workshop and the discussions were vivid. None of the participants had a special role, all activities were targeted at all people taking part at the workshop.

2.3.4.4 Role of competence cell members

See 2.3.2.4.

2.3.4.5 Interactions and deliberation

See 2.3.2.5.

2.3.4.6 Web-based platform used

The web-based platform was not used during or prior the second workshop.

2.3.5 Workshop 4 (extra workshop in Austria)

2.3.5.1 Outline of WS4

13:00-14:00	Welcome Status quo report by all participants (about activities that had been implemented in regard to the workshops)
14:00-14:20	Introduction to the web-based platform
14:20 – 14:50	Input about food sovereignty and framework for a project proposal at European level
14:50-15:05	Break

15:05 – 17: 00	Workshop on food sovereignty • Brainstorming • Group work on activities • Reporting back
17:00 – 17:10	Mapping of expertise and assigning of "parenthoods" for topics/measures
17:10 – 17:30	Conclusion, wrapping up and forecast how to proceed on the elaboration and implementation of the defined measures
From 17:30 -	Conclusion of the evening with food and drinks

2.3.5.2 Facilitation

The workshop was done in the same premises as the third workshop (see 2.3.4.2). The competence cell members (thus the FoTRRIS team members from IFZ) prepared and implemented the workshop. One of the participants (who already did an input for the first workshop) was asked to give an input about a current project on food sovereignty which was thought to be the basis for the further elaboration of a project concept. Moderation, content guidance and notes were made by IFZ.

2.3.5.3 Role of participants

One participant gave an input together with Sandra about a current project. All other participants had the same role, namely being invited to actively taking part in all tasks (plenary discussions and group works).

At the end of the workshop, people were asked to take over content related "parenthoods" for the elaborated measures/topics (to have an eye on the development of the topic in the platform, to inform people about new activities, etc.). Nobody was forced to do so, but there were some people who already had been involved in the discussions on certain topics very intensively, so it was intended to try to give those some responsibility.

2.3.5.4 Role of competence cell members

Same as in all other workshops.

2.3.5.5 Interactions and deliberation

See 2.3.2.5.

2.3.5.6 Web-based platform used

We made a short introduction and how-to-do about the web-based platform to the participants. Therefore, we registered the participants beforehand (with their email-addresses and a common password) and made a short presentation with screenshots to show them the first steps. Content related "parenthoods" were assigned to some participants, so they were asked to keep an eye on the contents also in the platform after the workshop.

2.3.6 Post-workshop process

2.3.6.1 Outputs and outcomes

Within the workshop series, a strong network was built up for all the participants. People were brought together who work on same/similar projects and ideas and had the opportunity to get to know and learn from each other and to build bonds for future work.

The atmosphere was always good, people were very enthusiastic about implementing their ideas – also beyond the transition experiment.

During the workshop process, three thematic foci emerged with a bundle of definite activities (some very elaborated, some less elaborated). It is intended that the participants use the web-based platform to collaborate on these activities and to launch actions to implement them.

The IFZ will now decide on an appropriate Horizon 2020 call and search for opportunities to involve as many of the stakeholders from the workshops to get the ideas and concepts that were produced, implemented. For further details about the outcomes after the workshops also see below.

2.3.6.2 Communication and outreach plans

At the end of the fourth workshop, it was made clear that the next steps for further elaboration of the project ideas would need the commitment and dedication of all the participants. People made bonds and were intensively talking about how to work together and how to implement projects and ideas.

IFZ will take over the lead to elaborate a project proposal (on European level), in which a compound of different ideas will be put together. Therefore – when the thematic calls will open and it is clear where to put the focus – designated people will be contacted to take part in the proposal. All people will be informed about project proposals that are based on the ideas produced within the workshops.

One topic, namely to elaborate an urban food strategy for Graz, is going to be followed intensively because currently there are similar projects going on in different Austrian counties. Therefore, networking activities with the initiatives from Vienna and Innsbruck already started and are planned in the future (where participants from the workshops, who were interested in this topic, will also be informed).

IFZ also offered participants of the workshops to use the facilities (rooms, etc.) for activities that follow the transition experiment.

2.3.6.3 Signs of and plan for continuity

Besides an elaboration of concrete projects ideas/proposals, it is the idea to invite the participants for a regulars´ table in the near future (with offering the facilities and e.g. drinks). This would be the opportunity to keep people updated about the activities, to stay tuned and linked.

2.3.6.4 Web-based platform used

The web-based platform will be used to further elaborate the project ideas that had been gathered throughout the workshop series. Therefore, the 3 main topics that had been worked on were set up as three different working sheets within the project of *sustainable food systems* on the platform. Those people who assigned themselves as "parents" for the respective topic (at the last workshop) should take care to keep the content updated and vivid. One team member of IFZ will also take care of the elaboration and updating of the contents within the platform.

At least it is intended to use the platform as a repository for the participants to share documents, ideas and activities they are doing – so to have a place for networking after the workshop series.

2.4 Learning and adaption during the process

We (IFZ researchers) tried to simplify things; not talking about RRI, using a terminology the participants are used to and to reflect a lot about our rationale and to take over the perspective of "outside the research thinking". The MISC as a framework was only partly suitable for our purpose. There were long discussions within the competence cell (within the team of IFZ) how to make the method suitable for our ideas. Finally, we adapted the terminologies, but still the method was quite complex and people did not really know how to integrate their knowledge into our framework. E.g. the dichotomy-model (niche – mainstream) caused resistance, because the participants are very familiar with the topic (of sustainable food) and did not want to squeeze the system into this two-sided view. In addition, the lock-ins and feedback-loops could not be discussed because all participants of our workshops were aware of these problems and thus it would – from our perspective – have felt like a "waste of time" to discuss this and not to work on concrete actions and solutions.

A very learning was that every participant is so deeply involved in her/his thinking and wants to implement his/her ideas, that it is hard to define common goals and measures and very specific action for everybody to follow. Our conclusion was that if we want to elaborate a project proposal it would need us to make the lead (based on the ideas that were produced within the workshop process) and then get back and invite the participants again to participate (either for elaboration of a concrete concept or for implementation of a project or projects).

We experienced that our feeling about our working time frame differs very much from those of our participants. We had the feeling that we were good on track and doing a good job on how to work on from idea to the project concept and concrete actions. The feedback from the participants differed very much from our perspective. They (or at least some of them) had the feeling that the process was too slow, that we were lacking concrete planning, actions and activities. They wanted to do something and go into action.

One of the biggest challenges we faced within the transition experiment was the competition with other research organizations that are working on the same topic(s) (of sustainable food

system). There is a high competitiveness about networks and funding (who is getting the money, who is able to involve whom in projects, etc.).

3. Belgian report on co-RRI transition experiment[6]

3.1 General summary

'Materials' were the central point of focus during the Flemish transition experiment. Prior to the workshops this theme was narrowed down to 'building and demolition waste and building materials' (case 1), on the one hand, and 'materials composing electric and electronic devices' (case 2), on the other hand. In Chapter 3.3.1.1 can be read more about the process that led to this decision. Here, a description can be found of each of these two cases, as presented at the beginning of the first workshop, addressing, from a societal point of view, the challenges one is confronted with in these contexts. Also, a typology is given of the people being part of the transdisciplinary team working on these cases.

3.1.2 Case 1

3.1.2.1 Case presentation

As can be read below, the Flemish case selection depended in the first place on the fact whether we could find a 'problem owner' who was also willing to participate in the workshops. For 'building and demolition waste and building materials' this problem owner was the City of Antwerp. The latter attracted our attention because the city is a test case in Flanders to develop 'circular cities', a concept that had been launched in relation to 'Vision 2050', a long-term strategy for Flanders. In relation to this, a research consortium is currently rolling out a project called 'Metabolism of Antwerp, city of flows'. By means of this project an answer is sought to the following question: How do flows such as energy, water, waste or materials affect the quality of life of Antwerp's citizens and what kind of spatial relationships exist between these flows, directly as well as indirectly? The underlying idea is that a city can be considered an ecosystem: a complex, vast and interactive metabolism providing services for and maintaining its inhabitants. In a circular city this metabolism has been made more resilient and sustainable by, amongst others, closing material loops.

A meeting with the manager of this metabolism project learned that building and demolition waste was defined as one of the most important flows for further investigation. Yet, they didn't know, at the time of meeting, how to deal exactly with concepts such as the 'sustainable management of building and demolition waste' or 'closing the loop of building materials'. There were also hanging questions related to the logistics of building and demolition waste and how the renovation and redevelopment of Antwerp's 19th and early 20th century neighbourhoods could be linked to this metabolism story.

We therefore took the opportunity to link the FoTRRIS experiment with these ongoing developments at city level and positioned the experiment as an exploratory track. This meant that the manager of the metabolism project attended our workshops together with, at least, one other person involved in this project. They contributed to the discussions and worked, being

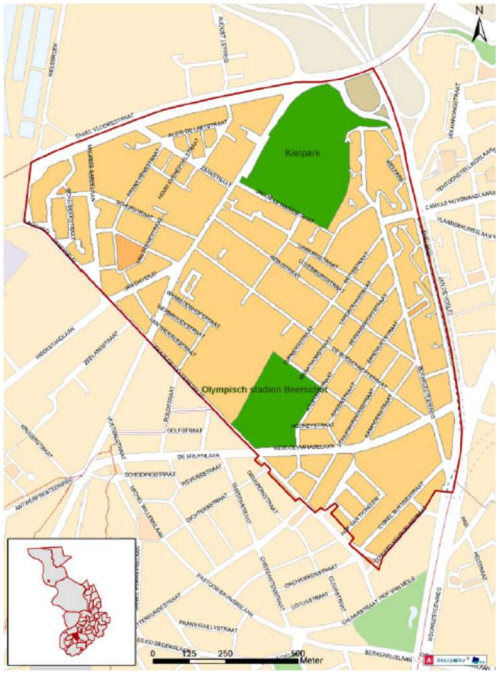
[6] Nele D'Haese (VITO)

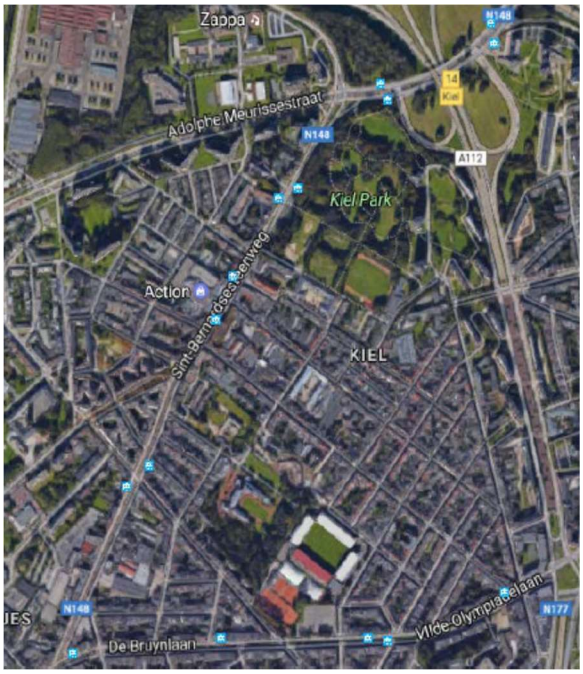
experts in the field, on the project proposal. In exchange, we could give them free room for thinking, high-level discussions among experts and interesting contacts.

As a result, it was clear to us that we should focus during our experiment on building and demolition waste and building materials in Antwerp. However, defined this way, it still appeared to be a rather abstract case. We wanted to make it more real, concrete and tangible and therefore decided to geographically link this theme with one of the more challenging neighbourhoods of Antwerp: Kiel.

The following figures give an impression of the challenges one has to deal with when trying to make the housing stock in this neighbourhood more sustainable. These figures were provided by the city of Antwerp and were also presented during the workshops (see pictures below).

- A big majority of the people in this neighbourhood live in apartments.
- Only 31.6% of the properties is occupied by the owner.
- The neighbourhood is one of the most densely populated areas in Antwerp (3,709 persons/km^2).
- 67.7% of the inhabitants have a migration background.
- The neighbourhood is one of the 'arrival neighbourhoods' of Antwerp, meaning that a lot of people live there for only a few months and then move on.
- There are some green spaces. Apart from this, the neighbourhood is densely built as a result of which there is no open space left.
- A significant part of the building stock comprises run-down houses.



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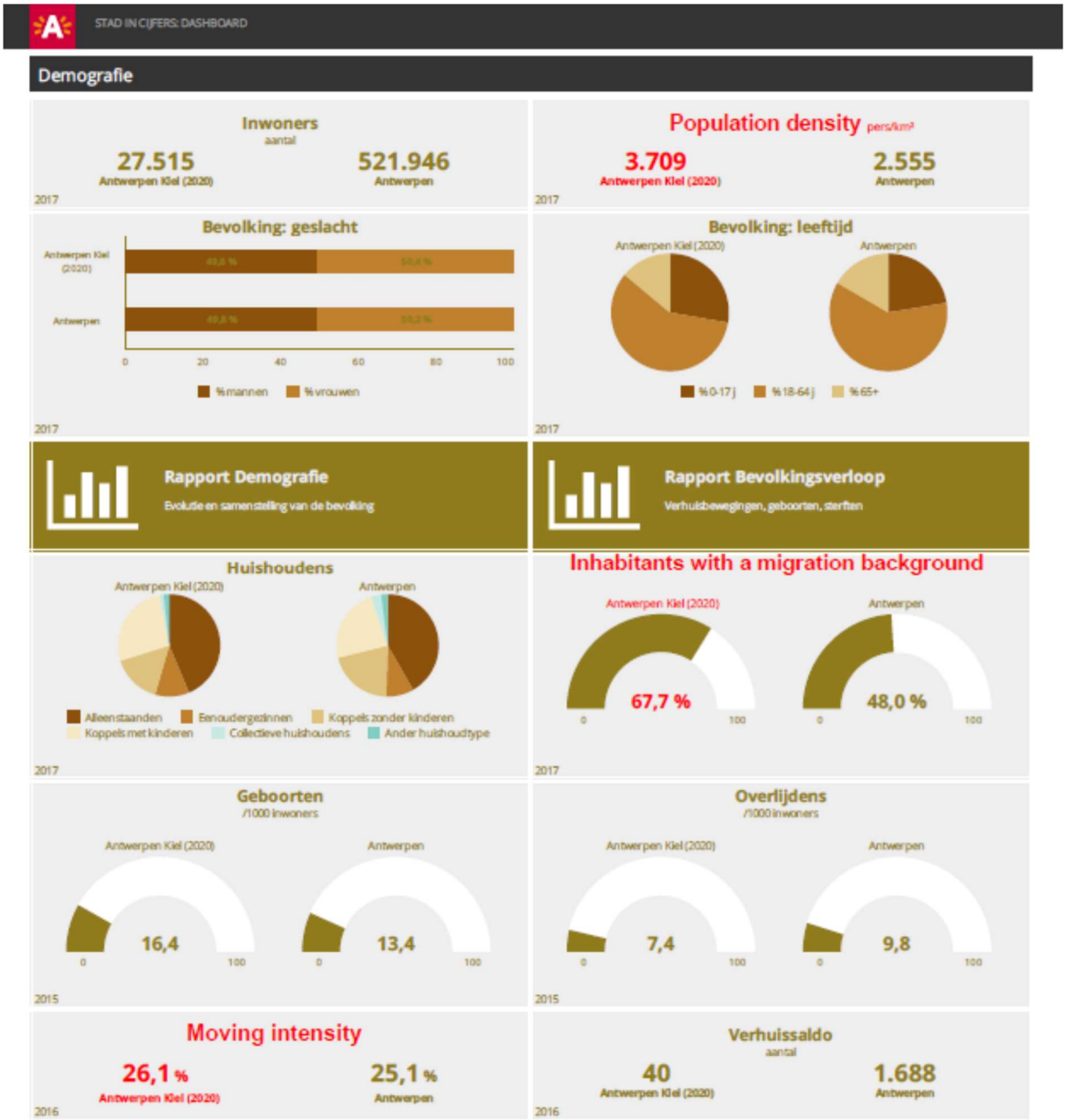
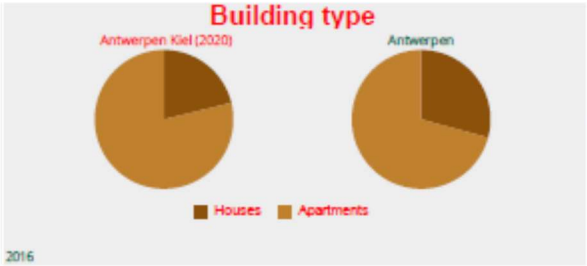
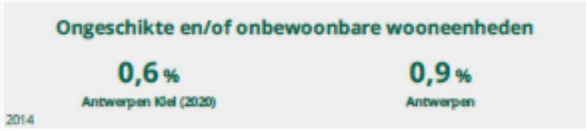

STAD IN CIJFERS: DASHBOARD
Demografie
Inwoners
aantal
27.515
Antwerpen Kiel (2020)
521.946
Antwerpen
2017
Population density pers/km²
3.709
Antwerpen Kiel (2020)
2.555
Antwerpen
2017
Bevolking: geslacht
Antwerpen Kiel (2020)
Antwerpen
0
20
40
60
80
100
% mannen
% vrouwen
2017
Bevolking: leeftijd
Antwerpen Kiel (2020)
Antwerpen
% 0-17 j
% 18-64 j
% 65+
2017
Rapport Demografie
Evolutie en samenstelling van de bevolking
Rapport Bevolkingsverloop
Verhuisbewegingen, geboorten, sterften
Huishoudens
Antwerpen Kiel (2020)
Antwerpen
Alleenstaanden
Eenoudergezinnen
Koppels zonder kinderen
Koppels met kinderen
Collectieve huishoudens
Ander huishoudtype
2017
Inhabitants with a migration background
Antwerpen Kiel (2020)
67,7 %
Antwerpen
48,0 %
0
100
2017
Geboorten
/1000 inwoners
Antwerpen Kiel (2020)
16,4
Antwerpen
13,4
0
100
2015
Overlijdens
/1000 inwoners
Antwerpen Kiel (2020)
7,4
Antwerpen
9,8
0
100
2015
Moving intensity
26,1 %
Antwerpen Kiel (2020)
25,1 %
Antwerpen
2016
Verhuissaldo
aantal
40
Antwerpen Kiel (2020)
1.688
Antwerpen
2016

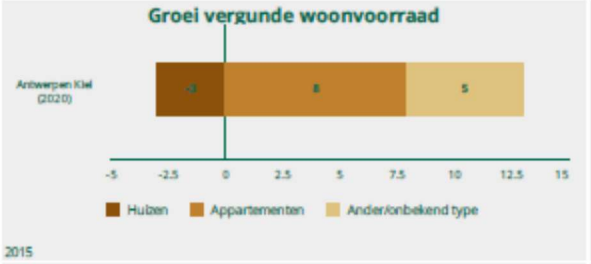
Wonen


Building type
Antwerpen Kiel (2020)
Antwerpen
Houses
Apartments
2016


Gemiddelde prijs appartementen
€ 141.219
Antwerpen Kiel (2020)
€ 158.994
Antwerpen
2014


Gemiddelde prijs woonhuizen
€ 269.965
Antwerpen Kiel (2020)
€ 244.701
Antwerpen
2014


Ongeschikte en/of onbewoonbare wooneenheden
0,6 %
Antwerpen Kiel (2020)
0,9 %
Antwerpen
2014


Groei vergunde woonvoorraad
Antwerpen Kiel (2020)
-3
8
5
-5
-2.5
0
2.5
5
7.5
10
12.5
15
Huizen
Appartementen
Ander/onbekend type
2015


Kotdichtheid
aantal
0,43
Antwerpen Kiel (2020)
1,11
Antwerpen
2016

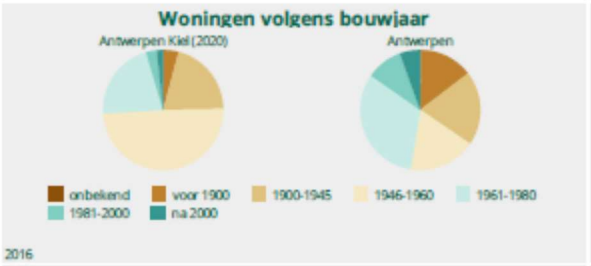

Woondichtheid woongebied (hh/ha)
hh/ha
48,7
Antwerpen Kiel (2020)
43,7
Antwerpen
2017

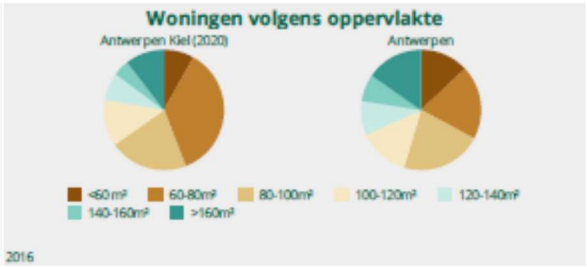

Rapport Wonen en Ruimte


Sociale woningen
Antwerpen Kiel (2020)
35,6 %
0
100
Antwerpen
10,1 %
0
100
2015


Buildings where the owner(s) live in
Antwerpen Kiel (2020)
31,6 %
0
100
Antwerpen
43,3 %
0
100
2016


Woningen volgens aantal verdiepen van het gebouw
Antwerpen Kiel (2020)
Antwerpen
maximaal 2 verdiepen
3 of 4 verdiepen
5 t.e.m. 9 verdiepen
10 of meer verdiepen
2016


Woningen volgens bouwjaar
Antwerpen Kiel (2020)
Antwerpen
onbekend
voor 1900
1900-1945
1946-1960
1961-1980
1981-2000
na 2000
2016


Woningen volgens oppervlakte
Antwerpen Kiel (2020)
Antwerpen
<60 m²
60-80m²
80-100m²
100-120m²
120-140m²
140-160m²
>160m²
2016


Gemiddelde woonoppervlakte per woning
vierkante meter
106
Antwerpen Kiel (2020)
110
Antwerpen
2016

3.1.2.2 Transdisciplinary team

The team working on this case during the experiment consisted of people with the following backgrounds:

- Research profiles: people from the Free University of Brussels, the University of Antwerp and VITO working in the field of urban development and on transformable building principles leading to demountable, reusable and multifunctional buildings and therefore a more sustainable management of building materials.
- Business profiles: people representing companies developing and applying innovative building concepts and recycled building materials
- People from non-governmental organisations and citizens involved in projects about responsible property development
- People from governmental bodies responsible for waste and materials management, spatial planning and sustainable building.

3.1.3 Case 2

3.1.3.1 Case presentation

The case on 'materials composing electric and electronic devices' had a more diffuse ownership, as those material cycles consists of various 'loops' (repair, reuse refurbish, recycle...) which can be organised by cities or provinces as well as at regional (Flemish) and national (Belgian) level. Moreover, the (urban) mining of these materials is connected to an international and even intercontinental context, since e.g. most used mobile phones disappear towards Africa or Asia. The basic assumption in presenting the case was that actors at various levels have a stake in 'keeping as many materials as possible into their loop' and in creating as little loss (waste, entropy) as possible. In preparing the Transition Experiment, we had individual meetings with each participant to explore what their interest or sense of ownership could be, and how they complemented each other.

In Flanders there is a strong tradition of selective waste collection (paper, organic, electronics, glass, PMD, batteries, etc.) and waste disposal sites ("container parks") are available at community or intercommunal level. Flemish households are doing very well in sorting their trash and depositing it via specialised sites or channels. Yet, in spite of all these efforts, the total amount of 'residual waste' keeps growing. Representatives from waste collection by cities, intercommunal services or provinces were contacted; although not all of them could participate, they all expressed their interest in a transdisciplinary approach of 'waste reduction'.

In Flanders, there is also a strong policy support for the circular economy, as well as a network of 'second-hand shops' in the social economy. Civil society organisations organise Repair Cafés and makerspaces, and promote sustainable production and consumption. The preliminary meetings revealed that these organisations supported the purpose of the transition experiment, even though for some of them it was too difficult to find the time for participating in three workshops.

Moreover, Umicore, a company that is a world leader in recycling metals (mainly from laptops and mobile phones), is based in Flanders. In September 2016, at the occasion of the RRI-focus organised by the Flemish Government Department of Economics, Science and Innovation, the methodology of the Co-RRI cells was presented on a 'case' offered by Umicore: even though they have the technology for recycling mobile phones and laptops, only a small percentage of these devices find their way to Umicore. That workshop demonstrated that solutions to 'materials scarcity' require more than just technology, but mainly depend on social, cultural and institutional factors that are beyond the capacities of the company. Umicore therefore was strongly motivated to participate in the Transition Experiment.

3.1.3.2 Transdisciplinary team

The team working on this case during the experiment consisted of people with the following backgrounds:

- Research profiles: people from the University of Antwerp and the KU Leuven, working in the field of 'Environment and Society' respectively of 'Industrial Policy'.
- Business profiles: people representing companies specialised in recycling metals from mobile phones and laptops and developing materials for innovative technologies or in innovative living concepts.
- People from non-governmental organisations and citizens involved in projects about repair and recycling of electric and electronic devices and in a maker space/time lab.
- People from governmental bodies responsible for waste management at city and regional level.

3.2 Workshop content

3.2.1 Workshop 1

<u>Introductory plenary exercise: MISC (method 1)</u>

The MISC curve was used during the first workshop in an introductory exercise. This exercise was meant to get people acquainted with the organisations represented in the workshop. The participants were therefore asked to answer the following two questions after they positioned their organisation with post-its on the curve (see also chapter 3.3.2.1. Outline of WS1, time frame 13:30 – 14:15):

- Where would you position your organisation on the curve today? Why?
- Where should your organisation be positioned according to you? What would your organisation then be doing differently compared to its current functioning?

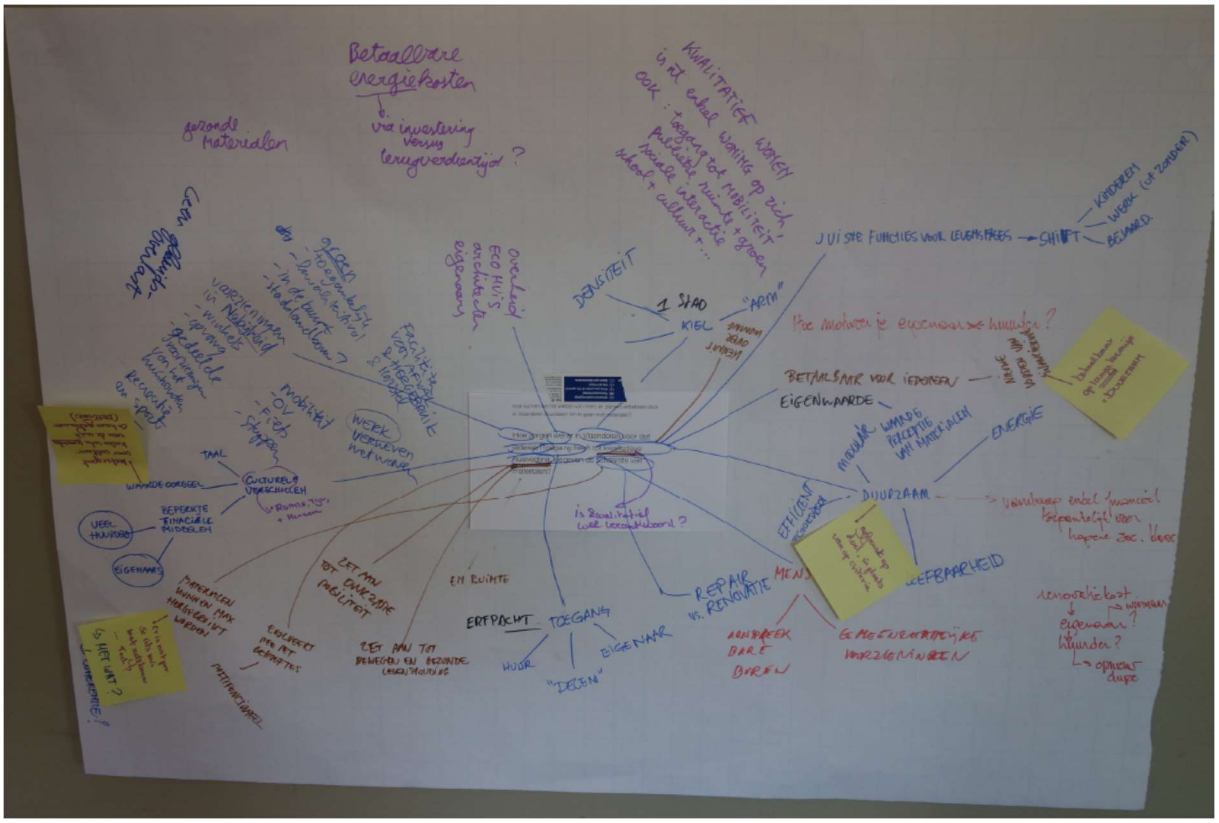
After this plenary phase, the workshop's participants worked in two separate groups: one discussing sustainable housing and one working on sustainable electric and electronic devices. A detailed overview of the different exercises done within these groups can be found in chapter 3.2.2. Here these exercises, and their output, can be summarized under the following titles: 'envisioning', 'actor mapping' and 'mapping barriers'.[7]

When reporting about the content of the Flemish workshops, it is necessary to make a distinction between the content of the discussions during the workshops, hence the direct input given by the participants, and this input once processed by the competence cell members. Due to the intensity and richness of the discussions, it was often impossible to structure their content. From time to time it was even difficult to follow the discussions' pace while only writing down simple catchwords on post-its (see also the pictures below). Therefore, we decided to process all the workshop's material afterwards and to present this output in a more structured way at the beginning of the next workshop. This way, we could also evaluate if we interpreted the discussions correctly.

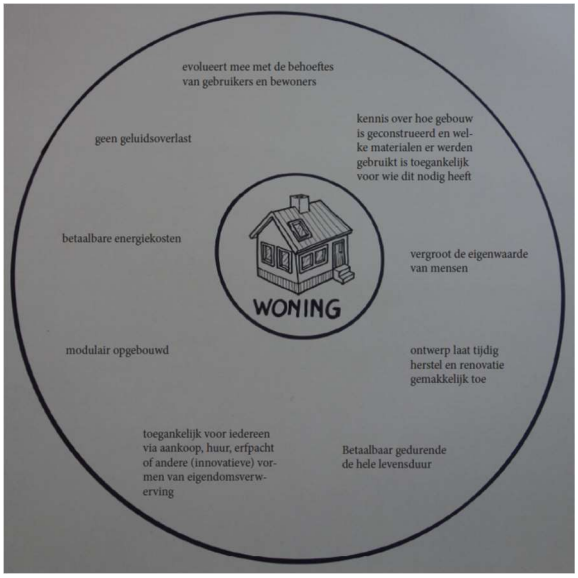
<u>Envisioning (method 2)</u>

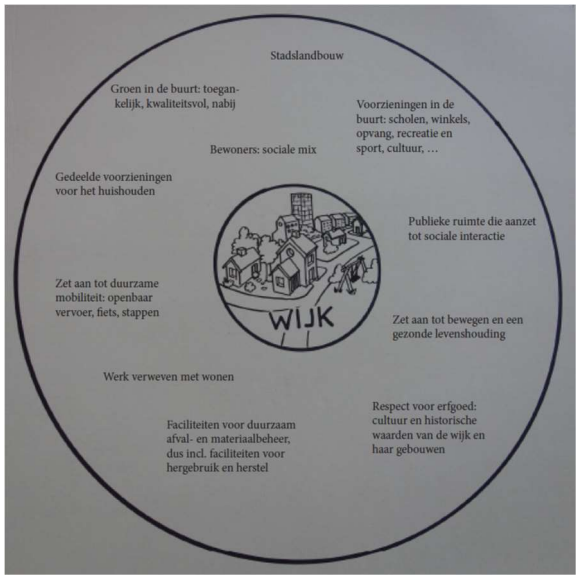
In the picture below, one can see the outcome of the visioning exercise executed during the first workshop by the people working on sustainable housing (see also time frame 14:35 – 14:50 – Discussing the system's function in chapter 3.3.2.1).

[7] These titles and numbers (e.g. MISC (method 1)) are used throughout this report and the other deliverables in which we report about the Flemish experiment.

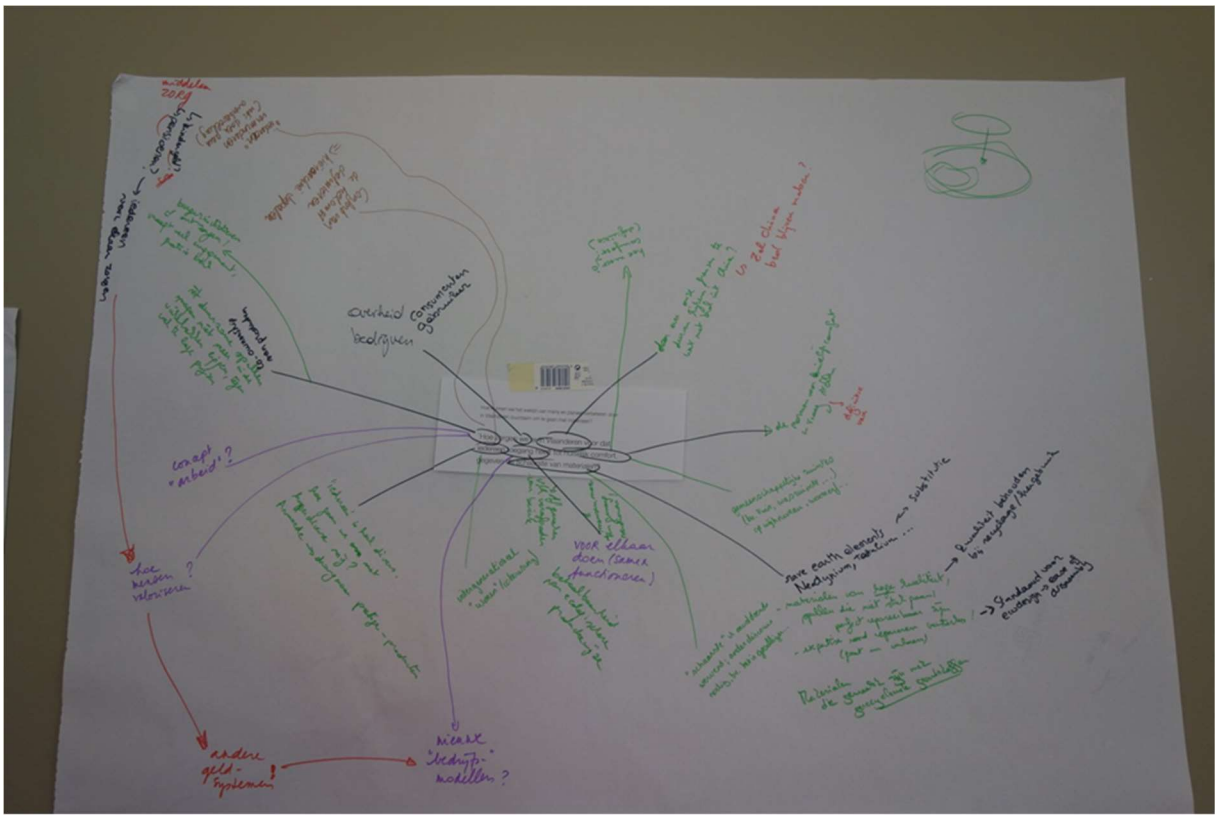


Although this exercise was meant to give all participants an idea about the richness of a concept such as 'sustainable housing' and, as a consequence, not to come to a shared vision, the final result appeared to contain no contradictory elements. All interpretations written down by the participants could therefore be seen as complementary criteria composing a vision on sustainable housing. These criteria were structured along the following embedded systems: building materials > house > neighbourhood.
(see also: https://realtimeboard.com/app/board/o9J_k0H1Iag=/).

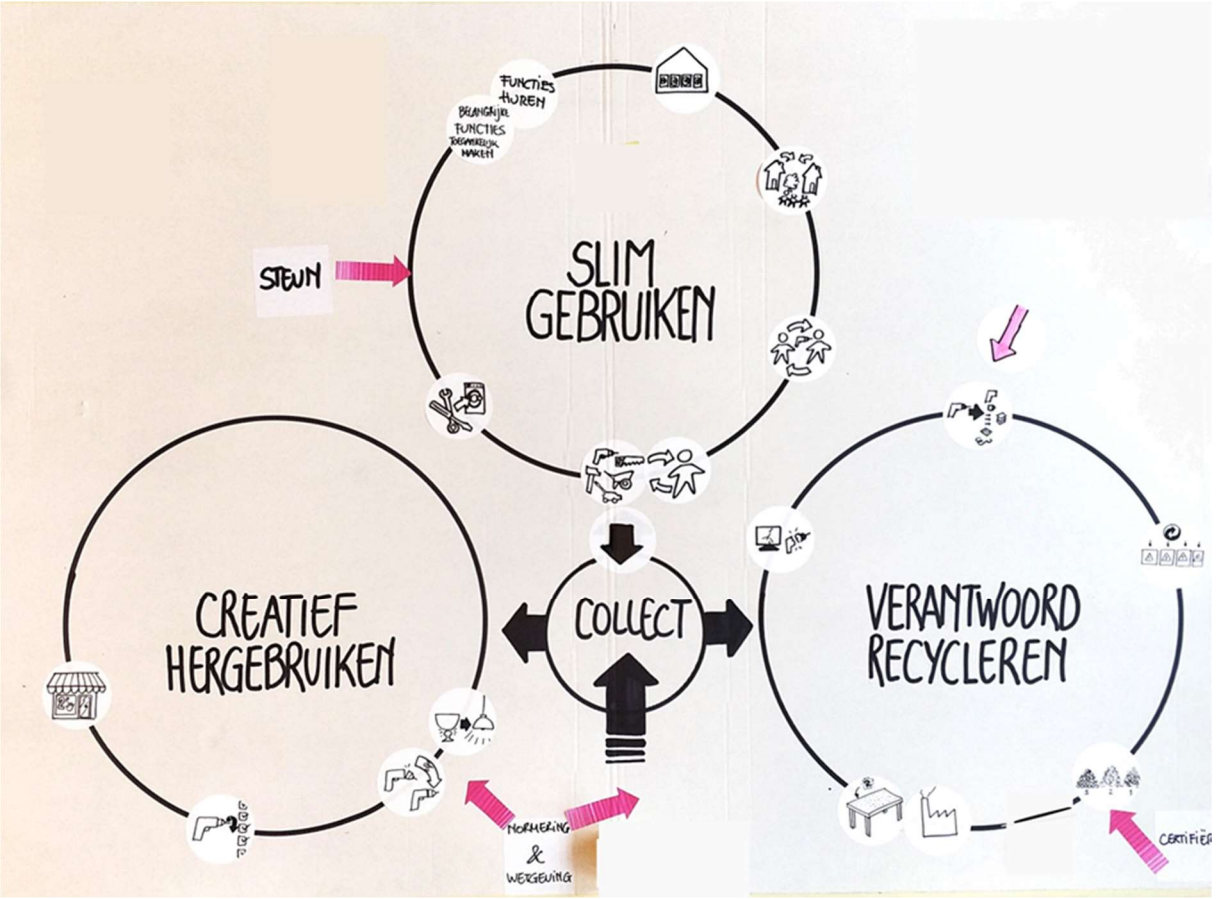




Also, in the working group on sustainable electric and electronic devices the participants did a visioning exercise. The participants were asked to put different elements (interpretations, remarks, ideas, etc.) on every word of the central question "How can we ensure access to domestic comfort for everybody living in Flanders given the scarcity of materials?"
(see also: https://realtimeboard.com/app/board/o9J_k0GnU3Q=/).



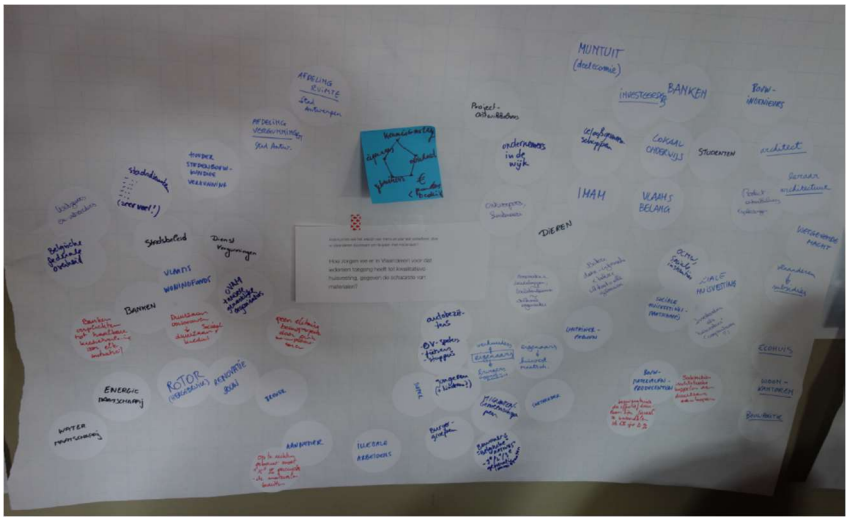
This vision could be visualised by the competence cell (see picture below), integrating the output of the discussions from the actor mapping exercise as well. This visualisation was presented and discussed again in the second workshop.



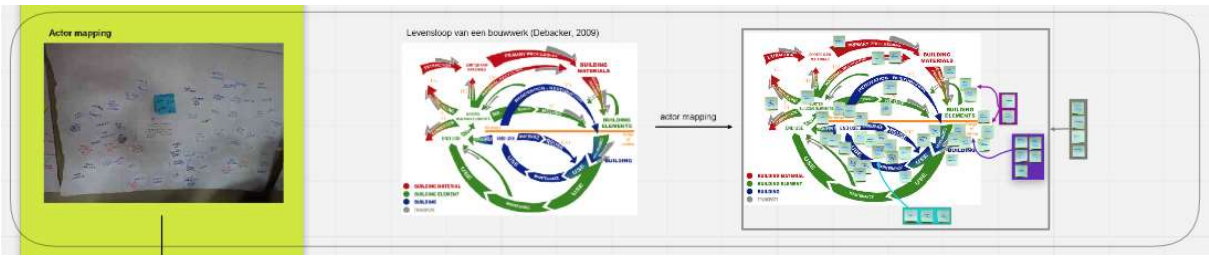
Actor mapping (method 3)

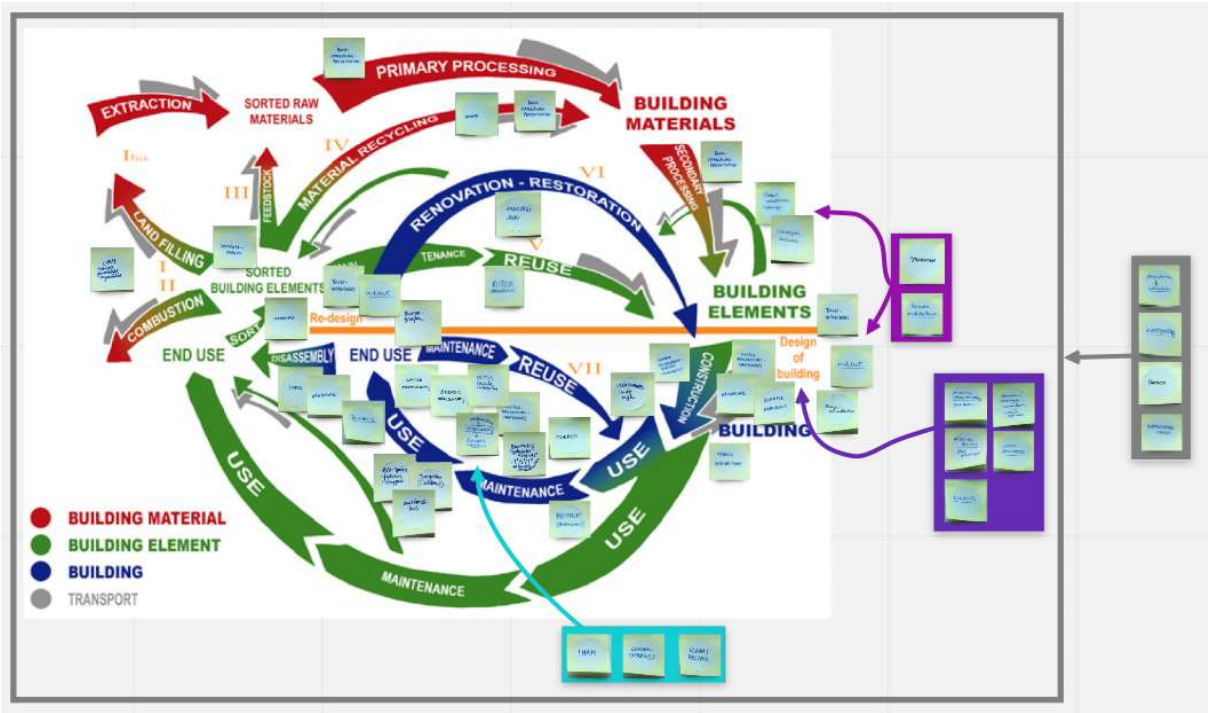
More information about this exercise can be found in time frame '15:00 – 15:15 – Mapping actors' in chapter 3.3.2.1.

A picture of the outcome of this exercise, executed by the group working on sustainable housing, can be seen here:

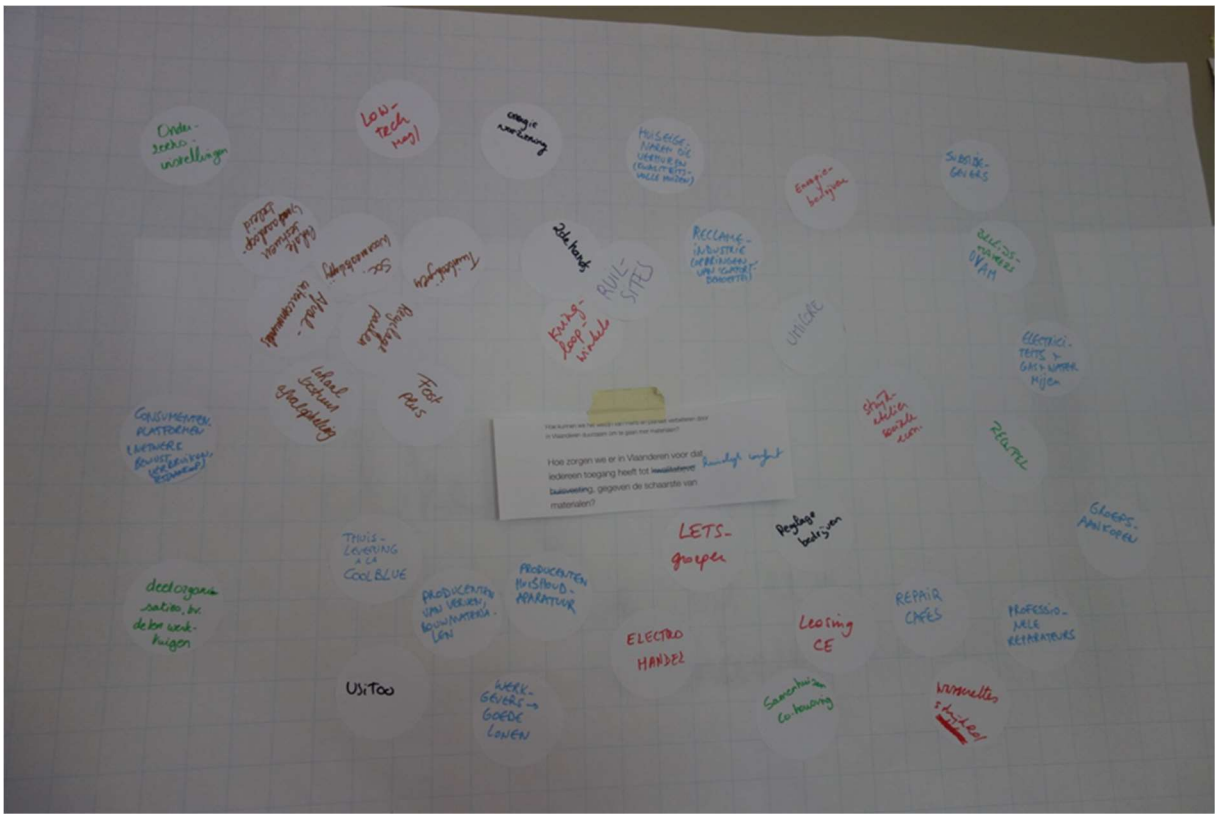


These actors were further processed and integrated in a schematic overview of the life cycle of a building (Debacker, W. 2009: Structural design and environmental load assessment of multi-use construction kits for temporary applications based on 4Dimensional Design. PhD-thesis, Free University of Brussels, Faculty of Engineering; (see also at https://realtimeboard.com/app/board/o9J_k0H1Iag=/).

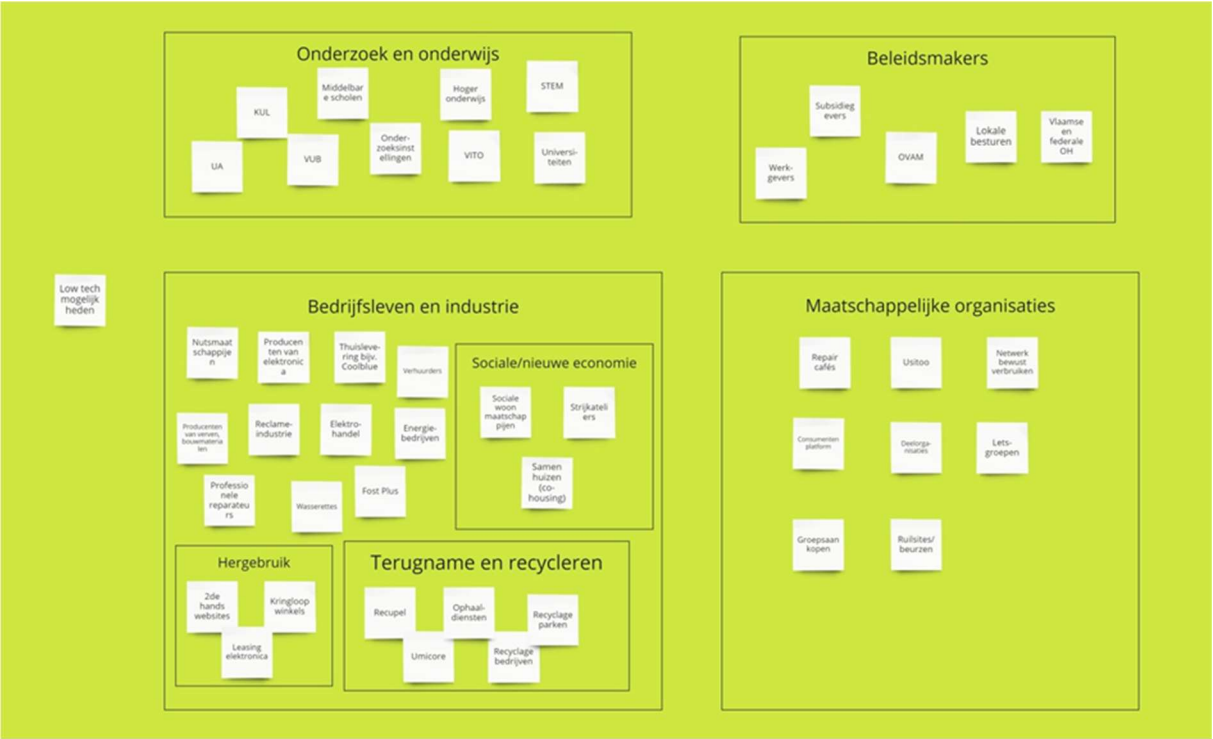




The outcome of this actor mapping exercise for the sustainable electric and electronic devices working group is shown below. This group managed to group these actors already a bit during the exercise.



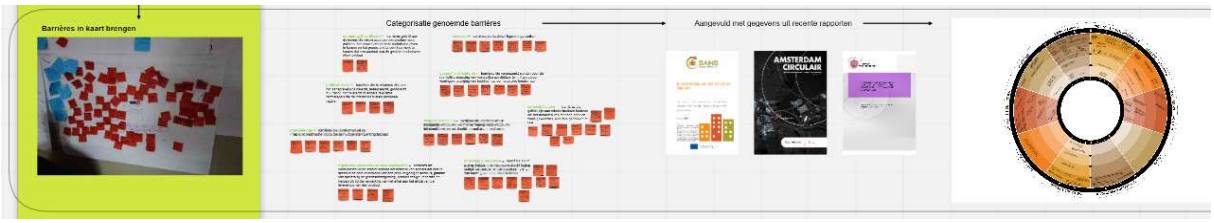
The competence cell's members processed these data and sorted the actors along the four pillars of the quadruple helix: policy, science and education, business and civil society organisations. Within 'business' a distinction was made between regime players, social/new economy and actors already involved in responsible recycling and creative re-use, but using present economic models.



<u>Mapping barriers (Method 4) – part 1</u>

More information about this exercise can be found in time frame '15:15 – 15:45 – Mapping barriers' in chapter 3.3.2.1. The following is a picture of the barriers identified by the people working on sustainable housing:

These barriers were categorised afterwards and complemented with insights from recent reports on building and demolition waste and building materials in a circular economy.
(see also: https://realtimeboard.com/app/board/o9J_k0H1Iag=/)



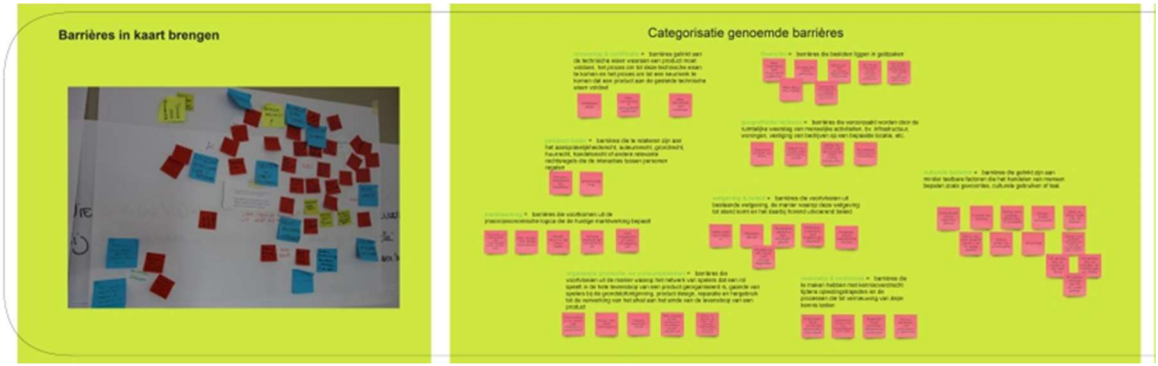
Given the content of the discussions during the workshop and the topics dealt with in these reports, it was useful to define the following nine categories of barriers:

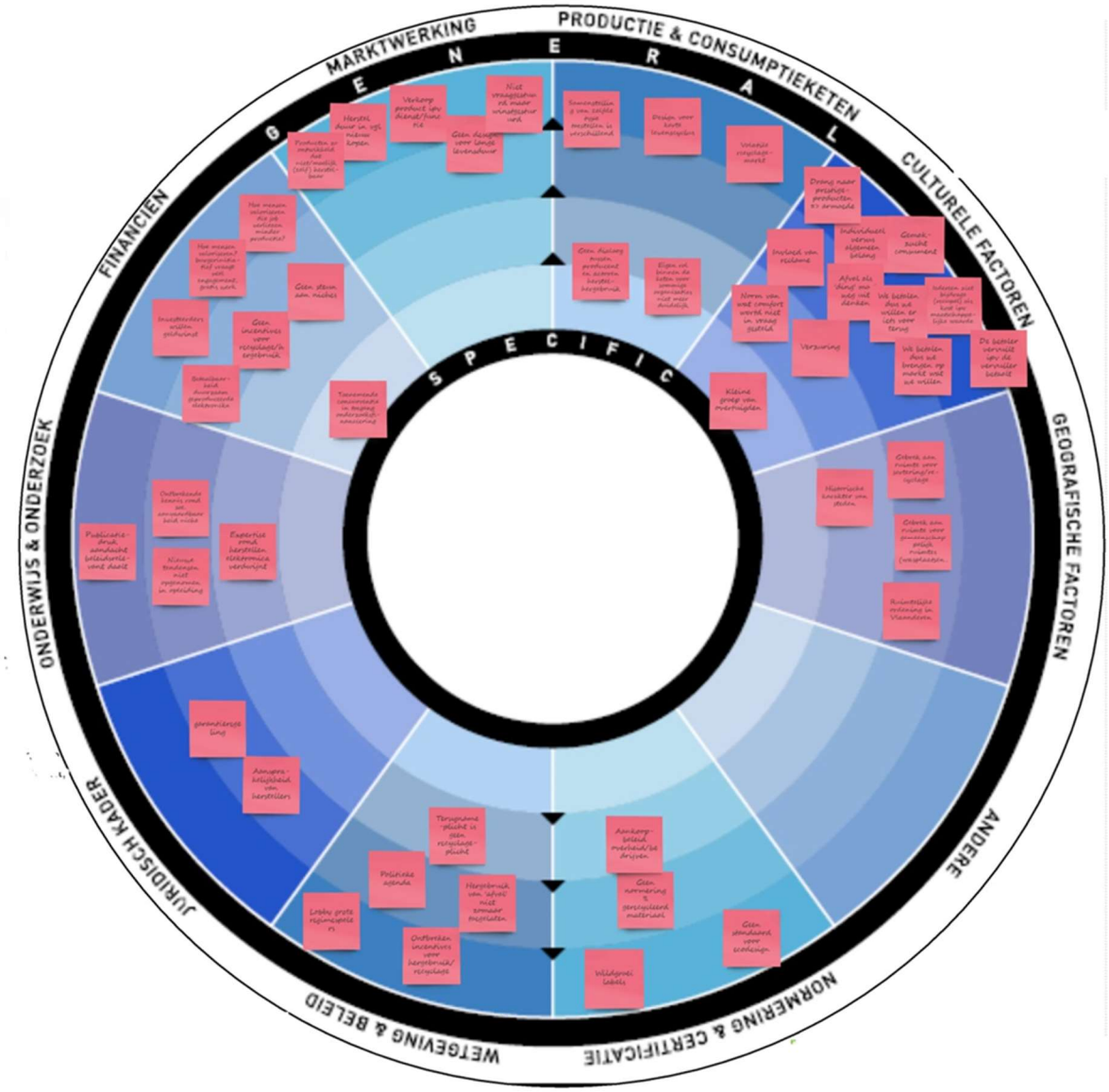
- *Norms and certification*: Barriers linked to the compulsory technical requirements imposed on products, the process through which is decided on these technical specifications and the practicalities of the certification process itself.
- *Legislation and policies*: Barriers created by current legislative frameworks, the preceding law-making processes and the resulting executive policies.
- *Judicial frameworks*: Barriers related to rent law, commercial law, liability law, copyricht and other relevant rules of law regulating and directing the interactions between people.

- *Education and research*: Barriers hampering the transfer of knowledge during educational trajectories and other knowledge creating processes.
- *Finances*: Barriers coming from the monetary resources and affairs from a state, organization or person.
- *Economy*: Barriers resulting from the logical basis currently determining the functioning of economic markets.
- *Organisation of production and consumption networks*: Barriers following from the way the network is organised, and hence functions, containing actors involved in the life cycle of products, such as the exploitation of raw materials, product design, manufacturing, the use of products, repair, the processing of waste, etc.
- *Culture*: Barriers related to non-tangible factors shaping people's actions, such as norms, language, habits, paradigms and culturally determined practices.
- *Geographical factors*: Barriers emerging from tangible, spatial elements moulding human activities, such as infrastructures, houses, roads, rivers, etc.
- *Others*

It is certainly worth mentioning here that none of the workshop's participants saw the current state of technology as a limiting factor. Consequently, there were no technological elements among the barriers mapped during this exercise.

Also, the group working on 'sustainable electric and electronic devices' did a barrier mapping exercise. Independent of each other, the outcomes of both groups showed that the workshop's participants don't experience technological barriers. As a result, it was possible to categorize the barriers defined in this group using the same framework as the ones related to sustainable housing.

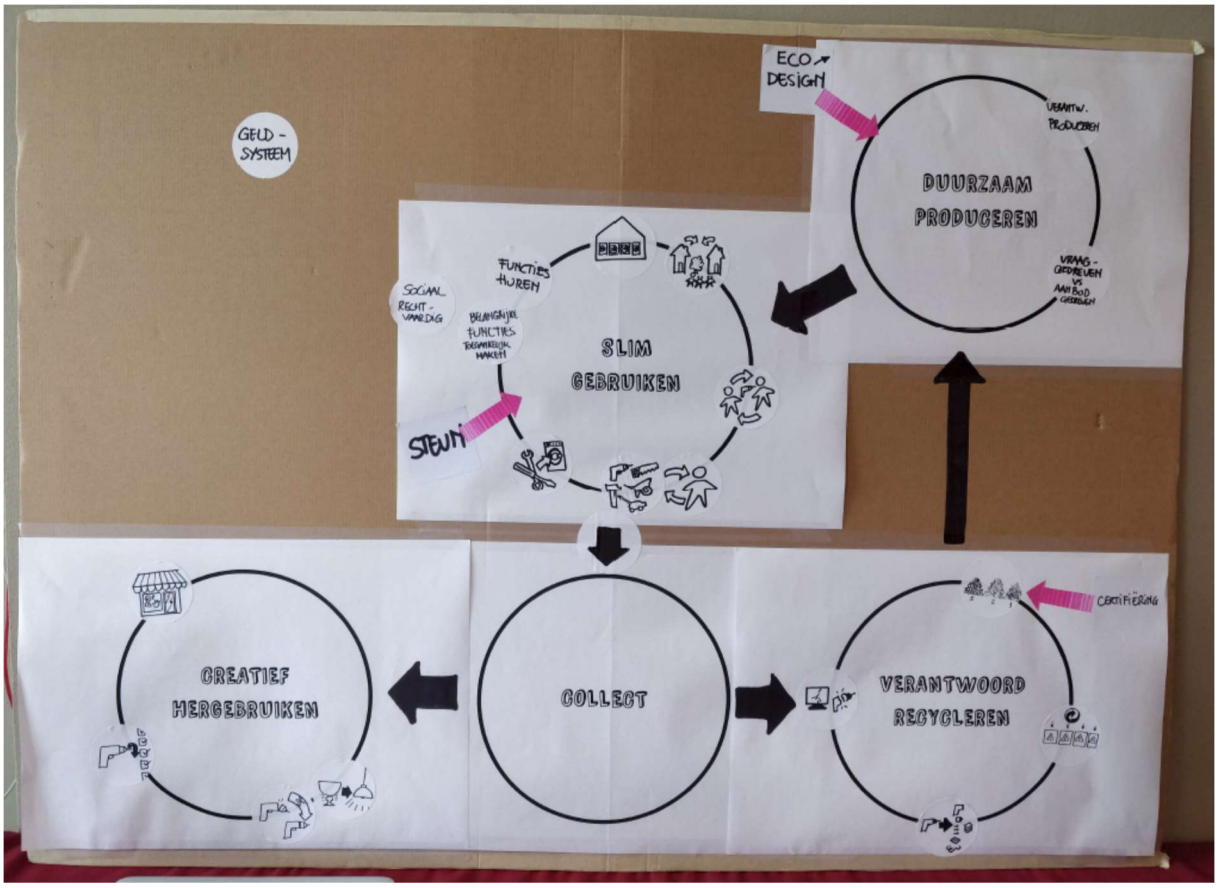




3.2.2 Workshop 2

In the second workshop, the facilitators of the group working on domestic comfort started with explaining how all the definitions, remarks and ideas collected during the envisioning exercise were interpreted. This way we could check whether our visualization was in line with the vision

the participants had in mind (time slot 13:15 – 13:25). The most important result was that extra items were added so that the visualisation could be optimized (an extra circle on sustainable production was added).



Mapping barriers (Method 4) – part 2

After having checked the vision, also the diagram with barriers was presented to the 'domestic comfort' group. As a consequence of the adaptations in the visualization of the vision, extra barriers were included in this diagram referring to the points of discussion in the former step. (More information about this exercise can be found in time frame '14:00 – 14:40 – Mapping barriers (part 2)' in chapter 3.3.3.1.)

In a following exercise, each of the participants was asked to link his/her organization with the barriers that stop their organization from moving up the MISC curve to the preferred location (see also the first exercise of workshop 1). By doing this, we could visualize the complexity of the challenges ahead of us (see also the picture below). Moreover, it made people realize that only a set of intertwined solutions can solve the identified barriers.

The same exercises were also done by the group working on sustainable housing. The picture below shows the final outcome.

Mapping leverages (method 5)

More information about this exercise can be found in time frame '14:50 – 15:50 – Mapping leverages)' in chapter 3.3.3.1.). The result is shown in the picture below.

As can be read below in Chapter 3.3.3.5, the group working on sustainable housing decided to change course during the second halve of the workshop. As a result, this group did not define any leverages. Instead, they immediately began developing a project concept. The first outlines are presented below. After the workshop, the competence cell translated these comments and factual information into a more elaborate project proposal (also shown in the pictures below). This draft was mailed to all the participants some days before the third workshop took place.


UITTESTEN ?
ZINVOL DOENBAAR
WAT ZOUDEN JULLIE HIER SAMEN UITTESTEN
INSPIRATIE ?
SCHAALBAAR
CIRCULAIR
LOKAAL GEPAST
GAAT PROJECT NOG ZEGGEN "IK BEN HIER"
WIE NOG MEEMAKEN?
"HIER MOET IETS GEBEUREN"
CHECK: WAAR KUNNEN WE DIT BETER DOEN...
WAT GAAN WE NIET IN DE WEG ZITTEN?
STAAT TOCH...
SPORTTRANSFER

Circulair renoveren in theorie

Een van de ambities die aan de basis ligt van dit project is om materiaalkringlopen optimaal te sluiten. Dit betekent dat bouw- en sloopafval dat vrijkomt bij renovaties op het Kiel op een dergelijke manier moet worden gesorteerd en verwerkt dat hergebruik en recyclage mogelijk worden. Daarom zal onderzoek worden gedaan naar wat, vanuit economisch, ecologisch en logistiek oogpunt, de beste manier is om met dit bouw- en sloopafval om te gaan. Daarnaast zal het ontwerp van kleine én grootschalige renovaties vanaf nu rekening houden met het hergebruik van bouwmaterialen en -elementen in de toekomst. Ook dit vraagt nog bijkomend onderzoek, op maat van de noden en concrete vragen op het Kiel, naar gebouwontwerp, innovatief materiaalgebruik en nieuwe renovatietechnieken.

Circulair renoveren in praktijk

De nadruk ligt in dit project op de praktijk, wat wil zeggen dat er het hele project lang ook écht gebouwd wordt. Al in het eerste projectjaar wordt gestart met kleinschalige, maar kwalitatief hoogstaande ingrepen die een voorbeeldfunctie kunnen vervullen in de buurt. Ook wordt de renovatie opgestart van enkele icoonprojecten: meer grootschalige renovaties die de langetermijn ambitie voor de buurt verbeelden. De daarop volgende jaren vinden steeds tegelijkertijd verschillende klein- en grootschalige renovaties plaats. In het straatbeeld is duidelijk te zien dat op die plekken gebouwd wordt aan een 'circulair Kiel' (bv. via infobord). Buurtbewoners en andere geïnteresseerden krijgen de mogelijkheid om deze werven te bezoeken en te praten met architecten en andere deskundigen. Ook wordt een 'loket' opgezet in de wijk waar iedereen met vragen rond zijn verbouwing de nodige deskundige begeleiding krijgt.

Meten is weten

Wat zijn de basisvereisten die bewoners stellen aan een duurzame woonomgeving? In het visievormingstraject zullen deze worden opgelijst. In dit deel van het project zullen deze kwalitatieve vereisten worden doovertaald naar parameters die door de bewoners zelf kunnen worden gemeten, jaren lang, zodat de kwaliteit van de woonomgeving op het Kiel kan worden opgevolgd. In dit onderzoeksluik zal ook een gebruiksvriendelijk platform worden ontwikkeld, dat deel uitmaakt van de projectwebsite, waarlangs data kunnen worden ingegeven. Over de data zelf, dus over de score die behaald wordt op alle parameters, zal op continue basis worden gecommuniceerd via de projectwebsite.

Projectperiode
2019 - 2023

Projectdoelstelling
Binnen 5 jaar is er een gedeelde visie ontwikkeld op 'circulair Kiel' en zijn de nodige structuren uitgebouwd om te garanderen dat elke kleine of grote ingreep in de gebouwde omgeving er bijdraagt aan deze gewenste toekomst.

Nieuwe modellen om private en publieke kosten en baten en eigenaarschap op elkaar af te stemmen

Het circulair renoveren van de private en publieke ruimte in functie van duurzaam wonen, roept een aantal vragen op, zoals:

- Hoe duurzame renovatie financieel mogelijk maken voor armere bevolkingsgroepen?
- Hoe de kosten en baten verdelen over gebruikers van gedeelde ruimte t.o.v. privaat gebruik (bv. parkeerplaatsen voor deelauto's t.o.v. individuele parkeerplaatsen, ruimte met gedeelde wasmachines, gedeelde groenruimte, daken ter beschikking gesteld voor opwekking hernieuwbare energie of stadslandbouw, etc.)?
- Hoe bouw- en sloopafval dat nog kan worden hergebruikt of hoogwaardig gerecycleerd correct waarderen?

Dit onderzoeksluik zal onderzoeken welke modellen er al bestaan om op deze en soorgelijke vragen een antwoord te bieden, rekening houdend met de specifieke vragen die hierrond leven op het Kiel, en waar nodig nieuwe modellen ontwikkelen.

Participatief visievormingstraject

Dit onderzoeksluik heeft tot doel om vanuit de praktijk, maar geïnspireerd door wat theoretisch mogelijk is, na te denken over circulaire gebiedsontwikkeling in de stadswijk 'Kiel'. Het eindproduct van dit traject is een visie op hoe de gebouwde omgeving in de wijk er in 2050 uit zal zien, en hoe deze het voor de bewoners mogelijk zal maken op een duurzame manier te leven. Deze visie zal leidend zijn voor de rest van het onderzoek, en zal aan volgende criteria voldoen:

- **transdisciplinare visie** op 'circulair Kiel' die voortbouwt op **state-of-the-art inzichten:**
  - visie ontwikkeld tijdens FoTRRIS cocreatietraject
  - BAMB (H2020-project): Synthesis of the state-of-the-art
  - Roadmap Circulaire Gronduitgifte - een introductie in circulaire bouwprojecten (Gemeente Amsterdam)
- **participatief traject** met en door buurtbewoners vormgegeven en begeleid door kennisinstellingen en relevante overheden en gecommuniceerd via projectwebsite en andere relevante kanalen
- **iteratief reflectief proces**: intensief proces aan het begin van het project om vanuit wat theoretisch mogelijk is te komen tot een concrete visie - daarna: 'schaven aan visie' op basis van jaarlijkse terugkoppeling over wat daadwerkelijk werd gerealiseerd en nieuwe inzichten

3.2.3 Workshop 3

Due to the different approaches during the second workshop, the two groups had to follow a different program in the last workshop. For the group working on sustainable housing this program consisted of two core elements: evaluating the project proposal (method 6) they got by mail and formulating alternative proposals (method 7). (More information about these tasks can be found in time slot '14:05 – 14:40 – Evaluation of project proposal' and time slot '14:50 – 15:40 – Defining alternative project proposals' in Chapter 3.3.4.1.)

In this first task, people were asked to evaluate the proposal along seven axes:

- When I look at the proposal something is missing. <-> When I look at the proposal, it comes up to my expectations.
- We don't show enough ambition with this proposal. <-> We do show enough ambition with this proposal.
- I don't think this project can contribute to a more sustainable waste and materials management. <-> I do believe this project could contribute to a more sustainable waste and materials management.
- I don't think that through this project qualitatively high-standard houses can be created. <-> I do think that through this project qualitatively high-standard houses can be created.

- Our organisation can execute this project alone. <-> We do need other actors to successfully execute this project.
- I don't want to contribute to this project. <-> I do want to be involved in this project.
- This project proposal is not enough to the point. <-> This project proposal is enough to the point.

Each time they were asked:

- Why they already scored this proposal x and not 0?
- What they would add to improve the proposal?
- Which elements they would delete in the proposal?

Overall this meant that each person had to fill in seven pages. The image below is a digitalized version of one such a page. (Each of these evaluation forms can be consulted in RealtimeBoard.)

After this individual exercise, the participants were divided in smaller groups of 2-3 people. Having just thoroughly criticized the draft proposal, they were asked now to jointly define alternatives that would improve it. In the template they got for this exercise, they could:

- Write down a working title
- Describe the objectives
- Say which actors should be involved
- Describe the overall approach
- Define the strengths of the proposal

Finally, they had to present these to the other participants in order to have a discussion on the strengths and weaknesses of each of these alternatives. (In the picture below an overview is given of such an alternative proposal.)

Algemeen

Als ik naar het geheel van het projectvoorstel kijk, dan ontbreekt er iets.	0	X	10	Als ik naar het geheel van het projectvoorstel kijk, dan voldoet het aan mijn verwachtingen

Wat maakt dat je dit voorstel al x scoort en niet 0? Wat maakt dit voorstel al goed?

- Het durft een zeer grote uitdaging aan te gaan.
- Ik ken tot nog toe geen voorgangers.
- Maatschappelijk - sociaal - ecologisch zinvol.

Wat zou jij toevoegen om het beter te maken?

Beter omschrijven wat er verstaan wordt onder circulair renoveren:
- Paspoort bijhouden van de gebruikte materialen?
- Enkel tweedehandse materialen?
- Of materialen die eenvouding een tweede leven kunnen krijgen?

Is renoveren in het stedelijke weefsel al niet 80% van het circulaire gedachtegoed?

Gaat het verder dan het materiaal?

(Gevel)elementen inwisselen

Wat zou jij weglaten?

1. Titel project:

De straat is van A

2. Gewenst resultaat?
Wat zou je graag zien gebeuren als resultaat van jullie project?

90% van de eigenaars van de gebouwen in de straat doen mee en stappen van eigendom van hun huis in het eigenaarschap van hun straat.

Garantie is: schatting huis (verouderd en evt. bouwvallig) = bv. 100.000 euro
na 5 jaar krijgt de eigenaar bv. 200.000 euro
ofwel stapt hij er dan uit, ofwel niet en behoudt hij zijn huis

Om mensen te overtuigen: dit brengt geld op!

3. Wie betrekken + waarvoor:

eigenaars

investeerders zoals banken, de stad, sociale huisvestingsmaatschappijen, energieleveranciers, etc.

4. Voorstel aanpak:

Investeringen op wijkniveau:
- energie-infrastructuur
- bouw fab lab
- water + groen
- ...

Investeringen op gebouwniveau:
- afbraak + nieuwbouw = veranderingsgericht of ontmantelbaar (vooronderzoek doen en prototype tonen!)
(kan ook modulair zijn)
- renovatie = isolatie en nieuwe ramen, zonnepanelen, condensatieketel, regenwaterput, ...

Werken via groepsaankopen voor diensten, gebouwcomponenten, materialen, ...
Materiaalpaspoorten?
Coöperatieve structuur opzetten?

5. Troeven van dit voorstel:

Waarde van het huis is nu bv. 100.000 euro
Er wordt een bijkomende 100.000 euro geïnvesteerd door een coöperatieve, bank of andere partijen
= 200.000 euro

Na renovatie (en opwaardering van de wijk): het huis is bv. 250.000 euro waard geworden
Bij verkoop kan dan 125.000 worden uitgekeerd aan de eigenaar en 125.000 aan de andere investeerder(s).

As the group working on electric and electronic devices had been working more on a general vision of making home comfort accessible for everyone, taking into account the scarcity of materials, compared to the group working on sustainable housing, it was not possible to come to a project concept right away (see also 3.3.1.3). Therefore, this group started in the third workshop with a scenario exercise (method 8). In this exercise they were asked to dream a future in which the barriers they had defined in the previous workshops had been overcome and in which their vision had become reality. The group was split up for this exercise according to gender, hence men and women worked on it separately. This showed that, apparently, men and women dream of a similar future. Only, men see high-tech pathways leading towards this future while women appear to take more low-tech roads.

Having dreamed this future, the participants were asked in a next step to rate on a scale from 1 to 10 where we are standing nowadays. A second question was what kind of realizations would bring us one step further on this rating scale.

After this discussion the group was again divided in two for a last exercise. During this exercise the participants had to define research questions. Apparently, the group, as a whole, was on the same wavelength as these questions showed to have so many similarities that they could be combined into one compromise. The competence cell has promised to work further on this and to translate this research question into a project concept later on.

3.3 Workshop process

3.3.1 Preparation process

3.3.1.1 Defining the systems goal

'Materials' is a broad concept. At first, it seems to be clear what falls under it, but a closer look reveals the many interpretations characterizing this concept. Raw materials such as crude oil, rare earths or sand are 'materials'. Also, processed resources such as polyethylene, a sheet of steel or bricks are 'materials'. In addition to this, there can be made a distinction between 'renewables' and 'non-renewables' and one can discern differences between the geographical patterns underlying the use of distinctive types of resources. Building materials such as concrete, bricks or gravel, for instance, are more likely to be locally produced and used than rare earths disappearing worldwide in all kinds of electronic appliances.

It was therefore necessary to make choices: What type of materials would be subject of the Flemish transition experiment? To get an answer to this question, the competence cell members decided to only look at materials which could be connected with one or more of the organizations participating in the workshops, meaning that 1) a better overall management of these materials would be in their interest and 2) these organisations already formulated some research questions on the management of these materials.

These criteria made us choose the following two groups of materials: building and demolition waste and building materials, on the one hand, and the materials composing electric and electronic appliances, on the other hand. A major advantage of this choice was, from the point of view of the competence cell, that it gave us the opportunity to investigate how the local embedding of materials management and the geographical proximity of different players in the materials' value chain would affect the outcomes of the workshops. Obviously, the local embeddedness is much greater in the case of building and demolition waste and building materials than in the case of the materials composing electric and electronic devices. The fact that Flemish actors have *de facto* no decision power over the material composition of, for instance, smart phones illustrates this very well.

Defining the types of materials we would focus on during the three workshops was a first step in the process of defining the systems goal. Secondly, the competence cell had to decide on the demarcation of the societal systems linked to these streams of resources. After all, materials *an sich* are of no use. The product in which these materials are used, on the other hand, serve a certain function. Sand, for instance, is used by children to play in or used by construction companies to make concrete. In our opinion it was therefore not very meaningful to look at the materials management system itself. Instead, we wanted to investigate the management of materials in relation to certain fields of application. As a result, we decided to link building and demolition waste and building materials with dwellings for living (houses, flats, student rooms, co-housing spaces, etc.) and the materials composing electric and electronic devices with all kinds of household appliances providing domestic comfort (computer, toaster, coffee-maker, dishwasher, etc.).

Finally, the systems' functions were described through a more general question, which we used as a starting point, and the following system-specific sub-questions. These questions were also presented to the workshops' participants.

How should sustainable materials management in Flanders look like if we want to improve the well-being of our planet and the people living on this planet?
How can we ensure access to good dwellings for everybody living in Flanders given the scarcity of materials?
How can we ensure access to domestic comfort for everybody living in Flanders given the scarcity of materials?

3.3.1.2 Selecting and inviting TE participants

Earlier on in the FoTRRIS project, after a presentation of the project, one person already expressed his interest to participate in the workshops. This person is affiliated to a Belgian company which has as one of its core activities recovering scarce metals from, amongst others, laptops and mobile phones. As has been explained above, the choice to focus in the workshops on the materials composing electric and electronic devices has been made in an iterative process based on the connection between these materials and certain participants in the workshops. The competence cell members therefore took this person as a starting point and contacted additional people of whom was known that they were also experienced in this field. The ambition was to have a balanced representation of the four pillars of the quadruple helix around the table in the workshops.

A similar approach was followed for the case on sustainable housing. Our starting point there was someone from the City of Antwerp who had made clear that the city wants to invest in a more sustainable way of managing building and demolition waste, but that there were still many questions about the 'do's' and 'don'ts'.

All potential participants were then contacted by mail, often followed by a small telephone call. After a brief introduction of the FoTRRIS project and the overall outline of the workshops, we asked them if they were interested in a face-to-face meeting. During this meeting the project and its workshops could be explained in more detail and people were given ample opportunity to ask questions. Most of the participants picked up this opportunity and met one of the VITO researchers during the month prior to the first workshop. In general, these discussions lasted one hour to one hour and a half and covered a whole range of subjects related to the fields of, on the one hand, research and innovation and, on the other hand, sustainable waste and materials management. Finally, one week before the first workshop had to take place, the participants received a reminder listing all relevant practical information.

3.3.1.3 Selecting and inviting competence cell members

The competence cell consisted of five members: three VITO researchers working on the FoTRRIS project and two facilitators. The latter ones, who are presented in more detail below (see also Chapter 3.3.2.2), were recruited following an official tendering procedure. The criteria

used in the final selection of candidates were based on the suitability of their approach to transdisciplinary settings, their knowledge of systems thinking and price.

3.3.1.4 Web-based platform used

After having listed all the advantages and disadvantages of the web-based platform, the Flemish competence cell decided not to use this platform. Instead we used RealtimeBoard (see pictures above), and this for the following reasons:

- Not based on a folder structure: RealtimeBoard allows to display your content in a well-organized but visually attractive way ('you see what you get'). Because of this, it's more inviting to people to explore the board and to discover what's placed on it, which makes the content more accessible and allows to break down typical user barriers one is confronted with when using a folder structure. In addition, RealtimeBoard also allows you to arrange content in a hierarchical as well as an associative way. Contrary to a folder structure, which forces the user to arrange everything hierarchically, this gives more flexibility to let the board mirror the knowledge creation process one went through in a transdisciplinary trajectory.
- Provides a tool to make photos of post-its using, for instance, a tablet, and to upload these in the board. Afterwards these post-its can be further processed (see pictures above).
- Allows to insert all kinds of sources of information and to visually link these: Books, reports, photos, movies, links to websites… All sorts of information that has been digitalized can be placed on the board and can be easily consulted.
- It is possible to export (part of) the board: As can also be seen above, it is possible to export parts of the board or the entire board in low as well as high resolution.

3.3.2 Workshop 1

3.3.2.1 Outline of WS1

The following tables are a translation of the scenario used by the competence cell members during the first workshop. They give a schematic overview of the workshop. As could already be noticed in the preceding chapters, this overview functions as a basis for reporting and is therefore used as a reference when more detailed information about the applied methodologies or the role of the competence cell members could be useful for the reader.

<u>13:00 – 13:05 – Welcome</u>

What?	Desired effect	Method used
Brief introduction by the **facilitator**: - Presents himself; - Thanks all people present; - Gives practical information (coffee breaks, telephones, using the bathroom, etc.);	Workshop participants feel comfortable, feel welcome and know what to expect during the following minutes.	Presentation

- Introduces the next presentation about FoTRRIS and the workshops.		

13:05 – 13:15 – FoTRRIS: (theoretical) background

What?	Desired effect	Method used
Presentation by **researcher** based on the following questions: - Who are we? (researchers and facilitators) - Why are we here today? - What were the reasons to develop the FoTRRIS project? - What do we want to achieve with FoTRRIS (that does not exist yet)? - What is Co-RRI and, most important of all, how could Co-RRI make a difference compared to regular R&I?	- Workshop participants understand that there are good reasons for setting up a project such as FoTRRIS. - Workshop participants understand the difference between regular research and innovation (R&I) and responsible research and innovation (RRI). - Workshop participants know exactly where the 'Co' and the 'R' in Co-RRI stand for. - Workshop participants have seen the curve from the MISC methodology for the first time.	Presentation **Facilitator** asking questions if more clarification is needed.

13:15 – 13:25 – FoTRRIS: framing the workshops

What?	Desired effect	Method used
Presentation by **researcher** based on the following questions: - How do these workshops fit into the overall project? (pilot project > testing > What do we want to learn?) - What do we aim for during these three workshops? (project concept) - Which criteria will we use to judge whether these workshops were successful or not? - What do we expect from the participants during these workshops? How can we help them?	- Workshop participants understand in what way the workshops contribute to the overall success of the FoTRRIS project. - Workshop participants know what to expect in the remainder of this workshop. - Workshop participants know what is expected from them and understand how they can contribute to this workshop in a constructive way.	- Presentations - Notes on flip charts - Post-its

- What kind of added value do we hope these workshops will have for the participants?

Presentation by **facilitator** explaining the approach, in general, based on the following questions:

- What are essential parts in this series of workshops?
- System analysis (actors, lock-ins > black spots)
- Envisioning > looking for leverages
- Project concept > sharing insights and knowledge
- Reflection: How can doing things together make that 1+1 becomes 3?
- Why do we do it like this?

Researchers give additional information when needed.

Participants are given the opportunity throughout the workshop to debrief, using post-its, on three flip charts:

- Flip 1: informative questions (Are there things you want to know? Did we forget to tell something?)
- Flip 2: appreciation (What do you like in the story we just told you?)
- Flip 3: ideas and suggestions (Do you have ideas or suggestions to improve the project?)

13:25 – 13:30 – Workshop 1: program

What?	Desired effect	Method used
Presentation by the **facilitator** based on the following questions: - What are the objectives of today? - What methods will we use? - What is expected from the participants? **Researchers** add information when this is needed. After his presentation the **facilitator** checks if there are still points that need further clarification.	- Participants understand the function of this first workshop given the result we are aiming for at the end of the whole trajectory. - Participants see how the different parts of the workshop relate to each other. - Participants know what is expected from them and how they can constructively contribute to the workshop.	Presentation Notes on flip chart

13:30 – 14:15 – getting to know each other

What?	Desired effect	Method used
The participants write down the name of their organisation on a yellow and a red post-it. They are asked by the **facilitator** to stick these post-its on the MISC- curve: - Where would you position your organisation on the curve today? Why? (yellow post-it) - Where should your organisation be positioned according to you? (red post-it) What would your organisation then be doing differently compared to its current functioning? After this plenary exercise the participants are split up in two groups and are asked by the	- Participants know each other and know more about the link between the daily activities of each of the people around the table and the topics dealt with in the workshops. - Participants have seen the curve for the first time and have thought about the position of their organisation given the complex story of sustainable material management. - Participants acknowledge being co-experts given the topics discussed today.	Red and yellow post-its Big flip with the curve from the MISC methodology on it.

facilitators to answer the following questions: - Who are you? Which organisation are you representing? - What elements in your work give you satisfaction? Give an example. - What did you recently learn concerning sustainable development? - What do you hope to learn during these workshops?		

<u>14:15 – 14:35 – Coffee Break</u>

<u>14:35 – 14:50 – Discussing the system's function</u>

What?	Desired effect	Method used
<u>Step 1: Exploring the common goal</u> A brief introduction is given by the **facilitator** to the system's function as defined by the **competence cell members**: - For the group working on sustainable housing: *How can we ensure access to good dwellings for everybody living in Flanders given the scarcity of materials?* - For the group working on sustainable electric and electronic devices: *How can we ensure access to domestic comfort for everybody living in Flanders given the scarcity of materials?* These two questions are printed on big flips. The participants are asked to freely associate and to write down everything they think	All participants see the richness of interpretations resulting from a system's goal defined in this way.	Big flip and felt-tip pens

about when reading the words in these questions. Exercise guided by **facilitators** and **researchers**.		

14:50 – 15:00 – Exploring today's challenges

What?	Desired effect	Method used
Step 2: Exploring the challenges Exercise taking the following question as a starting point for discussion: What makes that it will become a huge challenge to evolve towards systems functioning in this more sustainable way (as defined in the previous step)? (externalities, mega-trends, lock-ins, etc.) Participants are asked to write these reasons down on post-its and to stick them on the flip used in step 1. Exercise guided by **facilitators** and **researchers**.	All participants have a more clear view on the challenges we are facing today if we want to evolve towards more sustainably functioning societal systems.	Flips, felt-tip pens and post-its

15:00 – 15:15 – Mapping actors

What?	Desired effect	Method used
Step 3: Mapping actors Which organisations and other actors in Flanders are essential for the system's functioning? The **facilitator** asks the participants to write down the names on white stickers and to stick these on the flip. Exercise guided by **facilitators** and **researchers**.	Participants have an overview of the most important players in Flanders with regard to housing and electric and electronic devices.	White stickers Flip with system function written down on it.

15:15 – 15:45 – Mapping barriers

What?	Desired effect	Method used
Step 4: Mapping barriers What prevents your organisation from contributing to a more sustainably functioning system? What keeps them doing what they are doing? Write down these barriers on red post-its and stick them on the flip close to the name of your organisation. Exercise guided by **facilitators** and **researchers**.	All participants have a more clear view on the most important barriers we are facing today if we want to evolve towards more sustainably functioning societal systems.	Red post-its Flips from step 3

15:45 – 16:15 – Sharing insights and knowledge

What?	Desired effect	Method used
Step 5 Group discussions in which participants share results and insights lead by the **facilitators**.	Participants share insights and knowledge.	Group discussion

16:15 – 17:00 – Debriefing

What?	Desired effect	Method used
Each of the participants gets forms to evaluate the workshop and the workshop's facilitation, and is asked to fill these in. The **facilitator** gives already some preliminary feedback to the group about the results.	- Researchers get a first impression of the impact of the workshop. - Facilitators get a first impression of the way their approach affects the workshop's course. - Participants are invited to share elements of their learning process.	Evaluation form FoTRRIS

3.3.2.2 Facilitation

The workshops were developed, facilitated and moderated by a team of five people: three VITO researchers and two facilitators from Superbly Human (http://www.superblyhuman.be). The latter is a small organisation founded by Hannes Couvreur, who presents his area of expertise as follows:

> *"I provide solution focused conversations that help organisations and their stakeholders to turn difficulties into possibilities right away. For over 15 years now I have been studying and working on how people, projects and organisations can benefit more from the conversations that shape them. And to optimise the effectiveness of these conversations I use a solution focused approach.*
>
> *I mainly provide solution focused conversations in the context of organisational development or in projects related to spatial planning and urban development.*
>
> *Why are solution focused conversations so effective? Because they stimulate you to focus exclusively on the information that helps you and your organization make progress right away. In a solution focused conversation people spend more time talking about what is wanted, what is better, what is already working, what is already changing, what is already there that is helpful, what is already possible.*
>
> *People who have solution focused conversations on a regular basis consistently report that — not only it increases their effectiveness — but it also improves co-operation and it increases confidence, motivation, hope and resilience.*

Applications? Personal development, team development, organizational development, conflict resolution, platform building, change management, project management, leadership, education, training, coaching ... In short, everything which involves conversations and co-operation."

Hannes Couvreur asked Adriaan Debruyne to join his team for this project. Adriaan is co-owner of Saflot (http://www.saflot.be), a multidisciplinary innovation and design agency. They create inspiring brands, brand identities and beautiful products that "communicate with user and environment".

Within this team of five tasks were taken up as follows:

- *Developing the workshops*: facilitators and researchers together. The latter were responsible for the content of the workshop, while the facilitators kept an eye on the process design and decided on the exact methods to be used. Given their background and track record, they also brought in a lot of expertise in managing group dynamics and problem solving.
- *Facilitation of the workshops*: facilitators. 'Facilitation' is defined here as the act of helping workshop participants by making them feel comfortable, giving an overview of and introducing the different parts composing the workshop, explaining what is expected from them, managing group dynamics and respecting the timeframes agreed on in the scenario.
- *Moderation*: facilitators and researchers. With 'moderation' we mean here 'making sure that everybody participating in a discussion has the chance to give his opinion' and 'directing the discussion when needed'. Most of the moderation was done by the facilitators. Researchers came into the picture when discussions and processes needed further clarification content-wise, or when the expertise of the researchers could improve the discussions qualitatively.

A more detailed overview of the tasks taken up by researchers and facilitators can be found in the previous section.

3.3.2.3 Role of participants

In the presentation introducing the workshops (see also '13:15 – 13:25 – FoTRRIS: framing the workshops' in section 3.3.2.1) the participants were asked to:

- Contribute to the discussions as a co-expert and to enrich these discussions by sharing experiences and knowledge.
- Give feedback about the effectiveness of the methods applied during the workshops.
- Say the competence cell which actors should be invited and should join the groups in the next workshop.

3.3.2.4 Role of competence cell members

The competence cell is the same team of five people as described in section 3.3.2.2. Please read this chapter to know more about the tasks these people executed during the workshops.

In addition to the tasks described in this chapter, it is also worth knowing that the competence cell members processed the output of the workshops afterwards. To be more precisely: all information given by the participants during the workshops was:

- Structured and visualized;
- Complemented with information coming from recent reports and other up-to-date literature;
- Placed on RealtimeBoard.

3.3.2.5 Interactions and deliberation (group dynamics)

Group working on sustainable housing:

In general, there was a good equilibrium in the group working on sustainable housing. There were no dominant people or people actively taking the lead. During the discussions they listened to each other and gave each other enough time to express ideas and experiences.

Based on the evaluation afterwards, we can conclude that not everybody did have the experience of 'being heard' enough. Most probably, time constraints are at the basis of this problem. In group discussions there was not always the time to give the floor to each of the participants. Moreover, when interesting subjects were broached, some discussions deepened and it was not always possible to broaden these discussions again by giving people room to add new elements.

Group working on sustainable electric and electronic devices:

In general, we experienced also in this group a good equilibrium. The participants listened to each other and respected one another's opinions. From the start, it was clear to them that they were seen as co-experts and that their expertise was equally valued. The workshop's process only showed ripples when discussions flowed into smaller groups of people and the facilitator needed to interfere to bring these people back to the larger group.

3.3.2.6 Web-based platform used

As has been described above, the web-based platform was not used during the Flemish experiment.

3.3.3 Workshop 2

3.3.3.1 Outline of WS2

13:00 – 13:05 – Welcome

What?	Desired effect	Method used
Brief introduction by the **facilitator**: - Presents himself; - Thanks all people present; - Gives practical information (coffee breaks, telephones, using the bathroom, etc.); - Introduces the next presentation about FoTRRIS and the workshops.	Workshop participants feel comfortable, feel welcome and know what to expect during the following minutes.	Presentation

13:05 – 13:15 – Framing Co-RRI, FoTRRIS, the experiment and today's workshop

What?	Desired effect	Method used
Presentation by **facilitator** and **researcher** based on the following questions: - Who are we? (researchers and facilitators) - Why are we here today? - Why do we go for *responsible* research and innovation? - Where stands the 'Co' for in Co-RRI? - What do we want to achieve with FoTRRIS? - What do we want to achieve with this experiment? - How are these workshops conceptualized? - How does this second workshop fit into the whole series of workshops? - What are the objectives of today?	- Workshop participants understand that there are good reasons for setting up a project such as FoTRRIS. - Workshop participants understand the difference between regular research and innovation (R&I) and responsible research and innovation (RRI). - Workshop participants know exactly where the 'Co' and the 'R' in Co-RRI stand for. - Workshop participants understand what the results are, in general, we're aiming for in this experiment. - Workshop participants understand how this second workshop builds further upon the results of the first workshop and prepares for the last workshop. - Workshop participants know what is expected from them.	Presentation **Facilitator** asking questions if more clarification is needed. Debriefing on 3 flips attached to the wall of the meeting room.

Participants are given the opportunity throughout the workshop to debrief, using post-its, on three flip charts: - Flip 1: informative questions (Are there things you want to know? Did we forget to tell something?) - Flip 2: appreciation (What do you like in the story we just told you?) - Flip 3: ideas and suggestions (Do you have ideas or suggestions to improve the project?)		

13:15 – 13:25 – What did you learn from the previous workshop?

What?	Desired effect	Method used
In two groups: The **facilitator** and **researcher** report about the feedback they received during and after the previous workshop, for instance through the evaluation forms. In a next step they explain which points of feedback will be taken into account during this second workshop and in what way.	The participants feel… … respected; … that their expertise is valued; … that they have contributed and cooperated to make the workshop a success.	Group discussion

13:25 – 14:00 – Brief individual exercise and exchange of learnings and desires

What?	Desired effect	Method used
The **facilitator** asks the participants to fill in a form which prepares them for the next discussion structured along the questions: - Who are you? - Which organization do you represent?	The participants express their desires, their learnings and share experiences related to sustainability, in general, and the themes that are part of the experiment. After this exercise, the participants are more acquainted with each other and	Individual exercise (filling in the form) and group discussions.

- Who was your mentor or who did function as an example for you in relation to sustainability? - What did you learn since the previous session? Are there things that have become more clear since we spoke each other last time? - What are you looking forward to today?	with the topics that are subject to the workshop's discussions.

<u>14:00 – 14:40 – Mapping barriers (part 2)</u>

What?	Desired effect	Method used
The **researcher** gives an overview of the main results of the barrier mapping exercise at the end of the first workshop. After this, the **facilitator** asks the participants to:	The participants recognize the output from the barrier mapping exercise in the first workshop and are able to recapitulate their position and arguments within this field.	Elastic strings, pins, post-its, felt-tip pens, boards with categorized barriers
- Explore the board - Add barriers when they notice that important barriers are missing (stick post-it on the board) - Indicate which barriers are hampering them most. Which five barriers are interfering most with their work? With regard to the latter:	The participants have an idea about the type of barriers the others are confronted with and the type of barriers that are interfering with their daily activities.	
The **facilitator** asks the participants to write down these barriers on a sheet of paper. After they have done this, they receive a sticker to write the name on of their organization. These stickers are then positioned in the middle of the board. In a next step, the participants get five elastic strings and pins to connect their sticker with the barriers they listed. When they have less than five barriers, the strings can be		

divided among their barriers giving them more or less weight. The **facilitator** probes the participants' impressions.		

14:40 – 14:50 – Coffee break

14:50 – 15:50 – Mapping leverages

What?	Desired effect	Method used
PART 1 – already existing leverages The **facilitator** asks the participants who or what helps them (or other organisations with a similar profile) to have a positive impact on the functioning of the system. - Individual exercise: participants are asked to reflect on this from the point of view of their own organisation. - Write down the identified leverages on green post-its and stick them on the board. - Group discussion: Are there leverages missing? Are there leverages on the board that need some explanation? Note: Leverages and solutions are not the same.	The participants are aware of already existing leverages.	Felt-tip pens and post-its. Board with the same categories printed on it as used for the barrier exercise.

What?	Desired effect	Method used
PART 2 – future leverages? The **facilitator** asks the participants what additional factors would help them to contribute even more to a sustainably functioning system. - Individual exercise: participants are asked to reflect on this from the point of view of their own organisation. - Write down the identified leverages on pink post-its and stick them on the board. - Group discussion: Are there leverages missing? Are there leverages on the board that need some explanation? Note: Leverages and solutions are not the same.	The participants are aware of leverages that doesn't exist yet but could be helpful.	Felt-tip pens and post-its Board from part 1.

<u>15:50 – 16:00 – Coffee break</u>

<u>16:00 – 16:40 – First selection of leverages</u>

What?	Desired effect	Method used
The **facilitator** asks the participants to use the form to select the leverages which: - Would have the most impact (max. 3): According to you, which of the listed leverages would help you most to affect the system's functioning in a positive way? - Are the most realistic (max. 3): According to you, which of the listed leverages are most easy to realize? Each of the participants receives six elastic strings and is asked by	The participants see which leverages are thought to be interesting to work on in the third workshop.	Predefined selection form, pins and elastic strings. Board with leverages from the previous exercise.

the **facilitator** to connect the name of their organisation with the leverages that they listed as most impactful. The most important leverages get more strings than the other ones. Discussion about first impressions and conclusions headed by the **facilitator**.		

<u>16:40 – 17:00 – Debriefing</u>

What?	Desired effect	Method used
Each of the participants gets forms to evaluate the workshop and the workshop's facilitation, and is asked to fill these in. The **facilitator** gives already some preliminary feedback to the group about the results.	- Researchers get a first impression of the impact of the workshop. - Facilitators get a first impression of the way their approach affects the workshop's course. - Participants are invited to share elements of their learning process.	Evaluation form FoTRRIS

3.3.3.2 Facilitation

The same as for workshop 1.

3.3.3.3 Role of participants

The same as for workshop 1.

3.3.3.4 Role of competence cell members

The same as for workshop 1.

3.3.3.5 Interactions and deliberation (group dynamics)

<u>Group working on sustainable housing:</u>

The second workshop was characterized by smooth discussions at the beginning. However, during the barrier exercise, meant to recapitulate the main findings from the first workshop (see also time slot '14:00 – 14:40 – Mapping barriers (part 2)'), one of the participants started questioning the usefulness of an approach which placed the mapping of barriers at the beginning. This person thought it was more appropriate to develop a systemic approach based on solutions. Systemic change, this person argued, will come from solution-oriented actions,

not from thorough analyses of what is going wrong in the current functioning of societal systems. In addition, this person also said that 'this kind of workshops' is overvalued. Apparently, nothing significant had been done with the output of the many workshops this person attended over the years. Indirectly, this person therefore called for proof that it would be different this time and that concrete action will follow after these FoTRRIS workshops.

For the team taking care of the facilitation, this 'attack' came out of the blue. This person just joined the group and none of the other participants expressed any disapproval in this direction during or after the first workshop. Nevertheless, a majority of them endorsed these criticisms. This made us decide to set the following consecutive steps:

- We asked the group if they wanted to continue with the barrier exercise. A majority of them said 'no'.
- We decided to take a coffee break. This gave the facilitating team the time to talk with the participants who visibly showed to have another opinion but were not able to get a word in during the discussion.
- Based on what these people told, the decision was made to continue with the barrier exercise and to finalize it conform the initial scenario.
- After this, a blank board was placed on the table and pictures of the neighbourhood Kiel were pinned on it. This to visualise and concretize the challenges related to sustainable living. The facilitator asked the members of the group to take this case in mind and to come forward with ideas for concrete projects that would help this neighbourhood. He also asked them to make clear what the criteria are, according to them, to judge whether a project is meaningful or not.
- From this point on the discussions were going again. The remaining two hours were characterized by constructive discussions. Worth knowing: the barriers one will be confronted with when trying to develop sustainable dwellings in a neighbourhood such as Kiel were still dominating these discussions…

<u>Group working on sustainable electric and electronic devices:</u>

- According to the scenario of the second workshop, the participants should have reflected for themselves first at the beginning of each exercise before going into a group discussion. As it was only a small group, people tended to start up the group discussion immediately, so we decided to leave these individual moments. People who stayed consciously or unconsciously out of these discussions were directly asked to share their opinion.
- The exercises in which people had to map barriers and leverages were uncoupled, which confused the participants a bit. Nevertheless, the enthusiasm to participate stayed.
- Some frontrunners frequently participating in similar workshops clearly expected more from these series of workshops. They said to hear nothing new. On the other hand, for other people this was a whole new experience. We therefore tried to explain these pioneers why these exercises are still relevant and certainly within the goals of FoTRRIS.

3.3.3.6 Web-based platform used

The same as for workshop 1.

3.3.4 Workshop 3

3.3.4.1 Outline of WS3

During the third workshop the group working on sustainable housing followed a different program from the one working on sustainable electric and electronic devices. Consequently, this chapter contains two scenarios. First, the scenario used for the facilitation of the sustainable housing group. Next, the scenario used for the group working on sustainable electric and electronic devices can be found.

<u>13:00 – 13:15 – Welcome</u>

What?	Desired effect	Method used
Brief introduction by the **facilitator**: - Presents himself; - Thanks all people present; - Gives practical information (coffee breaks, telephones, using the bathroom, etc.); - Introduces the workshop: • intended results • subsequent parts of the workshop • explaining the 3 flips on the wall: questions, ideas and appreciation	Workshop participants feel comfortable, feel welcome and know what to expect during the following minutes.	Presentation Debriefing on 3 flips: - participants write down questions, their appreciation and ideas on post-its - participants stick these post-its to one of the 3 flips: flip 1 (questions) "What makes you curious?" "Is there something you want to ask?", flip 2 (appreciation) "What do you value most with regard to what you've heard during this workshop?", and flip 3 (ideas) "Do you have ideas or suggestions to improve this project?"

<u>13:15 – 13:25 – What did you learn from the previous workshop?</u>

What?	Desired effect	Method used
The **facilitator** and **researcher** report about the feedback they received during and after the second workshop, for instance through the evaluation forms. In a next step they explain which points of feedback will be taken into account during this third workshop and in what way.	The participants feel… … respected; … that their expertise is valued; … that they have contributed and cooperated to make the workshop a success.	Plenary discussion

<u>13:25 – 14:00 – Brief individual exercise and exchange of learnings and desires</u>

What?	Desired effect	Method used
The **facilitator** asks the participants to fill in a form which prepares them for the next plenary discussion structured along the questions: - Who are you? - For which organisation do you work? - At this point in your life, what are you learning on sustainability? - What did you learn since the previous session? Are there things that have become more clear since we spoke each other last time? - What are you looking forward to today?	The participants express their desires, their learnings and share experiences related to sustainability, in general, and the themes that are part of the experiment. After this exercise, the participants are more acquainted with each other.	Individual exercise (filling in the form) and plenary discussion

14:00 – 14:05 – Explaining the intended results

What?	Desired effect	Method used
The **facilitator** goes back to the system functions presented at the beginning of this series of workshops and explains how the participants in a step-wise approach are working towards a project concept.	The participants know what is expected from them during this third workshop.	Presentation

14:05 – 14:40 – Evaluation of project proposal

What?	Desired effect	Method used
The **facilitator** asks the participants to evaluate the project proposal, which was written by the **researchers** based on the output of the previous two workshops. This proposal was sent by mail to each of the workshop's participants beforehand.	An overview of the strengths of the project proposal. Suggestions to improve the project proposal.	Predefined evaluation forms

14:40 – 14:50 – Coffee break

14:50 – 15:40 – Defining alternative project proposals

What?	Desired effect	Method used
The **facilitator** and **researcher** split up the group in smaller groups of three persons at the most making sure that each of these groups consists of people with different backgrounds. The facilitator asks the participants to elaborate on the project proposal they had to evaluate by using the most	Improving parts of the presented project proposal.	Predefined project form

important and striking elements from their evaluation.		

15:40 – 15:50 – Coffee break

15:50 – 16:40 – Refining proposals by pitting them against each other

What?	Desired effect	Method used
The participants present their alternative project proposals. The others ask questions and do suggestions to improve them. The **facilitator** steers the discussions in the right direction.	- The participants become familiar with each other's ideas of preferred directions to improve the project proposal. - A collection of various ideas to improve the project proposal, which are also relevant for the participants contributing to the workshops.	Plenary discussion

16:40 – 17:00 – Debriefing

What?	Desired effect	Method used
Each participant gets forms and is asked by the **facilitator** to evaluate the workshop and the workshop's facilitation. Brief feedback to the group about the results.	- Researchers get an impression of the impact of the workshop. - Facilitators get an impression of the way their approach affects the workshop's course. - Participants are invited to share elements of their learning process.	Evaluation form FoTRRIS

Sustainable electric and electronic devices (accessible home comfort)

13:00 – 13:15 – Welcome

What?	Desired effect	Method used
Brief introduction by the **facilitator**: - Presents himself; - Thanks all people present;	Workshop participants feel comfortable, feel welcome and know what to expect during the following minutes.	Presentation Debriefing on 3 flips:

- Gives practical information (coffee breaks, telephones, using the bathroom, etc.); - Introduces the workshop: • intended results • subsequent parts of the workshop • explaining the 3 flips on the wall: questions, ideas and appreciation		- participants write down questions, their appreciation and ideas on post-its - participants stick these post-its to one of the 3 flips: flip 1 (questions) "What makes you curious?" "Is there something you want to ask?", flip 2 (appreciation) "What do you value most with regard to what you've heard during this workshop?", and flip 3 (ideas) "Do you have ideas or suggestions to improve this project?"

<u>13:15 – 13:30 – What did you learn from the previous workshop?</u>

What?	Desired effect	Method used
The **facilitator** and **researcher** report about the feedback they received during and after the second workshop, for instance through the evaluation forms. In a next step they explain which points of feedback will be taken into account during this third workshop and in what way.	The participants feel… … respected; … that their expertise is valued; … that they have contributed and cooperated to make the workshop a success.	Plenary discussion

13:30-14:00 – getting to know each other

What?	Desired effect	Method used
The participants are asked to write down what inspired them last time by the **facilitator**.	Participants reflect on the lessons learned.	Each participant shares his/her thoughts.

14:00 – 15:00 – Scenario exercise

What?	Desired effect	Method used
Envisioning the future: in 2030 we see home comfort for everyone without spoiling resources and maybe even with a positive social and ecological impact. How does this world look like? What role did you play? Which role other partners played? What helped them?	Participants reflect on how society looks like in 2030 if barriers are taken.	- Group discussion (max. 3 persons): making kind of documentary - Plenary: Sharing documentary

15:20 – 15:30 Resource mapping

What?	Desired effect	Method used
The **facilitator** asks the participants to map where we are today against the vision of step 1 on a scale from 1 to 10. Discussion headed by the **facilitator**.	Participants reflect on the distance to the goal. They know each other's perspective on where we stand today.	Resource mapping

15:30 – 16:50 – Project ideas

What?	Desired effect	Method used
The **facilitator** initiates a discussion based on the following questions: - Given the point where we stand now, what is needed to get one point further on the scale? Who is involved? - Imagine that you have a budget for 5 years research and a mandate of your organization to work on a research and innovation project with this team. What would you like to do, => research and innovation ideas - Project idea to project concept: who is involved? Impact on bigger vision? Existing elements to start from.	- Mindset of the participants to a more concrete, near future. - A range of project ideas - Come to a concept proposal	- Group discussion in small groups - Sharing ideas plenary and work out one research question

16:50 – 17:00 – Debriefing

What?	Desired effect	Method used
Each participant gets forms and is asked by the **facilitator** to evaluate the workshop and the workshop's facilitation. Brief feedback to the group about the results.	- Researchers get an impression of the impact of the workshop. - Facilitators get an impression of the way their approach affects the workshop's course. - Participants are invited to share elements of their learning process.	Evaluation form FoTRRIS

3.3.4.2 Facilitation

The same as for the previous workshops.

3.3.4.3 Role of participants

The same as for the previous workshops.

3.3.4.4 Role of competence cell members

The same as for the previous workshops.

3.3.4.5 Interactions and deliberation (group dynamics)

Group working on sustainable housing:

The person who had set the cat among the pigeons during the second workshop also attended this last workshop and even cancelled another meeting for it. Although we thought this person would not be motivated anymore to meet us a second time. The reason for this change is most probably the 'proof' we sent of our willingness to exceed the conceptual by means of a project proposal mailed to all the participants.

Notwithstanding this positive sign, this person did not show a cooperative attitude in this third workshop either. We dealt with this in the following way:

- We made sure that everyone got the same amount of speaking time.
- When this person was attracting attention in a negative way, the facilitator made sure that he only paid attention to people who were at that time contributing to the discussion in a constructive way.

Group working on sustainable electric and electronic devices:

Some of the participants were more acquainted with this kind of workshops. These people wanted to have more concrete elements after workshop 2 as a result of which workshop 3 could then be fully used to develop a project proposal. The competence cell therefore decided to let the group envision a specific future. This created a kind of tangible world which provided them with enough elements to hold on to. However, further on in the workshop the concern was raised again that it would be difficult to come up with concrete project ideas. At that point the facilitators decided to speed up the process and to go immediately for research questions.

3.3.4.6 Web-based platform used

The same as for the previous workshops.

3.3.5 Post-workshop process

3.3.5.1 Outputs and outcomes

At the moment of writing, the last workshop took place only two weeks ago. In the meantime, it was not possible to already start up a post-workshop process.

3.3.5.2 Communication and outreach plans

See previous section on group dynamics.

3.3.5.3 Signs of and plan for continuity

Within the group working on sustainable housing not one of the participants answered negative to the question if they could be contacted again after the summer holidays to further elaborate on the project proposal. The most concrete plan on the table for the moment is to develop with this group of people, under the leadership of VITO, a H2020 project out of the current proposal.

Another element that may contribute to the continuity of this sustainable housing project is the preliminary collaboration that has been set up with the Antwerp City Lab 2050, an innovation lab that could accelerate a further uptake of this initiative within relevant Antwerp and Flemish communities.

With regard to the outcomes of the group working on sustainable electric and electronic devices, there is more uncertainty about how and when these could be picked up again. The main reason for this is that they are not very concrete yet. At the moment of writing, it is therefore not possible to give more information about the continuation of this track of the experiment.

3.3.5.4 Web-based platform used

It is foreseen that RealtimeBoard will also be used in the post-workshop process.

3.4 Learning and adaption during the process

See D3.2 for an elaborate overview of all learnings.

4. Hungarian report on co-RRI transition experiment[8]

4.1 General summary

Transition Wekerle follows the idea of the global Transition Movement that has an aim to transform everyday life in urban and rural settings of the so-called developed North towards global ecological sustainability and social justice. It believes in local autonomous action in addressing global challenges of climate change, peak oil, biodiversity decline, and unequal access to resources. Transition Wekerle, the Hungarian case partner in FoTRRIS is a bottom-up initiative by local residents of Wekerle, Budapest that embraces a variety of transformative activities regarding energy use, food consumption, use of public spaces, community building and solidarity. ESSRG and Transition Wekerle has a history of collaboration to build upon the co-RRI project of FoTRRIS. The substantive issue, the co-RRI project focuses upon, was discussed and decided together by the leader of Transition Wekerle and the lead researcher of ESSRG. Local economic development has been chosen in order to assist current bottom-up transformative activities to rethink their economic aspects and co-develop an overarching economic concept for strengthening the economic autonomy of the activities carried out by Transiton Wekerle. Based upon the strong culture of participatory planning being practised by Transition Wekerle, the FoTRRIS project aimed for a wider engagement by involving, in addition to local citizen activists, local entrepreneurs and representatives of local public administration (incl. local government officials, elected local councillors, and local public service providers).

ESSRG is an independent research and development company that has committed itself to a participative worldview and a mission to pursue research for and with the people (primarily local communities). ESSRG has introduced the idea and practice of science shops to the Hungarian academic context and built connection to international and Hungarian research on sustainability transformation. In order to pursue participatory research with positive social and policy impacts, changes are needed to the Hungarian research and innovation system (RIS). ESSRG has attempted to use the opportunity provided by FoTRRIS to experiment with practising responsible research and innovation (co-RRI) together with a local community in order to learn about the different roles and processes this type of research may require. An invitation was issued to a variety of actors considered having a significant role in developing a local economic development plan in order to embrace multiple knowledge forms and experience. The process was open to all local actors to join in any phases or to visit any events organised in Wekerle under FoTRRIS. In addition to ESSRG research capacities, a competence cell of nine members was also invited and established involving expertise believed to be of high relevance to local economic development planning (incl., among others, community development, social business development, and urban development expertise). While making all events organised open to all interested local actors, they were carefully designed to be deliberative, dialogue-based, and run in a language that avoids scientific jargon as much as

[8] György Pataki and Zoltán Bajmócy, with contribution by Bálint Balázs, Györgyi Bela, Janka Horváth, Eszter Kelemen, Erzsébet Lengyel, Réka Matolay, Szimonetta Veres (ESSRG)

possible and make active participation accessible to all participants. Ways, tools, and substance of communication were co-designed and co-produced together with local actors and competence cell members (through a facebook group and an e-newsletter).

The FoTRRIS transition experiment (TE) in Wekerle has clearly achieved the involvement of a wide variety of actors who previously not practised joint planning together. The diversity of expertise represented in the competence cell has turned out to be useful due to the plurality of perspectives, knowledge and skills the engaged experts have brought into the process. It turned out to be particularly useful to arrange beyond-workshop events responding to the emerging needs of local participants engaged in the FoTRRIS TE process. The process, however, has created a challenge to role expectations conventionally formulated with regard to experts, community members and researchers: all actors were expected to be pro-actively and flexibly find and adapt their own role(s) during the process. Some ideas for new community-based economic activities (incl. co-working office, local tourism services, etc.) could benefit directly from the expertise (competence cell) brought in by the FoTRRIS process, but the three-month long workshop-based period turned out to be shorter than might be needed in order to reap more collective benefits. In this sense, one should emphasise the experiential nature of the FoTRRIS TE process. FoTRRIS competence cell contribution can be detected to be most impactful with regard to assisting some active local citizens to design social business ideas and build a network that contributes to the realisation of those ideas. Achievements and continuation of FoTRRIS TE process can clearly be detected in the social businesses started their operation and new collaborations formed between local citizen groups and external experts/researchers.

The Hungarian report will summarise the three-workshop regarding content and process. The preparatory phase for the workshops was carried out in October-December 2016. The workshops were held in January, February, March 2017, respectively. In-between workshops other events were organised responding to the emerging needs of local participants, incl. two events for discussing social entrepreneurship and another two on community financing options and practices in Hungary. There was a walking tour in Wekerle exploring empty spaces potentially useful for community initiatives and social businesses. An art-based event was also organised, called drink and draw, that produced a stylised map of Wekerle showing spaces and initiatives of economic significance. The fourth workshop aiming for outreach to external stakeholders as a validity check exercise was organised in June 2017, not reported here but in D3.3.

4.2 Workshop content

Three workshops were planned in the FoTRRIS transition experiment according to the MISC approach applied: systems mapping, visioning, project concept design. However, the process in Wekerle, Hungary was designed in a way to be responsive to emerging needs during the process. Each workshop has provided space for participants to make explicit what type of events and what type of knowledge needs they think should be added beyond the workshops. It is, thus, important to note that four other events were also organised within the FoTRRIS process, all based on the immediate needs and ideas of participants. These events were co-

organised by locals and competence cell members and addressed topics, such as social entrepreneurship and community financing. In addition to competence cell members with relevant expertise, other external experts/practitioners were invited to these four workshops that provided space for exchange of ideas and experience in a friendly, informal setting. It is clear that responding to emerging knowledge needs this way has contributed to the benefits participants could directly gain from FoTRRIS TE process and provided space for engaging a wider circle of local residents (note that these beyond-workshop events attracted new participants who were not attending the three workshops). The description of the FoTRRIS TE process below will focus on the three-workshop process in more details.

4.2.1 Workshop 1: systems mapping

One of the main objectives of the first workshop was to co-define the aim and function of local economic development in Wekerle. The main message participants co-produced may be summarised as follows:

Local economic development in Wekerle should benefit the local community of Wekerle by strengthening community ties through economic activities. It is about establishing economic foundations for a community that is an attractive place to live to current and future members, dynamic, integrated, open and solidarity-based. Local economic development brings new meaning to resource use, work and entrepreneurship, needs and services. It is based on a better use of local resources of diverse kinds compared to a situation without local economic development: brings opportunities to the youth and the marginalised; provides local employment possibilities; connects local entrepreneurs and local services with local needs and wants. Local entrepreneurs co-operate with each other, operate short supply chains, receive support from local government, while they provide goods and services affordable to and needed by local residents. Relatedly, local residents prefer to spend their money and use their resources in a way that contributes to an increase in local community well-being. Local residents both as consumers and producers/service-providers make decisions in a way that is responsible to and based on solidarity for enhancing the well-being of all community members in Wekerle. A shared community economic interest will be born and provide space for new community enterprises, social businesses and innovative solutions to community issues. The local government will take its part by supporting bottom-up (citizens-based) creative experimentation and the active use of current and the establishment of new community spaces by and for local citizens.

It is clear that a major emphasis is placed on the social-spatial aspect, i.e. the locality, local community, in addition to the empowerment or capability expansion aspect implied by employment and consumption opportunities accessible to all residents in Wekerle. While ecological sustainability is taken for granted by the participants (due to the history of Transition Wekerle movement), social justice also appears in their interpretation of local economic development.

The other collective task was to collect the actors of the local economy in Wekerle and, at the same time, classify them as either regime or niche actors. Regime actors were understood as

those well integrated in the current economic system, i.e. market economy, and enhancing efficiency with regard to resource use. In contrast, niche actors are embodying a variety of alternatives to the current institutional logic and, thus, provide resilience to the system in terms of adaptation options available to multiple actors. The logic of the MISC approach posits that both actors, regime and niche, are necessary to find viable options on the sustainability curve. Participants have drawn the actors of local economic development as follows:

Regime actors representing the operative logic of efficiency include the local government and its public service providing organisations. Big business of all kinds and all business-as-usual enterprises were also classified as regime actors. If sustainability is aimed for, these regime actors are expected to move along the sustainability curve towards resilience. They are expected to move away from their exclusive efficiency-orientation and balance it with the logic of flexible adaptation. The other end of the sustainability spectrum is populated by typically small-scale economic initiatives – they are the niche actors. Niche actors are considered flexible to adapt to changing circumstances and adaptation while they are searching for ways of innovation for sustainability. In Wekerle, one could find a number of such initiatives due to the strong civic ethos and practices of transition movement already in operation. There are initiatives to create (or occupy) community spaces, a well-functioning alternative food system is in place (incl. collective composting, farmers' market, informal seed exchange, organic vegetable box scheme, specialty retail shop, etc.), a number of local entrepreneurs provide their services primarily to local residents (e.g. bakery, shoe-maker and repairman, coffee and cake shop, healthy cooking and dietary consultancy, co-working office, etc.), citizen solidarity initiatives are being formed and expanding (incl. food sharing and afternoon school targeting very poor families in the neighbourhood). However, these niche actors still have some space for expansion in order to reach out to all households of Wekerle (incl. approx. eleven thousand residents). Awareness of innovative sustainable services of niche actors can well be improved as participants agreed upon. If achieved, it will constitute a movement along the sustainability curve towards the efficiency-dominated spectrum and, by implication, a scaling up of the social impact of niche actors.

Regarding the multiple actors collected, it is clear that Wekerle is rich in niche actors who are aware of each other and occasionally cooperate with other. Regime actors are not yet involved in sustainability initiatives, or only to a very limited extent. Thus, the MISC approach highlighted the lack of links between the actors at the two ends of the sustainability spectrum and, partly relatedly, no actors operating yet on the viability part of the sustainability curve.

Next exercises covered a joint effort to collect and discuss the barriers and leverages regime and niche actors face when attempting to work towards sustainability. Let's see first the barriers as participants think regime actors experience while trying to enact a more sustainable operation: regulation strictly constrain sustainability options, vested interests, money- and wealth-focused mind-set, lack of developmental spirit and motivation to learn and change accordingly, imprinted routines and defensiveness towards change, fear to social status loss, risk averse approach, silo perspective and sectoral division, lack of a complexity approach in

contrast to a reductionist one, lack of trust in bottom-up citizen initiatives, underdeveloped culture of cooperation and partnership.

Next, here is the picture co-created by participants regarding barriers to niche actors: Wekerle neighbourhood shows the characteristics of a sleeping town, lack of physical space for community and entrepreneurial initiatives, uncertain and unpredictable regulatory environment, lack of policy support schemes, resource-constrained local enterprises (lack of capital to invest), low consumer awareness regarding locally available alternatives, lifestyle routines, apolitical and passive residents, relatively limited range of locally available and accessible products and services, vulnerability of sustainability initiatives due to dependence on a very limited group of citizens (in some cases, dependence on exclusively one person). Attention was drawn to some particular barriers, such as those stemming from a rigid approach to cultural heritage conservation (constituting a barrier to household renewable energy use), or barriers to cooperation and partnership due to a cultural tension between so-called indigenous residents and those moved-in more recently (note, however, that "indigenous" means nothing else but a family able to trace its origin back to the history of the establishment of Wekerle neighbourhood and "recently moved-in" includes all the others, irrespective of the time to move to Wekerle). One should also be aware of the historically particular relationship between the local government and Wekerle. Wekerle has always constituted, at the same time, a best practice and an anomaly in the eye of all local governments. While traditions of bottom-up citizen movement are underdeveloped in general in Hungary, Wekerle constitutes an exception with a historically lively community and citizen culture. While in some instances, local governments were readily built upon this culture of civic independence and self-efficacy, many times they feared and attempted to set constraints to further development. This is still the case in today's political and public administration culture of Hungary.

Turning to the leverages, workshop participants assume that regime actors' efforts to transform towards sustainability are supported by the following factors: Wekerle as a best practice (success story) constitutes a legitimation resource for any sustainability transformation efforts, citizen self-efficacy and pro-activity as a resource in Wekerle, strong seeds of a cooperative culture between local entrepreneurs and citizens. Participants also believe that demolishing the walls separating sectors may create new energies, while there is a possibility to build a common language and understanding of sustainability transformation among multiple actors of Wekerle.

Leverages for niche actors as seen by workshop participants are the following: open-minded citizens committed to transform their lives towards sustainability, citizen initiatives proved to be successful over time, creativity and civic courage, a few people as bridging/connecting sectors, Wekerle as a garden city designed for human interaction and community building, good connection to multiple media for communication (incl. thriving local channels of communication), community events frequently organised and widely popular, garden city as a cultural and ecological heritage and resource, sense of place and community feeling.

It is not surprising to see that barriers were numerous and easily come up with a variety of them, while leverages might be less in number and most revolves around experience, knowledge, and

skills of active citizens, their groups/initiatives and the infrastructure they have established. It seems clear that sectors, even if one considers the quadruple helix of innovation, are not connected well and lack of an experience of cooperation and, subsequently, trust.

4.2.2 Workshop 2: visioning

The second workshop aimed at building a shared vision for local economic development in Wekerle. In order to accomplish it, a sequential process was designed starting from a reflection on previous workshop achievements through an individual and small group (of three participants) reflective exercise on the future wanted until a collective effort to draw the main features of a desired future of Wekerle's local economy.

The main features of the vision co-created by participants and competence cell members are as follows: Wekerle as a set of cooperative communities, influencing the wider context of Budapest to follow a sustainability transformation as Wekerle engaged with, and democracy strengthened and practised in a participatory way.

Cooperative communities envisaged include active community initiatives around food, mobility, cultural heritage (incl. most prominently the townscape, housing), but all sharing the sense of place of Wekerle (a strong socio-spatial identity). The role of leaders and leadership were also highlighted, in addition to the permeability between communities. Leadership efforts are currently appreciated by a local award (Award for Wekerle) which was received so far by a 100 local residents. Leaders are considered key actors in any sustainability initiatives in Wekerle but the role of members (co-producers) are also emphasised. The vision, in this respect, points to the importance and appreciation, cooperation, and, perhaps most importantly as added value, the active linkages between diverse initiatives under an umbrella of local economic development.

The wider context of Wekerle is Budapest, the capital city of Hungary. While Transition Wekerle enjoys a good reputation among sustainability-minded networks in Hungary, there seems to be less influence on Budapest, the city itself. While Transition Wekerle has lively contacts and partnerships globally (Transition Town Movement) and nation-wide (with other green, sustainability, social justice initiatives), less working relationship at the district level (Kispest) and hardly any at the level of the whole city (Budapest). The Wekerle local economic development initiative would like to achieve the status of a brand, a highly appreciated one, of a best practice image, one that other neighbourhoods in Budapest will be attracted to follow. This way, Wekerle herself will enjoy less difficulties on the bumpy road towards ecological sustainability and social justice.

Democracy and autonomy seem to be of high significance to Wekerle's sustainability vision. In one respect, it covers the relationship between existing governance structure in the public domain (i.e. local government system at district and city levels in Budapest). Wekerle has always been searching and pushing for a more autonomous governance structure that enables them to control some decisions (self-governance) over their neighbourhood (which is in the current system not possible with only one local councillor in the local assembly of the local government of Kispest). More autonomy at the neighbourhood level will provide better space

for participatory democracy to be enacted. In another respect, democracy needs to permeate other walks of life (beyond the immediate political sphere), from education in schools through managing cultural heritage to economic activities. A more localised, face-to-face exchange based, but diverse service provisioning economy is associated with democracy and autonomy in the vision of Wekerle as participants constructed during the workshop.

4.2.3 Workshop 3: project concept design

The third workshop provided space for reflection in multiple ways. A professional story-teller was involved who – after consultation about the FoTRRIS TE process with the lead researcher of ESSRG and the leader of Transition Wekerle initiative – developed a fairy tale like story of Wekerle. Participants enjoyed the story that created a more emotional atmosphere and provided space for contemplation while listening. The story was constructed in a way to mirror the substantive achievements of the workshop process and, deliberately, attempted to pave the way for an action planning phase.

Some of the members of the competence cell were also invited to provide brief inputs in terms of lessons learnt, critical decisions to be made, and potential ways forward. Circles of discussions were created in order to provide space for local participants to respond to and think further the messages competence cell members shared with them. A lively discussion was ensued and a number of points were clarified while some disagreements among participants have clearly surfaced.

There groups were formed around three substantive topics in order to move towards project concept design for local economic development in Wekerle. The three substantive topics included community or social business, community engagement, modes of cooperation. Finally, some steps to be taken were co-designed targeting the development of a "Wekerle-brand" for sustainable local economic development.

Although four social business ideas have been formulated, or strengthened, during the FoTRRIS TE process, some of the initiators were reluctant to discuss these social business ideas together with other participants. This reluctance was respected by facilitators, so more general issues of establishing community enterprises or social businesses were discussed. It was not possible to co-develop any of the ideas as a collective exercise. It should be noted here that social business experts of the competence cell provided special consultancy upon request and shared other possibilities to develop further social business related ideas of the local participants. This special consultancy has contributed to the development of all four ideas into business plans and, currently (March 2018) all four are still alive, under co-development by local residents and experts, or already in operation as a social enterprise.

Participants have collected ideas on how to engage more residents of Wekerle and discussed the possibilities to further cooperation on local economic development. However, no agreement has been reached on how to realise the ideas collected. Further efforts are needed, bringing together local participants and experts/researchers, in order to co-design a solution that most participants can agree upon, engaged with, and see their roles in making it operational. The third workshop was instrumental to agree that something like a "Wekerle-

brand" is needed and organisational options to realise it needs further thinking and reflection. Note that, though FoTRRIS TE process has officially ended, the co-creation efforts are still going on in order to find the locally appropriate solution for managing sustainable local economic development.

4.3 Workshop process

In this section, please share the details of the process as implemented. Provide details in order to be clear how co-creation in each phase has been realised. Please, report on the use of the web-based platform. Information in due details is needed on the selection of participants and their roles in the process. The characteristics of facilitation will also need to be explained. It is expected the one can learn some details on the dynamics of interactions and deliberation as you experienced throughout the process. It is highly important to share details of communication activities applied throughout. Potential future development of the case will also carry relevant information. If you not indicate otherwise, all descriptions will be considered as your own narrative.

4.3.1 Preparation process

It should be noted that a long-term relationship has existed between researchers (ESSRG as FoTRRIS partner) and local activists of Transition Wekerle. Prior personal working relationships and shared commitments to sustainability has contributed to the collaboration on FoTRRIS transition experiment (TE). Other EU-funded projects has provided opportunity to analyse the Transition Wekerle case, for example, as a transformative social innovation process (see TRANSIT FP7 project at http://www.transitsocialinnovation.eu/resource-hub/transition-towns). The prior scientific analysis and research experience all provided needed inputs/insights to the FoTRRIS TE process in order to make it a co-created one between researchers and local participants. Since Transition Wekerle is well-known of her autonomy (it is not even a formal organisation) and of her participatory, community-based practice, it was clear that local activists and other participants will expect a very active role in forming the process itself and not only the content of it. In preparing for FoTRRIS TE, researchers attempted to pay due attention to, and build upon, these characteristics and joint history as far as the FoTRRIS project design allowed.

While designing the process, due care was taken regarding the choice of venue where workshops were held and the timing of workshops. Following the advice of the leader of Transition Wekerle, a local community place was chosen as venue where many other events usually take place and local residents are familiar with – thus, comfortability and accessibility regarding the venue can be achieved. All workshops were hosted by the Wekerle Library and Cultural Centre providing an easy access to local participants. Timing was decided following previous experience of local event organising: Saturday afternoon was chosen to have all three workshops within a three-month period. The idea was that organising for catering should also reflect the substantive topic of the transition experiment. So, local catering providers have been chosen, different ones for each workshop. Partly confirming the idea of buying local, partly strengthening the local economy through the project budget. Compensation for participation

was also discussed and agreed upon by researchers and the leader of Transition Wekerle. While external experts populating the competence cell were offered a monetary remuneration (by contracting them to attend workshops and other events and applying their expertise as inputs in a variety of ways), local participants received a voucher for each workshop they participated at. Being aware of an existing scheme developed by a local resident to motivate buying local (a locally accepted "Wekerle-card"), a contract has been made with him to issue a special card for the FoTRRIS TE process which can be used within a month after each workshop at local service providers specified at each workshop. This way, a variety of local sustainable services were used by local residents, either ones they were familiar with and had a preference for or could try new ones. This strategy of compensation for participation was announced in the invitation letter.

4.3.1.1 Process of defining the systems goal

The topic of local economic development was decided jointly by the leader of Transition Wekerle and the lead researcher of ESSRG. The topic was informed primarily by the long-term experience of Transition Wekerle and, secondarily, the strategy of the global Transition Town Movement. However, local economic development as such was not defined before the first workshop. Indeed, the first workshop was designed to devote time to co-develop a joint understanding of local economic development by participants, both local citizens and competence cell members (experts). This commitment to participation at each stage of a process is strongly entertained by the culture of the local transition movement in Wekerle.

4.3.1.2 Process of selecting and inviting TE participants

Selection of participants was carried out by the leader of Transition Wekerle and the researchers of ESSRG based on the idea of representing the quadruple helix and knowledge of active and/or influential actors in Wekerle. Due attention was paid to represent the diversity of existing local sustainability initiatives but move beyond the activists of Transition Wekerle in order to avoid involving exclusively the usual suspects and mirror the diversity of the local microcosm of Wekerle.

Formal invitation was sent by email by the lead researcher of ESSRG. In addition, informal word of mouth was deliberately used to spread the information on the local economic development process starting and make clear that everyone is welcomed to join the process.

4.3.1.3 Process of selecting and inviting competence cell members

Competence cell members were selected by the leader of Transition Wekerle and the lead researcher of ESSRG. Careful attention was paid to invite experts that either have hands-on experience with local economic and community development or are specific knowledge-holders who can well be expected to bring in insights and skills that are missing in Wekerle (e.g. social business expertise). Diversity of experts in other usual respects (e.g. gender) was also taken into consideration.

4.3.1.4 Web-based platform used

The web-based platform was introduced to ESSRG researchers and the leader of Transition Wekerle. After consultation, a joint decision was made, following the opinion of the leader of

Transition Wekerle, that the web-based platform will not be used directly as a communication tool with transition experiment (TE) participants. It was agreed that sharing information and knowledge about the FoTRRIS TE process can only be effective and influential if those communication patterns are followed that existing local initiatives routinely use. Therefore, a facebook group was created and used as an online platform for sharing knowledge, disseminating all relevant information on the TE process. It was argued that otherwise the process risks to be hardly visible and accessible to many of the local residents and other TE stakeholders. Building on the existing practice of using facebook for community organising seemed to be a valid choice for the wide visibility and accessibility of the FoTRRIS TE process.

4.3.2 Workshop 1

4.3.2.1 Outline of WS1

- 30 minutes for introduction, incl.
    - Welcome by local host (leader of Transition Wekerle) and lead researcher (ESSRG)
    - Aim and outline of the workshop by lead researcher
    - Introduction by participants by (i) finding someone who is unfamiliar, never talked to before (speed-dating), (ii) move to groups of stakeholders based on quadruple helix (groups of business, civil society, public administration, and researchers), (iii) personal introduction of the members of the competence cells + researchers (emphasising external expertise available to local participants)
    - Content and process (incl. expected behaviour) outlined by the lead researcher
- 70 minutes for co-defining the goal of local economic development (LED)
    - Work in three groups of diverse participants, each group include a balanced pool of representatives of the quadruple helix
- 30 minutes for collecting actors of LED
    - Individual exercise (post-its) combined with facilitated group discussion to co-design a map of actors on the sustainability curve
- 30 minutes for co-defining barriers to regime and niche actors
    - Working in 4 groups of diverse participants, 2 groups dealing with regime actors and the other two groups pay attention to niche actors, at half time groups move and cross-change
- 30 minutes for co-defining leverages to regime and niche actors
    - Working in 4 groups of diverse participants, 2 groups dealing with regime actors and the other two groups pay attention to niche actors, at half time groups move and cross-change
- 25 minutes closing circle (reflecting on the day)

4.3.2.2 Facilitation

Facilitation was done by researchers of ESSRG and some of the competence cell members experienced in facilitation contributed to facilitating group work. Facilitators were asked to provide space for everyone to contribute and act against domination by any participants during discussion. Moreover, an open and appreciative style of facilitation was asked for. Open means

that provide space for emerging ideas (built-in flexibility). Appreciative means that facilitators provide a safe space of opinion exchange in a non-judgemental atmosphere (collecting as many ideas as possible is more important than selecting them at this early phase). Time management is of crucial importance in order to keep the agenda and respect participants.

4.3.2.3 Role of participants

Participants were expected to take a very active role. The workshop was designed to provide space for their free exchange of ideas among each other, feel free to be able to individually contribute, discuss in smaller groups and in plenary (get to know others' perspectives). It was important to take note of the needs participants expressed at any point of the process but there was possibility to include them meaningfully if they directly related to the ongoing workshop agenda (all other ideas were taken note of). Attention was also called to the possibility, when giving feedback at the end of the day, to include all needs, suggestions, recommendations that they felt important to share with us in order to take them into consideration in the next steps of the process design.

4.3.2.4 Role of competence cell members

Competence cell members were asked to listen carefully, let local participants to occupy the communication space, and contribute as briefly as possible when they felt there are insights or experience that, if shared, contribute to the process constructively. Whenever they were asked by participants, they could also join more actively the discussion and deliberation. Their major role however was to listen and learn in order to contribute later with analysis and recommendation to process design. It was expected by the researchers that competence cell members will be actively seeking for making their contribution effective and find their place/role in the process as a whole. Competence cell members were frequently contacted, either individually or in a group setting, in order to discuss the process ongoing and assist them to find their respective roles and contribution based on their individual expertise and learning from participants what they need to progress with local economic development.

4.3.2.5 Interactions and deliberation (group dynamics)

The atmosphere of the day was relaxed, friendly, and constructive. The first introductory exercise of so-called speed-dating with an unfamiliar other participant proved to be successful in contributing to a friendly and lively atmosphere. Introductory grouping provided an overview of representation of the quadruple helix. Introducing the FoTRRIS project and the concept of RRI proved to be more difficult in a language accessible to all. The language of EU projects and concepts applied in EU policy-making seemed to be unfamiliar and difficult to make sense of by local citizens. It seems to be important to be prepared with a language and set of concepts that can easily be linked to the lifeworld of citizens (of diverse backgrounds) in order to demonstrate the immediate relevance of the process and each exercise within it.

Facilitators reported no tensions during group work. It seemed positive energy was high on all day through. However, it was clear that the concepts of "sustainability curve" and "regime/niche actors" and "efficiency vs. resilience" constituted a rather abstract language and mind-set, not familiar to the language of citizens, business, or local public administration. It is

hard to translate them into a common language and, perhaps, even harder to grasp them as useful conceptualisation at the level of everyday sustainability practice. Participants' usual language use should, therefore, take into account by co-RRI process designers and facilitators in preparing for workshops.

Participants reported satisfaction with the process much more than the content. This might relate to the rather abstract language dominating at the first workshop. The leader of Transition Wekerle, who was involved in process design, emphasised the need for change in language and getting closer to the immediate concerns of local residents.

4.3.2.6 Web-based platform used

The FoTRRIS web-based platform was not used at this stage due to reasons mentioned above, see Section 4.3.1.4.

4.3.3 Workshop 2

2.3.3.1 Outline of WS2

- 20 minutes for introduction, incl.
    - Welcome by local host (leader of Transition Wekerle) and lead researcher (ESSRG)
    - Short summary of workshop 1 and other events organised in the FoTRRIS TE process by lead researcher
    - Aim and outline of the day (workshop 2) by lead researcher
    - Q&A
- 40 minutes for discussing main results of workshop 1
    - "Tour de posters": in groups of similar participants (quadruple helix based), each group spends 10 min at each poster, researchers taking notes
- 60 minutes for envisioning Future Wekerle as desired
    - 15 min individual exercise to create a mini-story of Future Wekerle as desired (facilitators prepared with some questions to assist in visioning)
    - 15 min sharing of each participant's story
    - 30 min group work of designing a community story of Future Wekerle as desired, draw it on flipchart paper (facilitators group participants that shared very different individual mini-stories)
- 40 minutes for free walking around and chatting about visions co-developed
    - "Tour de posters": participants walk around to see each other's community story, while facilitators search for common topics of the future visions drawn by participants, select four topics to be discussed further
- 40 minutes for co-developing some substantive fields/topics of Future Wekerle
    - Each participant can freely choose a topic group, but if there are 10 participants in a group the next one coming should find another group of a smaller number of participants
    - the topic is developed by group work facilitated
- 20 minutes for plenary feedback on each topic for Future Wekerle
- 20 minutes for closing circle (reflecting on the day)

4.3.3.2 Facilitation

Method of facilitation was similar in style to workshop 1 (see Section 4.3.2.2). However, at the point of selecting the substantive topics to be further discussed and developed by participants in order to envision Future Wekerle, facilitators (researchers and competence cell members) were exercising a discretionary power, by implication constraining participants' influence on the process.

4.3.3.3 Role of participants

Similar to workshop 1, see Section 4.3.2.3.

4.3.3.4 Role of competence cell members

Competence cell members' expected role was similar to workshop 1 (see Section 4.3.2.4). Some of the competence cell members experienced in facilitation were acting as facilitators for group work. Other competence cell members, who did not facilitate, either contributed by note-taking or active listening and searching for ways of potential expert inputs needed in coming phases.

4.3.3.5 Interactions and deliberation (group dynamics)

Generally, very similar to workshop 1 (see Section 4.3.2.5). However, it should be noted that while workshop 2 was evaluated more favourably than workshop 1 regarding content, the discretionary power exercised by facilitators when deciding upon the topics to be developed further for Future Wekerle raised immediate negative reaction from a few local participants, incl. most prominently the leader of Transition Wekerle. They felt that the participatory nature of the process was negatively influenced and suggested to make a joint decision. However, due to time constraint, the lead researcher of ESSRG declined the idea of a joint decision and insisted to go ahead as quickly as possible with the topics chosen. It is important to be prepared to decisions under time pressure and design the process to eliminate the risk of unwanted domination over the process.

4.3.3.6 Web-based platform used

See Section 4.3.2.5.

4.3.4 Workshop 3

4.3.4.1 Outline of WS3

- 10 minutes for introduction, incl.
    - Welcome by local host (leader of Transition Wekerle) and lead researcher (ESSRG)
    - Short summary of recent events organised in the FoTRRIS TE process by lead researcher
    - Aim and outline of the day (workshop 2) by lead researcher
    - Q&A
- 40 minutes for "A Story of a Transition Community"
    - 30 min by a professional story-teller (sharing fairy-tale like story developed for Wekerle in the FoTRRIS TE process)
    - 10 min for reflection and discussion by participants

- 60 minutes for Fishbowl exercise
    - 30 min first round: a competence cell member can deliver a message based on her/his experience of the FoTRRIS TE process so far (5 min each) and those who sit in the inner circle can discuss the message, pose questions, deliberate (another competence cell member can deliver input if there is time, etc.)
    - 30 min second round: a competence cell member can deliver a message based on her/his experience of the FoTRRIS TE process so far (5 min each) and those who sit in the outer circle can discuss the message, pose questions, deliberate (another competence cell member can deliver input if there is time, etc.)
- 60 minutes for discussing next steps (project concepts)
    - participants allocated to three topic groups by the lead researcher in order to develop project concepts for each topic
    - each topic is developed by answering the same questions, incl. Who will be involved? What type of resources needed? What is the timeline? What risks and threats might emerge? What will be the key performance indicators?
- 30 minutes for plenary feedback and discussion
- 30 minutes for closing circle by sharing voluntary individual steps to be taken next

4.3.4.2 Facilitation

Facilitation was practised with a spirit similar to previous workshops (see Section 4.3.2.2). However, the group exercise for project concept design (in three groups: social business development, community engagement, form of cooperation) was relatively strictly structured by the questions above. Time management was particularly important.

4.3.4.3 Role of participants

Similar to workshop 1 and 2 (see Section 4.3.2.3) with some important differences. Local participants have more listening compared to previous workshops due to the professional story-telling and the Fishbowl method. Moreover, group work this time was clearly more structured than during previous workshops.

4.3.4.4 Role of competence cell members

Workshop 3 provided more structured space for inputs by competence cell members. This was a deliberate design influenced by feedback from local participants asking for more explicit contribution and reflection by competence cell members. In addition, it was clear to researchers that not all competence cell members were able to find space for contribution, thus the space was intentionally created by applying the Fishbowl method. Competence cell members with relevant expertise facilitated the three group work with the support of researchers. In sum, most active role was exercised by competence cell members at the last workshop.

4.3.4.5 Interactions and deliberation (group dynamics)

Group dynamics was active, lively, positive as concerns the first part of the workshop, incl. the professional story-telling and the Fishbowl. However, due to time constraint, it was not possible to let more extensive discussion during the Fishbowl and this caused frustration on the part of some participants (incl. both competence cell members and local residents). Here, the lead

researcher, although let more discussion than planned originally, made the decision to continue with the other steps as planned. However, by hindsight, one may say that letting the discussion go on and re-designing the whole workshop on the spot and announcing a fourth workshop for project concept design might have been a better choice. Perhaps due to the time-constrained discussion and the implied discontent, some of the group work was not so constructive or, under time pressure, facilitation could not realise what was planned. Though, again, lot of ideas were shared and contributed to clarifying what needs to be designed as a project concept, other topics were not discussed as planned. The group discussing social business development was only able to address the topic at a relatively general level due to the fact that the four specific social business ideas, emerged during the TE process, were not used to structure the discussion (as was previously planned by researchers) upon the request of the local initiators of those ideas. By hindsight, one might claim that researchers, in this case, might have attempted to argue more persuasively for the benefits a social business idea (as any business idea) can gain from confronting the diverse understanding and opinion of the multiple participants at the workshop. This opportunity was missed. The other group responsible for discussing the organisational form of cooperation for local economic development, i.e. different options for organising (formal organisations) could not reach any agreement or conclusion. It might be claimed that at some point facilitation was broken down due to the passivity of participants. This might be a sign of latent conflicts that the consensus-oriented MISC approach has hid to this point. This stalemate has influenced the atmosphere of the end of the workshop, especially due to the fact that the lead researcher, when reporting back from group work, straightforwardly shared the inconclusiveness. This act clearly divided the audience – some reported after workshop that it seemed too negatively judgmental to claim for a stalemate.

4.3.4.6 Web-based platform

See Section 4.3.2.5.

4.3.5 Post-workshop process

4.3.5.1 Outputs and outcomes

The FoTRRIS transition experiment (TE) in Wekerle has resulted in some tangible outputs and intangible outcomes. As to the outputs, competence cell members generated some specific analysis (in the form of brief papers), shared through the facebook group, that reflects upon important aspects of Wekerle local economic development (1). More indirectly, the co-RRI process has contributed to the emergence and clear formulation of four social business ideas that were subsequently developed into business plans (2) and one of them is an operating enterprise (WEKI co-working office) (3).

As to the outcomes of the co-RRI process in Wekerle, one might consult with the FoTRRIS deliverable D3.2 on the evaluation of the transition experiment by local participants, competence cell members, and researchers. One of the most significant outcome is learning diverse perspectives on local economic development ideas that was reported by participants (1). Relatedly, they reported that local networks have been extended beyond Wekerle to the local government of Kispest and within Wekerle in-between some local residents and local entrepreneurs (2).

ESSRG considers as a highly significant learning experience of the FoTRRIS co-RRI process the chance for learning by doing. Invaluable experience has been gained, among others, on the role expectations researchers routinely confront which may limit their possibilities for innovative research. ESSRG has started to initiate a structured knowledge sharing process with like-minded researchers in order to reflect upon this and other issues, better prepare for further co-RRI experiments and collect a community of experts committed to co-RRI.

4.3.5.2 Communication and outreach plans

The Hungarian FoTRRIS transition experiment (TE) in Wekerle aimed for an open, inclusive, and transparent process throughout. It was possible to join any phases or events of the process that proved to be useful since more numerous and diverse local residents and other stakeholders could participate. Using an open facebook group for communication also served these purposes.

Communication was strategically strengthened by inviting the local media to follow the process throughout and report on it without any influence by the process organisers. Fortunately, each workshop was attended by the local (district level) media, incl. "Kispest TV", the television channel for the whole district Kispest (owned by the local government) and other journalists working for local printed news (incl. the Wekerle news owned by a local non-governmental organisation, called "Wekerlei Társaskör"). Reports on all three workshops were prepared and broadcasted.

In addition to the local social media, ESSRG contracted a team of two independent film-makers to follow the FoTRRIS process throughout and make a film as they see the process. This approx. 11-minutes film was first shown at the outreach/validation workshop (June 2017) and, then, made freely accessible at ESSRG's youtube channel.

For the outreach/validation workshop diverse participants were invited, including, on the one hand, researchers with relevant profile either to the substantive topic of the Wekerle transition experiment (i.e. local economic development) or sharing a similar participatory and action-oriented practice to research and innovation, and, on the other hand, representatives of other transition communities or experts of civil society organisations working with local communities towards sustainability transformation. (See more details of the outreach/validation workshop experience in FoTRRIS deliverable D3.3.)

4.3.5.3. Signs of and plan for continuity

There are plans and ongoing activities with some achievements that all demonstrate that the process of co-created responsible research and innovation continues in Wekerle in partnership with a variety of actors. One of the related initiatives is a collaboration primarily between Transition Wekerle and the local government of Kispest in developing a sustainable food strategy for the whole district of Kispest, partly learning from the multiple initiatives thriving in Wekerle. ESSRG researchers took part on the first planning event and one of the FoTRRIS competence cell members delivered a report on relevant international and Hungarian examples, summarising alternative food networks operating in Wekerle, and providing recommendations for local policy-makers.

ESSRG, in cooperation with the Corvinus Science Shop (based at Corvinus Business School, Corvinus University of Budapest), has initiated a course-based bachelor student project on Wekerle, mentored by a professor of brand management. Within the brand management course, groups of bachelor students have worked on the development of the concept of the "Wekerle-brand" and the professor has provided consultancy to a local citizen group in Wekerle interested in further develop this idea emerging from the FoTRRIS TE process. Other cooperative activities are also under way with the assistance of Corvinus Science Shop. The four social business ideas and their local initiators have also benefited from, or is benefiting from, course-based student projects that aim to assist in solving some specific business problems these newly established social enterprises are currently experiencing.

ESSRG can build upon its wide academic network within Hungary and connect needs of local economic development in Wekerle with the specific expertise and experts needed. ESSRG as a "co-RRI hub" will continue this bridging activity in the longer term.

4.3.5.4 Web-based platform used

While the web-based platform was not utilised directly in the workshop process with local residents, it turned out to be an important learning instrument for peer-to-peer collaboration among researchers committed to co-RRI and sharing information on co-RRI projects to a wider audience. Plans are being formulated how to extract better the platform and other available online resources in the service of an emerging co-RRI community of practice in Hungary.

4.4. Learning and adaption during the process

As indicated in the Section 4.3.5.1 on Outputs and Outcomes, learning on role expectations constitutes invaluable insights. A co-RRI process seems to raise challenges to standard role models of researchers who collect and analyse data, then report the findings to an audience. We researchers experienced that our process design and facilitation work have not been considered as research contribution. We were frequently urged to produce analysis showing the way forward. Partly, we have tried to adapt to these needs, but partly we have resisted and continued with our focus on the process design to be responsive to the emerging knowledge needs and connect them with relevant expertise/knowledge-holders. Role expectations might better be made explicit and discussed at the beginning of a co-RRI process.

We have also learned about control and ownership. Although we have tried our best to share the process with members of the competence cell and the local participants, we have experienced some discontent. On the one hand, many of the competence cell members hardly found their roles as experts who provide inputs to the process in a pro-active way. Our assumption that they will pro-actively prepare themselves for the task and search for options for contribution was realised only to a limited extent. It seems that prior joint preparation for a co-RRI process in a structured way is inevitable. ESSRG has decided to invite nine members to the competence cell at the very start of the workshop process, assuming that the diversity of expertise is better to possess at the very beginning. However, it might be a wiser strategy to invite a few members at the start and, as the process unfolds, invite new members assigning specific tasks to them.

On the other hand, some of the local participants are well experienced with participatory processes and have their own ideas how to implement such a process. It might be, thus, important to devote time at the beginning to engage them in process design in order to share ownership of the concepts behind the process. In a sense, it might be considered a mistake not to share the implications of an EU-funded projects with all participants since the majority of them has no experience at all with the conditions, limits and opportunities such a project logic sets to any participatory and co-created process.

It seems to be a very positively received feature of the Hungarian transition experiment process in Wekerle that it was responsive to emerging knowledge needs and organised beyond-workshop events to provide space for learning and exchange of experience with invited experts and practitioners on topics of immediate local interest. Thus, co-RRI processes seems to invite a built-in flexibility that provide space for responding to emerging needs of participants.

It should be emphasised that the language used in the process should be one that is as inclusive as possible. If this aspect is not reflected upon, serious barriers might emerge to effective co-creation. Thus, any conceptualisation of sustainability transformation should be accessible to the audience the co-RRI process aims to engage.

5. Italian report on co-RRI transition experiment[9]

5.1 General summary

The Responsible Research and Innovation (RRI) concept, as defined in the Madonie transition experiment in Sicily-Italy, which called for a tight cooperation between societal actors (researchers, citizens, policy makers, business, third sector organisations, etc.) during the research and innovation process, with the aim to introduce the values, needs and expectations of local society. Multi-actor participation and public engagement have been pursued as a key factor for positioning the project both in educational, business and civil communities, enabling the access to knowledge and to formal and informal learning processes.

We have been driven by the consciousness that research and innovation system, in order to address the big territorial challenges, has to face a transition phase where comprehensive collaborative practices should be introduced. Both social and economic trends must be considered, during the R&I process, as a guide for the optimization of resources, the orientation of impacts, the evaluation of outcomes.

The local Transition Arena was set up to map the system and interesting experimental initiatives relevant to the theme of Sustainable Energy and to facilitate the interaction between research, innovation and local development actors and the representatives from the rural communities concerned (policy, business and citizens) the energy transition process.

The area of Madonie is at the centre of Northern Sicily, east from Palermo, and includes 21 urban centres, scattered in a mountain territory and characterised by a valuable natural heritage and landscape. Some of the problems which affect the territory are the following:

- increasing depopulation process;
- competition with medium and large businesses able to supply the markets of large retailers;
- state of degradation of wide agricultural zones and reduction of the variety of traditional crops and local biodiversity products;
- land erosion and hydrogeological instability;
- external public capital and resources, industrial expertise and raw materials;
- fragmented educational offer in the school system, disconnected from the smart specialisation of the area and its productive excellence.

Local sustainable development policies were driven by the local communities, focusing on the quality of life of the people and landscape management, recovering tradition and exploiting territorial assets, the connection between work and income of the producers, the value of eco-systemic services for collective benefit. Some of the following solutions to the territorial gaps were put forward:

[9] Jelena Mazaj, Roberta Lo Bianco, Vito La Fata (CESIE)

- recover local agricultural crops and support small producers and new practices of regenerative agriculture;
- establish a direct connection between the use of energy from renewables with a reduction in the energy bill costs for different kind of users (public institutions, families, companies);
- reinforce the governance structure at the inter-municipal level through a Union of Municipalities in charge for managing core trans local services;
- set up the school network of Madonie to rationalize and integrate the training offer, develop soft and cross-disciplinary skills related to the smart specialization of the territory, overcome the digital divide in teaching, improve labs and non-formal learning;
- highlight social innovation practices;
- set up fablabs at school, as technical workshops for experimentation related to scientific knowledge with a special focus on renewable energy;
- e-participation and open government digital networks for citizens;
- develop renewable energy local supply chains to experiment a sustainable energy model to achieve the goal of 100% renewables within 10 years, covering the electricity need of the communities through local sources;
- energy citizenship and ownership in consumption, production and management through participatory distributed investments such as the RESCoop (local cooperative networks of energy services).

As a result of transition experiment the Madonie Living Lab project concept was created. In the Madonie transition experiment a collaborative RRI approach has been introduced, particularly in the design and early implementation phase of a Madonie Living Lab as catalyser of innovative sustainable processes: locations, energy services, technologies have been identified through an interaction with local authorities, local companies, professionals, trainers, technology providers. Such an ongoing interaction and cooperation, if properly managed and supported/facilitated, can gradually turn into a structured community and, finally, into a fully developed innovative ecosystem, where knowledge flows, social needs and solutions, business opportunities are tightly interconnected and each is deeply influencing the others.

The RRI concept is strongly interconnected with the 'living lab' approach, as it is user-centred, open-innovation ecosystem, which operates in a territory cultivating R&I results of co-creation processes. Madonie Living Lab is a place where will be possible to consolidate the collaborative innovation actions, implementing a living lab community.

The added value of the MISC approach is that the system goal has been jointly defined by researchers/local development agents and transition actors. A competence cell including different actors engaged in the energy transition experimental process has been set up and has drawn up the guidelines for a rural Living Lab on sustainable development, together with a network of qualified resources. The sustainability curve has been considered with great interest: the cultural change of mind leads to replacing the externalization of functions (administrators vs. citizens, producers vs. consumers, etc...) in the capital economy with the

internalization of functions (prosumers) as a key to implement the sustainability curve for energy. Perspectives of informal innovation actors were taken into account. Niche actors have been heard. A systemic, user-driven approach has been consolidated and converged in the Living Lab proposal. The different contributions will be complementary and synergistic within an ecosystem of solutions. Actors from the quadruple helix groups invited to the workshops have presented some pioneering experiences or innovative ideas for energy challenges, on which to build a new energy vision as leverage for change.

5.2 Workshop content

The sector chosen in Sicily for the transition experiment was renewable energy, notably to promote an 'energy transition arena' in the Madonie mountains, gathering resilient communities which are going to gather, capitalize and further develop the consulting, participatory and concerted actions launched within the drafting process of the National Strategy of Inner Areas (SNAI).

Three workshops, scheduled from January to April 2017, have taken advantage from the consultation of stakeholders who are active in the Madonie area, with competences in the field of renewables, belonging to different organizations from public administration, research, industry and civil society.

5.2.1 Workshop 1: systems mapping

The first workshop has been held at ARCA University Business Incubator in Palermo on 13 January 2017. The place itself represents a hub of innovation and entrepreneurship supporting research results transfer, scientific knowledge exploitation for the benefit of local communities, new business models and support to territorial development.

The rural communities of Madonie met the research and innovation actors to set up an energy transition arena, integrating social and economic innovation with technical solutions and involving residents in the area concerned as crucial actors from the early stage of the energy transition process. In fact, residents' knowledge of the complex problems to be faced was meant to be crucial for innovation at a systemic level.

For this reason, a participatory approach has been pursued. As a matter of fact, researchers and facilitators of sustainable development processes had started a few months before the first workshop to interact with the local communities enhancing an open discussion to set up a new energy vision for a resilient area.

The FoTRRIS methodology as applied to Madonie case could count on the added value of increasing self-awareness of an on-going reflective process. This process was a part of open consultation in the framework of the National Strategy of Inner Areas (SNAI), which focused on distributed energy systems and models, natural and cultural heritage management, development of sustainable food chains as priority axes and identified the school network in the pilot area as the most suitable test-bed to enhance change. In the consultation process, an active role was played by the local development agency, by public administrators at the

municipal level, by groups of citizens, with the facilitation of innovators as enabling force for change. Several meetings had been organised in 2016 at municipal buildings in the Madonie for brainstorming and design of concerted actions and the results led to draw up the strategy for the inner area under the supervision of the national government, which considered the area as a pilot site.

The FoTRRIS succeeded in providing a methodological framework to outline the value of responsible research and innovation to drive the transition to sustainable development. Furthermore, the reflection process enhanced from FoTRRIS led to choose the Living Lab co-design and co-ownership approach to define the roadmap for the development of the area. MaLL (the Living Lab project) summarised the outcomes of the consultation process, which was ongoing even before the adoption of FoTRRIS methodology, and paved the way to manage the joint development of platforms and services connected to local challenges and the establishment of a smart & green community.

Thus, in the first FoTRRIS workshop, thanks to the valuable coordination of SOSVIMA local development agency and the facilitators, 20 stakeholders from the quadruple helix entities (i.e. local authorities at the municipal level, companies in the energy sector, researchers, representatives from the resident population) who had already been involved in the consultation process on the glocal challenges of the National Strategy for Inner Areas (SNAI), have been invited to join the energy transition arena.

All the groups were represented both from the public and private sector (civil society: 3; companies: 4; research and innovation: 5; policy: 8). The preparation of the first workshop thus allowed to map all the stakeholders relevant to the theme, ensuring a variety of actors and views represented. The goal setting concerned how to catalyse the contribution of formal and informal innovators to foster energy transition and ensure a better quality of life in the rural areas, while reducing the consumption of natural resources and the big capital investments. The system goal was defined as the need to guarantee access for all residents to clean energy with a sustainable, inclusive and economically profitable approach. The first workshop allowed also to map interesting experimental initiatives relevant to the theme, as well as constraints to prevent these initiatives from getting out of the niche and scale up. After an introduction to the theme and the presentation of participants, some of the problems which affect the territory have been highlighted:

- increasing depopulation process;
- competition with medium and large businesses able to supply the markets of large retailers;
- state of degradation of wide agricultural zones and reduction of the variety of traditional crops and local biodiversity products;
- land erosion and hydrogeological instability;
- external public capital and resources, industrial expertise and raw materials;
- fragmented educational offer in the school system, disconnected from the smart specialization of the area and its productive excellence.

Then, contributions to the co-definition of the system goal in the view of resilient energy communities in rural areas were collected and the role of governance institutions and private actors highlighted. Lock-ins and leverages in the system were identified to analyse what prevents the institutions from steering effectively innovation processes and actors representing the niches from impacting on the whole system. At the end, participants tried to devise how they could pool their resources and skills to build up an eco-system of solutions to local challenges.

The discussion was carried out on a plenary level. Some findings are hereafter reported:

- from the research side: the adoption of a responsible research and innovation approach may generate sustainable technological applications and a systemic approach in which the advantage for the system has spill over effects on each component of the system itself. Intergenerational shift of competences and turnover can support young people either not to leave or to come back to the rural areas under risk of depopulation. The change of mind from conventional research to responsible research and innovation must be transferred from the political to the operational level, and energy is the optimal field of experimentation
- from the governance side: the pilot application of SNAI strategy has been called "Resilient Madonie: laboratory of future" and aims at converging effort of citizens, institutions, technicians and companies towards the goal of 100% energy production from renewables, recovering the memory of using local sources for heating and cooling. Energy transition, according to the SNAI vision, is detached from the political choices and overcomes the cultural barriers and regulatory constraints, stimulating a pro-active behaviour and activating a virtuous circle to be replicated in the food cycle, waste cycle and so on, within a systemic view. Moreover, the institutional innovation (expressed in the area through the model of Networked Cities) is crucial to launch a new interconnected system of service management
- from the business side: although 52% of energy production in the Madonie comes from renewables, this result has not significantly improved the economic conditions of the territory or produced saving in the energy bills, because it has been generated through a concentration of big plants and a capital economy approach. The new way suggested is the distributed generation which can provide benefits for the families and the citizens. The concentration of investments in few hands can be avoided through solutions such as the 'participatory foundations', where citizens and the union of municipalities act as shareholders. The achievement in terms of energy saving is directly related to the contribution of energy self-produced, with less waste and the chance to reuse waste materials as fuel. Moreover, anybody can participate in the foundation both through financing and services. The benefits are thus distributed in the community and the citizens are no more passive recipients of political decisions, but are active in the energy transition. The transition from ownership to service is supported by the social economy. In a financial economy, the introduction of innovation is delayed until the results of fund raising. In a social economy, existing resources are shared and their use is optimized.

- from the citizens' side: the cultural turn leads to replacing the externalization of functions (administrators vs. citizens, producers vs. consumers, etc...) in the capital economy with the internalization of functions (prosumers, Slow Food biodiversity products and quality productions at risk of extinction, etc...) as a key to implement the sustainability curve, recovering the memory of the past to build the future on and fully exploiting endogenous resources
- from the education side: the energy vision is coherent with the central role of the school network in the SNAI strategy due to the commitment of young generations through the enhancement of their creativity and the implementation of the labs and workshops at school.

5.2.2 Workshop 2: visioning

The second workshop has been held on 3rd March 2017 in Petralia Sottana, in the Madonie mountains, at EXMA, a local meeting space. The premises of the former Municipal Slaughterhouse which hosted the meeting have become the site of Officine Creative Madonie (EXMA), with micro-ateliers equipped to support prototype and production processes for start-ups and professionals operating in the field of energy, agriculture and food supply chain, digital media and other areas with a high territorial impact. EXMA wants to be a place of reference of the Madonie youth community, to catch new opportunities and new skills in order to generate both economic and social value.

The workshop objective was to design a future scenario to be achieved using as leverage the potential identified (in terms of governance, innovation, community resilience, efficient use of resources, cooperation) and removing existing barriers, and to proceed to an inventory of solutions and innovative activities and to the identification of priority interventions to be launched.

25 stakeholders participated in the workshops (civil society: 2; companies: 8; research and innovation: 5; policy: 10). Differently from the first workshop, the discussion about what needs to be done to bring about the change, making use of potential leverages and overcoming constraints, took place in small groups of about 5/7 people.

<u>Theme 1</u>: How to achieve the citizens' engagement to a responsible behaviour in the energy field (from economic incentives to relational benefits) and to co-design sustainable and responsible local development, on an ongoing basis and in a systemic view?

Goal: Work plan for an awareness action and internalization of functions, to be carried out on a territorial basis – Submission of a Living Lab proposal within the 11th Wave ENoLL membership April 2017.

The discussion was focused on the central role of school and families who have hardly prompt access to relevant knowledge. Environmental education particularly on energy saving and local energy sources is fundamental, both in the schools and at home. Sustainable energy habits and behaviour should be developed to raise awareness. The school system can give a collective voice to the territory and foster intergenerational knowledge exchange. Connections with

national and international networks can enrich the local green community, as well as the availability of cost-effective technologies.

Human resources must be at the core of local development policies and human capital must be enhanced at best. This means also to recover the memory of the past, in which energy was produced locally. The school system should let the children and students work on that and, starting from tradition, start an entrepreneurial discovery process (retro-innovation) to ensure a future to the new generation.

The involvement should not be limited to sensitization, but refers to a makers' approach to students' education as new digital craftsmen (in the energy sector, this could be translated into 'do-it-yourself' energy exhibits and small prototypes). The cultural outcome would be to train students to become change actors and future operators of real applications from renewable energy sources. An 'energy manager' or facilitator at school could facilitate the process.

Any attempt to keep track of the energy memory of the territory through a museum could be matched with practical recommendations on sustainable energy behaviour at home and at school (community engagement).

Theme 2: How to match effectiveness of innovation products and services with the social spill-over effects in terms of quality of life improvement?

Goal: scale-up of niche innovation on broader territorial impact, new ideas for RRI projects relevant to the area.

The discussion was focused on how the research and innovation system can set up an ongoing dialogue and mutual flow of information and experiences with the local communities, in order to produce innovative products and services which could effectively improve the quality of life and respond to societal challenges.

In particular, RRI must be rooted in the territory, instead of top-down led, and take into account economic, demographic, social and natural issues. During the team work, it has been outlined that:

- The set-up of a Living Lab at EXMA can design a roadmap and a working procedure for local development actors to define a new knowledge value chain which empowers also the production chain
- The Living Lab, as a physical and virtual co-owned innovation hub, should bring about both a cultural and ethical change of mind (sustainable development means to ensure welfare and quality of life and equal distribution of resources) and the possibility to carry out experimentation through its facilities
- The energy/agro-food nexus is valuable to recover lost traditions in agricultural crops, cost-effective and sustainable processing methods, waste reuse and energy production
- A closer connection between the school system and local companies can help the last ones to find trained profiles who match the specialised labour demand

- There is a huge unexploited potential in energy self-production through small-scale distributed systems for domestic use (regenerative agriculture, high temperature compost systems, permaculture); individual experiences could be shared as good practices and linked with additional expertise requested for distance monitoring and control of system operation
- Mini hydroelectric power plants could exploit the water resources of the area (as the major plant active until the 1960 and then closed allowed to)
- Energy data collected in the past few years from the municipalities and from SOSVIMA could help not only to map but also to quantify the renewable energy sources available in the area (water, sun, wind, biomass)

Theme 3: Participatory governance and business models to maximise the local effects of energy transition

Goal: identify the most appropriate business models for citizens' shareholding (participatory foundation, short networks and local supply chains, ESCO, social enterprises, sharing/circular economy)

The discussion was focused both on business and governance models which could support smart, inclusive and sustainable development of the area. The model of the 'participatory foundation' has been analysed, with the following characteristics:

- A unique operational model, where different entities (private/public, associations, public boards) are well represented and actively involved in the design and operation phase
- A structure, which can be participated by founders, members, supporters, donors, who bring in either capital funds, tangible or intangible assets such as their volunteer work
- A public-private no profit body, with the legal status of a private law entity, where public and private participants have their different roles fully acknowledged
- A capital fund and a management fund to support the current operation of the Foundation; the first one can be progressively increased as the Foundation has an open structure

The role of the Foundation in the energy sector should be to support:

- Integration of education, training and labour systems
- Research and innovation particularly in the technology transfer to small- and medium-sized companies
- Continuous training and lifelong learning
- Community energy awareness and engagement
- Access to inter-professional funds to increase employment
- Implementation of the 100% renewable energy strategic vision
- Tutorship and technical assistance for the adoption of distributed energy generation systems
- Joint energy purchase groups

- Sustainable mobility powered by self-produced energy

5.2.3 Workshop 3: project concept design

The third workshop, organized in the Madonie area, introduced the project concept to a restricted audience,[10] consisting of about 12 people including researchers, SOSVIMA development agents and representatives from companies, policy and citizens, eliciting the co-design of the steps to be taken, the timeline, the resources needed, the risk analysis and management, the communication initiatives. The Living Lab structure was debated on with regard to:

- its distinctive features
- its multi-stakeholder partnership
- its organization, management and governance
- communication and open innovation for user engagement
- appropriate facilities and infrastructure
- expertise which is needed to be gathered
- the sustainability of its business model
- critical success factors and risks

The project, developed by the FoTRRIS competence cell and SO.SVI.MA. as the local development agency, capitalizes on the results of other EU-funded projects and initiatives (STS-Med, ZERO-PLUS, HABITATS), IT company-school network, social innovation organization university local action group, municipalities association, business incubator, NGO. It uses the Living Lab approach to establish MaLL – Madonie Living Lab as an overall methodological framework to facilitate the participatory planning process, involve different groups of stakeholders – citizens, administrators and local companies – in the co-creation and joint development of platforms and services connected to glocal challenges and in the establishment of a smart & green community.

MaLL was also meant as a territorial innovation hub in which all actors of the Inner Areas Strategy would participate, a network of physical and virtual spaces for the development of suitable solutions for glocal challenges, a link between the pillars of the sustainable rural development strategy for Madonie area through demonstration and scale-up actions.

MaLL project objectives are:

- to support local communities through participation in experimenting new approaches to responsible research, innovation and entrepreneurship;
- to provide equipped spaces and facilities to allow competence and experience sharing;

[10] The third workshop was restricted to the facilitators of the process (innovators, local development agents and researchers, supervised by local authorities) to formulate the roadmap of the Living Lab project (MaLL) to be submitted to ENoLL European Network of Living Labs for an external acknowledgement, before going back to the communities for the executive planning of its operation.

- to match the demand of local communities for strategic planning of sustainable development, quality of life improvement and smart management of local resources.

International acknowledgement within the ENoLL (European Network of Living Labs) has been asked for, in order to learn new methodologies for the growth of rural community through the participation in integrated projects, to exchange good practice through contacts with international organizations and associations, to search for mobility opportunities for students, staff and professionals.

The process for the implementation of the MaLL project would include four main steps:

1. Vision at the political and administrative level and participation to maximise local value creation, raising awareness and community empowerment
2. Knowledge and design thinking (analysis of data, promotion of idea-generation initiatives)
3. Demonstration of appropriate technologies in relevant, open environments
4. Business models (attracting investors and partners, project financing and crowdfunding, cross-sector engagement, co-ownership)

RRI would inspire innovation process design in MaLL to link the innovation topics to effective local needs, to foster open consultation of stakeholders, to promote user-driven idea-generation supported by an open innovation platform, to set up dedicated innovation labs to accelerate solution development and validation by final users. Visibility and communication will be crucial: a story-telling process that keeps the memory of lessons learnt from success and failure will be devised and realized.

5.2.4 Outreach workshop

On the 8th of September 2017 the Italian (Sicilian) 6 hours Outreach Workshop was organised. It was moderated by Transition Experiment's (TE) facilitator Mr. Fabio Montagnino with a support of the Competence Cell members. The overall aim of the workshop was to disseminate information of the CO-RRI TE in Italy and to receive external feedback of the process, results and impact. Additionally, this workshop helped to create local network of actors of the Quadruple Helix model for the innovation's creation based on sharing of knowledge and transfer of know-how. The strategic aim of the workshop was to create alliances and gain support for Co-RRI discussing potential role and development of it on local (national) level.

Participants of the OW were selected from the contacts databases: the external group of stakeholders (representatives of Higher Education and Research organisations, process experts, local authorities, citizens), TE members, from the pull of the experts (who were interviewed for the WP1). More than 35 potential participants were invited and in total 27 participants from all stakeholders' groups took part in this local event.

The meeting started with the presentation of participants and their personal understanding of the ''Responsibility'' in the frames of the R&I process. After, the concept of the competence cell was introduced, presenting Sicilian model and a vision of its functionality in the future was

drafted, after the lunch all participants were asked to present their vision on strategic and operative canvas for the CC. Insights how to promote CO—RRI on local/national level were discussed.

Additionally: (1) other TEs (from Austria, Flanders, Hungary, Spain) were presented to the participants briefly, aiming to show how the CO-RRI can be approached/used differently in other spheres of research and in the frames of the other social/cultural/economic/other factors; and (2) FoTRRIS collaborative platform was introduced to support possible p2p actions in a future.

The Participants of the Outreach Workshop also discussed the impact created by the TA and TE on local community and region. According to them, these are the key aspects:

- The FoTRRIS concept helped to map and reflect on structural characteristics of local system (economic, political, social, cultural), it means that new transdisciplinary capacities (human skills / competences) will stay in community and will be transferred to other activities.
- The TE fostered development of the local governance, as a result the roots of micro dynamics of the democracy can be visibly better, target groups and their needs can be identified more significantly.
- Moreover, the TE helped to support ownership feeling in community through active involvement in of key actors and feed the creation of a vision of participative citizenship. An outcome is a recognition of citizens'' knowledge and their contribution - alternative ways of policy making in regions.
- R&I, politicians, business and other actors feel indicate that the MLL is a tool to be more sensitive to the territory and promote its growth in the region.
- Appearance of intermediate body / facilitator for CO-RRI practices and coordination of such activities has a strong impact on local development, as R&I transdisciplinary is something that is still missed in local areas.
- Definitely, such an experiment has showed that the region has full potential to support and promote several priorities of the ERAR in Italy (creation of more effective national research systems; understand sectors where Gender equality gap exists and foster gender mainstreaming in research; to fill scientific knowledge by circulation and transfer of citizens' knowledge).

5.3 Workshop process

5.3.1 Preparation process

Preparatory activities (preliminary to the implementation of the transition experiment) were made by the CESIE staff in cooperation with the facilitator, ARCA and the local development agency (SOSVIMA). The MISC framework was analysed and adopted from the target group, the agenda of the meetings was prepared, reflection methods to evaluate all workshops were selected, an explanatory note about the FoTRRIS and RRI was prepared, a list of participants finalised and participants were contacted. For the first workshop, all participants filled in a registration form in advance and sent it to the organisers. In the invitation, a short explanatory

note on the FOTRRIS project and its goals was included, as well as the RRI approach and the plan of the three and outreach workshops, customized on the theme of energy transition.

5.3.1.1 Defining the systems goal

The goal setting concerned how to catalyse the contribution of formal and informal innovators to foster energy transition and ensure a better quality of life in the rural areas, while reducing the consumption of natural resources and the big capital investments. The system goal was defined as the need to guarantee access for all residents to clean energy with a sustainable, inclusive and economically profitable approach.

5.3.1.2 Selecting and inviting TE participants

Participants have been invited by e-mail and phone 15 days before the workshop, being selected among the participants in the consultation round tables for the co-design of the National Strategy for Inner Areas applied to the Madonie district (in the North of Sicilian Region) and a list of the potential stakeholders.

5.3.1.3 Selecting and inviting competence cell members

The competence cell was initially established from CESIE (FoTRRIS project partner) and ARCA. CESIE is non-governmental organization represented by implementation of transdisciplinary activities. The ARCA Consortium was chosen due to its activity profile (one of the core working sectors of the organisation is an energy sector) and rich business ecosystem (start-ups, co-working spaces, events – all this represent a good collaborative base for transition experiments). ARCA is a consortium for the application of research and the creation of innovative enterprises, which has been active since 2003 and has exploited a partnership between the University of Palermo and a private entrepreneurial group committed to industrial research and technological transfer. The competence cell was strongly supported by SO.SVI.MA. local development agency, active in the pilot territory. Furtheremore, transdiciplinarity, knowledge of the sector, representatives from the community guaranteed the efficiency of the Competence Cell's work.

5.3.1.4 Web-based platform used

The competence cell members got familiar with FoTRRIS project platform, which was not in full operation at the start of the transition experiment process (due to strong F2F cooperation approach in the group and preferences), but was soon enriched from contributions of EU partners. Guidelines for the use of the platform were shared and it is proposed as a cooperation platform for all interested stakeholders.

5.3.2 Workshop 1

5.3.2.1 Outline of WS1

The goal setting concerned how to catalyse the contribution of formal and informal innovators to foster energy transition and ensure a better quality of life in the rural areas, while reducing the consumption of natural resources and the big capital investments.

The system goal was defined as the need to guarantee access for all residents to clean energy with a sustainable, inclusive and economically profitable approach.

The first workshop allowed also to map interesting experimental initiatives relevant to the theme in the region, as well as constraints to prevent these initiatives from getting out of the niche and scale up.

5.3.2.2 Facilitation

Taking into consideration the glocal challenge, the characteristics of local community and local conditions (social/economic and political) it was decided to merge CESIE's skills and competences with the external facilitator (expert of the energy sector at local and European level). Mr. Fabio Maria Montagnino was invited to join Transition Arena and support CESIE in facilitation of transition experiment. He is graduated in Physics at the University of Palermo in 1991. He is currently the coordinator of research, innovation and international cooperation activities in a business incubator. He regularly coordinates training activities and mentoring services in the field of business creation and technological transfer. He holds 3 patents. Such team created a productive and interactive working environment, as CESIE is an expert in non-formal education and facilitation of training/knowledge upgrading/cooperation activities, meantime Mr. Montagnino supported work by his practical experience in development of social innovations, market analysis, networking with stakeholders.

As the first meeting has a general vision, it was organised using two methods. Introduction started with the presentation of the Competence Cell members, participants, their interest to take part in this experimentation, personal professional portfolio and portfolio as a citizen. First part of the meeting was dedicated to a presentation of the project and MISC framework, it was done using power point presentations. The second part aimed to introduce an approach of mapping innovation on the sustainability curve. After all a collective problem-solving attitude has been adopted, sharing knowledge about existing initiatives to optimise their use and maximize their benefit. Although the participants belonged to different organisation types (i.e. local SMEs, education, research, policy level) as well as to civil society, they formulated their point of view without any previous specific classification, thus enhancing to share experiences in the most profitable way. No necessary preparation for this workshop was needed. It was an open talk discussion, everyone was free to share thoughts with all the group and the shift from a policy approach to RRI to an operational perspective has been decisive to prepare the ground for experimentation. Thus the outcomes of the first workshop allowed to step forward the design of the future scenario by exploiting the potential identified, working in groups during the second workshop.

5.3.3.3 Role of participants

There were 24 participants (3 F/21 M) from different types of organisations (NGO, business/industry, University/Research, Policy, Citizens). The highest number of participants was representing policy making group, due to the fact that the themes of the transition experimental workshops were closely related to the strategic agenda which the public authorities in the area are working on for the next planning period. These participants were involved in a first - preparatory for the co-creation process – meeting and were asked to be active and critical listeners. They presented their reflections verbally in a session of the round table discussion. Such discussion went smoothly, as everyone agreed with the topic and all of them has an equal right for participation.

5.3.2.4 Role of competence cell members

The competence cell members shared their roles and workshop was organized following such logic:

- CESIE in cooperation with the Facilitator prepared a list of potential participants, which was fulfilled by the local development agency - SO.SVI.MA. team.
- Invitations were sent by CESIE and the Facilitator and monitored the registration processes, trying to ensure gender balance in the working group.
- Preparation for the workshop (development working tools, presentations, facilitation, follow up, etc.) was done by the mentioned team in group work. Meantime, ARCA helped with the location, catering and necessary equipment, it ensured the participation of relevant actors and stakeholders, introduced and facilitated the discussion, wrapped up conclusions of the workshop and took care of the follow-up for the next step.

After the workshop the Competence Cell summarized the result of the meeting and prepared a list of topics to discuss during the second workshop.

Summarizing, it is important to underline that such team should have transdisciplinary skills and to be familiar with local actors and situation in which transition experiment should be implemented. It is good to combine experiences such us sectoral skills and non-formal skills, as it will guarantee that co-creation process is well structured and fulfilled by sectoral information and organisational.

5.3.2.5 Interactions and deliberation

The first workshop allowed also to map with the participants interesting experimental initiatives relevant to the theme, as well as constraints to prevent these initiatives from getting out of the niche and scale up.

After an introduction to the theme and the presentation of participants, contributions to the co-definition of the system goal in the view of resilient energy communities in rural areas were collected and the role of governance institutions and private actors highlighted. Lock-ins and leverages in the system were identified to analyze what prevents the institutions from steering effectively innovation processes and actors representing the niches from impacting on the whole system. At the end, participants tried to devise how they could pool their resources and skills to build up an ecosystem of solutions to local challenges.

5.3.2.6 Web-based platform used

CESIE as FoTRRIS project partner shortly introduced at the beginning of the 1st workshop the project platform as a tool to provide information on the case studies and on the local transition arena development. No further use of the platform at the first stage of the transition experiment was planned, as facilitators became responsible for the follow up and sharing all info with the participants via email. Email was chosen as fast communication tool between knowledge actors, which informs an actor about receipt of new information as soon as it appears in inbox.

5.3.3 Workshop 2

5.3.3.1 Outline of WS2

The second workshop was held at EXMA. It is an innovation hub in a refurbished building, located in Petralia Sottana (Madonie) that a private company has been authorized to manage on behalf of the local municipality, hosting a creative and generative rural community. It provides micro-ateliers equipped to support prototype and production processes for start-ups and professionals operating in the field of energy, agriculture and food supply chain, digital media and other areas with a high territorial impact. It offers opportunities especially to the resident young people to create their job through the entrepreneurial discovery of possible solutions for the community challenges in the prioritized fields of interest. EXMA will be the main site of MaLL – Madonie Living Lab and should act as catalyser of social innovation processes in the area.

The workshop objective was to design a future scenario to be achieved using as leverage the potential identified (in terms of governance, innovation, community resilience, efficient use of resources, cooperation) and removing existing barriers, and to proceed to an inventory of solutions and innovative activities and to the identification of priority interventions to be launched.

5.3.3.2 Facilitation

Main facilitator of the workshop was Fabio Montagnino. During the group work, additional moderators in the parallel sessions were invited (they are selected based on the existing competence in the theme proposed for their sessions):

- Stefania Zanna (ARCA) – Aurelio Coppola (SOSVIMA) for Theme 1: How to achieve the citizens' engagement to a responsible behaviour in the energy field (from economic incentives to relational benefits) and to co-design sustainable and responsible local development, on an ongoing basis and in a systemic view
- Calogero Serporta (ISSIA-CNR) for Theme 2: How to match effectiveness of innovation products and services with the social spill-over effects in terms of quality of life improvement.
- Alessandro Ficile (SOSVIMA) for Theme 3: Participatory governance and business models to maximise the local effects of energy transition.

The second meeting started with the follow up results of the first workshop. Participants had time to share their insights with all the group before starting parallel sessions based on the 3 themes described before. Participants were divided into three groups according to their profiles. Moderators presented the topics/questions to the groups. After this, the participants were asked to co-create and share the ideas between in the group's members. Moderators were responsible to moderate such 'ideas sharing debates' and to help the participants to describe the main components of them, which are necessary to transfer these ideas into projects.

At a final session of the meeting dedicated to the presentations of the generated ideas, moderators were responsible for such follow – ups, which were collected by the Facilitator.

5.3.3.3 Role of participants

25 stakeholders participated in the workshop (civil society: 2; companies: 8; research and innovation: 5; policy: 10). Together with the invitation, a report from the 1st workshop was sent to them. Participants were invited by e-mail and phone 10 days before the workshop, being selected among the group who had attended the first workshop plus other local representatives active in the innovation hub start-up.

The discussion about what needs to be done to bring about the change, making use of potential leverages and overcoming constraints, took place in small groups of about 5/7 people. The groups were created based on the competences of the participants and ensuring (approx. equal) participation of each stakeholder representative in the groups. These participated contributed to the workshop by sharing their knowledge and visioning of future perspectives of the local area in Sicily and at national level through the brainstorming exercises. The role of the participants can be characterized by: readiness for cooperation in trans sectoral group, openness for diverse ideas, active participation in co-creation of ideas, support in generation of follow up activities, investment of personal time in such activity, etc. Accepting invitation to this arena, participants accepted a role of the participant, who is involved in a multi-stakeholder innovation creation and citizen-centered design process.

5.3.3.4 Role of competence cell members

The competence cell members (CESIE, the Facilitator with the support of SO.SVI.MA. team) guided and facilitated the discussion in the working groups and helped to draw up conclusions from the findings presented by the moderators. They had also a crucial role in linking the progress of the discussion with the priorities outlined in the Strategy for the Inner Areas approved by the National Agency for Territorial Cohesion, this linking was organised after the workshop evaluating developed ideas and potential to present them as project ideas for upcoming call in the frames of different EU programmes. Such evaluation was done using round table discussion.

5.3.3.5 Interactions and deliberation

Participants co-created their ideas in three groups, these groups had one specific question to discuss:

1. How to achieve the citizens' engagement to a responsible behavior in the energy field (from economic incentives to relational benefits) and to co-design sustainable and responsible local development, on an ongoing basis and in a systemic view
2. How to match effectiveness of innovation products and services with the social spillover effects in terms of quality of life improvement.
3. Participatory governance and business models to maximise the local effects of energy transition

The moderators introduced the theme within each group. The findings from the discussion were reported in plenary by the moderators, collected and analyzed for future actions by the Competence Cell members.

5.3.3.6 Web-based platform used

The use of FoTRRIS platform was limited to the competence cell members due to the reasons explained before. The platform was used to plan the meeting, to update the list of contacts and share outcome of the first meetings.

5.3.4 Workshop 3

5.3.4.1 Outline of WS3

The third workshop, organised in the Madonie area at EXMA on April 27, aimed to introduce the concept of the MaLL Madonie Living Lab project to a restricted audience, consisting of about 12 people including researchers, SOSVIMA development agents and representatives from companies, policy and citizens, eliciting the co-design of the steps to be taken, the timeline, the resources needed, the risk analysis and management, the communication initiatives.

The goal of the workshop was to develop the co-design of MaLL project and in particular to analyze the action plan for the activities of the startup phase, its synergies with the Inner Areas Strategy, its sustainability model and its governance, as well as opportunities for further development. Furthermore, it was partly devoted to plan the structure of the final outreach workshop in Palermo.

5.3.4.2 Facilitation

All participants worked in one team. The meeting started with the presentation of the follow up of the previous co-creation of ideas workshop. As the aim of such transition experiment according to the FoTRRIS project methodology was to develop a project idea, the facilitator was responsible to find suitable EU calls for the project idea developed by the local community (participants of the transition experiment) and presentation of the follow – up results after the second workshop. Moreover, he was leading the workshop by giving a key questions, which were linked to the project proposal development, collecting information from the participants, summarizing it. As a facilitation method the round table discussion was chosen as it is suitable one, due to the characteristics which suits for the work in a small group.

5.3.4.3 Role of participants

Invited participants had taken part in the previous workshops, mainly representing the research and policy group working on the design phase of the MaLL project, focused on the energy vision of the area and the tools to implement it, plus one representative from each of the organizations who would provide external support to the project idea. All of them were active listeners and planners of the Lab's project stages. 'Rain of thoughts' was moderated the facilitator and key finding were discussed by all participants and agreed to use in the application.

5.3.4.4 Role of competence cell members

The competence cell members guided and facilitated the discussion according to a structure which could be compared to a focus group meeting. They distributed tasks both in the future governance and operational model of the MaLL and in the organization of the last outreach workshop within FoTRRIS. The main role of the competence cell was to make the ideas of the participants adaptable to the 'project writing terminology' and present the follow up (the project concept) to the participants and the Call - European Network of Living Labs.

It is important to underline, that sometimes local communities miss project development skills and knowledge of the EU funding programmes. This is why it is important to have such

competence in the Cell, as such person can help to structure the 'body' for the co-created ideas and to give a sustainability for the project idea created.

5.3.4.5 Interactions and deliberation

The invited participants have had access to the first draft of the project idea, which has been submitted for acknowledgement under the European Network of Living labs on April 21. The participation was active and lively and constructive with regard to the purpose of the meeting. It is worth to note that invited participants felt their personal responsibility for the local community and this helped to elaborate common solutions based on their knowledge, skills and future visions.

5.3.4.6 Web-based platform used

The platform was started to be used actively by members of the competence cell, enlarged to SO.SVI.MA, to encourage exchange and co-creation on local level. The platform provides a list of contact and developed project idea, so everyone interested has an open access to it and can present future ideas for the co-development.

5.3.5 Post-workshop process

5.3.5.1 Outputs and outcomes

The choice to host the 2nd workshop in the inner area where the action is being piloted was winning as it showed that the energy vision conveyed through the workshops is rooted in the communities.

The choice to keep the two meetings as open as possible to facilitate circulation of experiences and ideas and co-creation of contents enriched the discussion in focusing at a good extent on the expected result and in following the MISC methodology.

The group work facilitated a democratic approach with a full overview of the different perspectives and opinions, none the less it would need to be quite structured to get it useful to wrap up conclusions which could be functional to the next step.

The vision of the transition arena has been conceived within a systemic approach to energy transition for the area and this helped to identify and implement follow-up steps for further development of each innovative solution, method or model identified.

Further to the consultation and co-design process of the first three workshops, the programme of the outreach workshop was drawn up from the competence cell, with the aim to:

- set up strategic alliances to ensure a consistent and responsible answer to glocal challenges;
- spread out the effects of experimentation carried out in the pilot territories;
- receive an external and independent evaluation to the work done;
- enlarge the debate on the barriers of the system, the challenges, the opportunities and leverages to lead the analysis carried out to a mature step and consolidate it;
- assess how to mainstream participatory RRI methodologies in the local, regional and national research policies;

- receive the contribution from participants on how to promote the RRI approach within the research and innovation system at local and national level.

The Madonie Living Lab project concept was presented to the European Network of Living Labs and Open Living Lab Days 2017 in Krakow (Poland), creating more sustainable links with not national initiatives and exchange practices.

5.3.5.2 Communication and outreach plans

The MaLL communication strategy is being promoted through a blended approach making use of different channels, according to different targets (citizens, students, companies, administrators, professionals, researchers, investors), namely: social media, videos, advertising, web info, round tables, rural innovation festivals and exhibitions.

A story-telling process is going to be implemented to gather the most relevant topics and facts emerging from the LL activity. The story-telling is chosen due to a simple adaptation and use for sharing and interpreting experience and promotion of citizen's role active role in local development. CESIE will promote the MaLL through the transnational meetings and actions, which are targeting stakeholders' engagement into R&I actions / empowerment of local community / sustainable development of a territory.

The starting point of the communication and outreach plan was the FoTRRIS outreach workshop in Palermo, organised in September 2017.

5.3.5.3 Signs of and plan for continuity

Recommendations for future actions after the Outreach workshop include to envisage two levels of consultation, planning and co-design, open in parallel and interacting with each other (open consultation with a broader audience and in-depth analysis of the outcomes of plenary discussions in a restricted 'think tank' group, plus specific/sectoral working groups in parallel providing technical contributions to the collective discussion).

The use of the results of the early phase in the formulation of a project idea, inspired from the Living Lab approach, is the proof of the effectiveness of the work carried on.

The submission of the MaLL proposal to the European Network of Living Labs and the acknowledgement received are the sign of a long-term vision to be implemented through the participation of all the stakeholders in the territory.

5.3.5.4 Web-based platform used

As it was mentioned before the FoTRRIS platform was used partly for the development of the co-RRI project idea. Information before and after workshops was shared via email by the Competence Cell members and facilitators. Few interactions have been registered so far (lists of participants, agendas, summary of meetings, public abstract, the presentation of the concept of MaLL as an energy transition project has been uploaded on the FoTRRIS platform).

Due to the nature of our transition arena, which was based on involvement and participation of active local actors, who know each other and are used to work together inviting other

stakeholders due to their professional profile, the full potential of platform was not used, however it is a great source for a communication and repository of material creating common project ideas.

It is planned that the platform will be used by the local Competence Cell members in a future, so it will become a main communication and repository tools for the Competence Cell's co-RRI projects in a future.

5.4 Learning and adaption during the process

In the view of a smart & green community, the Strategy for Inner Areas in its pilot application to Madonie is going to use co-RRI as a methodological framework leverage to facilitate the process of participatory planning and to experiment and consolidate the involvement of citizens, administrators and companies in co-design of platforms and services for clean energy and, more generally, for sustainable and inclusive development. It will represent a smart observatory of citizens with reference to the realization of advanced systems of analysis and processing of energy data at a territorial scale for governance support, as well as to the pro-active participation of civil society in the protection of land and reduced consumption of resources.

The Madonie Living Lab project will support experimentation and demonstration through scientific and educational exhibits and pilot systems in the energy sector, facilitating entrepreneurial paths and participatory business models. It will use equipped facilities and meeting places to facilitate exchange of expertise among people and specialized expertise to support executive design and planning and community engagement.

The main innovation hub at EXMA will interact with the individual thematic 'FabLab@schools,[11] carrying out experimentation in the school network, promoting digitalization in traditional productive activities and handicraft and realizing technological exhibits to be up-scaled in municipal buildings.

The Madonie Living Lab will facilitate the definition of the strategic vision of the territory stepping forward 100% renewable energy through a process of social innovation and benchmarking with case studies of European / international level. An awareness campaign will be addressed to young generations, aimed at increasing a clean energy culture inspired from pioneering initiatives on the European / international level; transformative processes of projects / ideas into objects / real services will be enhanced, creating new opportunities for business and employment.

[11] This is an initiative carried out within a vocational upper secondary school in Palermo which set up its own fablab with the active participation of students, teachers, technical and administrative staff and the support of external advisors (ARCA staff among them). This provided to students' facilities, equipment and tools, as well as the technical assistance related, to develop their own business ideas and unlock their creativity by 'making' objects as a tangible output of their ideas. It is meant to extend the initiative also to the school network in the Madonie area.

The Madonie Living Lab will also provide policy makers with decision-making support tools to mainstream innovative solutions for energy self-standing territories, tailored on the analysis and processing of territorial energy data.

The school network will implement the Madonie Living Lab vision of green communities, fostering creativity and civic sense for a new ownership of energy local resources, steering investments for building efficiency, both at public and private scale, to appropriate technological solutions, able to catalyze entrepreneurial development processes and generate tangible economic spillover effects. It will give voice, too, to a story-telling which will keep collective memory of the intangible heritage of energy history of the places and of old jobs connected with energy sources. Thus, creativity will capitalize on the cultural roots of the sites and will contribute to attractiveness of territory for tourism and new residents.

The co-RRI approach, coherently with the National Strategy for Inner Areas, will offer to local communities in the Madonie, for the first time, the chance to address in a systemic way the issues relating to green services, school and health, with the view of a sustainable and inclusive growth, and to optimize the integration of the ordinary development policies for citizen's services, supported by national funds, with extraordinary actions, supported by EU structural funds.

The participatory process, focused on listening to and interacting with relevant actors of the territory, has allowed to build up and strengthen the networking processes of the territory, as well as a holistic view of local development. Moreover, it has fostered operational strategies oriented to the integration of productive chains and processes of community empowerment, strengthening territorial identity, social cohesion and active protection of the common heritage.

Local sustainable development policies have been driven from the local communities, focusing on the quality of life of the people and landscape management, recovering tradition and exploiting territorial assets, the connection between work and income of the producers, the value of ecosystem services for collective benefit.

Some of the following solutions to the territorial gaps were put forward:

- recover local agricultural crops and support small producers and new practices of regenerative agriculture
- establish a direct connection between the use of energy from renewables with a reduction in the energy bill costs for different kind of users (public institutions, families, companies)
- reinforce the governance structure at the intermunicipal level through a Union of Municipalities in charge for managing core trans-local services
- exploit the school network of Madonie to rationalize and integrate the training offer, develop soft and cross-disciplinary skills related to the smart specialization of the territory, overcome the digital divide in teaching, improve labs and non-formal learning

- highlight social innovation practices, such as the 'back to land' initiative for young generations, and promote networks of young talents in different sectors, supporting creativity and innovation
- set up fablabs at school, as technical workshops for experimentation related to scientific knowledge with a special focus on renewable energy
- activate e-participation and open government digital networks for citizens
- develop renewable energy local supply chains to experiment a sustainable energy model to achieve the goal of 100% renewables within 10 years, covering the electricity need of the communities through local sources
- promote energy citizenship and ownership in consumption, production and management through participatory distributed investments such as the RESCoop (local cooperative networks of energy services)

The benefits for the local communities will be:

- for young people: a creative community, a supportive place for idea generation, business opportunities on local challenges
- for professionals: attracting competences from urban areas to a "slow life" environment
- for companies: the potential of new clean technologies, availability of making labs and pilots, contacts with the scientific community
- for researchers: RRI methods and processes generating sustainable products and services, early-stage validation of innovative solutions in operation
- for decision-makers: decision-making support systems, tailored solutions for resilient rural areas, ongoing process of territorial data analysis and processing
- for citizens: co-responsibility e co-ownership, awareness of the background and implications for decisions taken, monitoring the impact of the choices made

Co-RRI has not only impacted on the design process, but has also affected the governance model, which envisages: two options of membership (active member/external support), admitted if coherent with the MaLL strategic agenda; contributions of members through tangible or intangible assets to MaLL activities (human resources, facilities, data, services); General Assembly of active members; Technical and Scientific Committee, with external experts; interdisciplinary professional teams; an External Advisory Board for consultation and strategic evaluation).

In spite of the efforts to ensure a gender balance at a good extent, this was not feasible because of the limited number of women in the policy and governance levels and in the research environment in the disciplinary field concerned. This is also related to the choice of a rural inner area, where the gender gap in R&I can still be found.

6. Spanish report on Refugee co-RRI transition experiments[12]

6.1 General summary

The three RRI workshops on refugees used the quadruple helix approach (also called multi-stakeholder focus, including civil society, academy, business and policy makers) when designing the TE participant lists, with the intention to foster the participation of refugees, civil society members and organizations, as well as private companies, as these groups are often ignored when designing projects incubated within the academy. Gender balance was taken into account and even positive discrimination towards female participation was done. The goal was to collectively design a refugee R&I project, including both research and innovation actions, with the aim to respond to a potential project call at European level, once new calls for 2018 would be published. This is why the core competence cell from UCM decided to make the workshops international, with the participation of stakeholders and civil society members from France, Bulgaria, Italy, Turkey, Venezuela, Syria, Honduras, Switzerland, Hungary and Spain. The goal responds to one of the most emergent societal challenge faced by today's society, in a moment when we have the largest number of refugees since World War II, more than 50 million of persons and figures daily increasing. The challenge of migration has become a key issue in European policies and both pan-European and national authorities have failed to give asylum and guarantee the basic human rights for millions of persons escaping from war and conflict areas, mainly from Syria and South Sudan (May 2017). Research of the main causes as well as innovative solutions, simulating the effective and positive measures taken by civil society organizations are urgently needed in order to get efficient responses of European and national refugee administrations. The migration is a global challenge in the agenda of UNHCR, IMO and a large number of refugee aid organizations as well as one of the most urgent societal challenges for European horizon project calls, to be published in brief. RRI is a cross-cutting issue in Horizon 2020, so it perfectly adjusts to finding solutions and designing projects related with the challenge of migration.

Local solutions for global problems are needed in terms of the refugee crisis, as the social realities and asylum processes are diverse in different European countries. Representatives from several countries offered a local point of view for the global challenge of migration and refugee crisis.

6.2 Workshop content

6.2.1 Workshop 1: systems mapping

The objective of the international workshop 1-2 was to collectively develop a research and innovation project proposal related with migration/refugees, using the principles of Responsible Research and Innovation (RRI). The core idea was to benefit from the methodological synergies created by a previous H2020 research project titled FoTRRIS

[12] Susana Bautista, Tamara Bueno, Rubén Fuentes, Noelia García, Liisa Hanninen, and Juan Pavón (UCM)

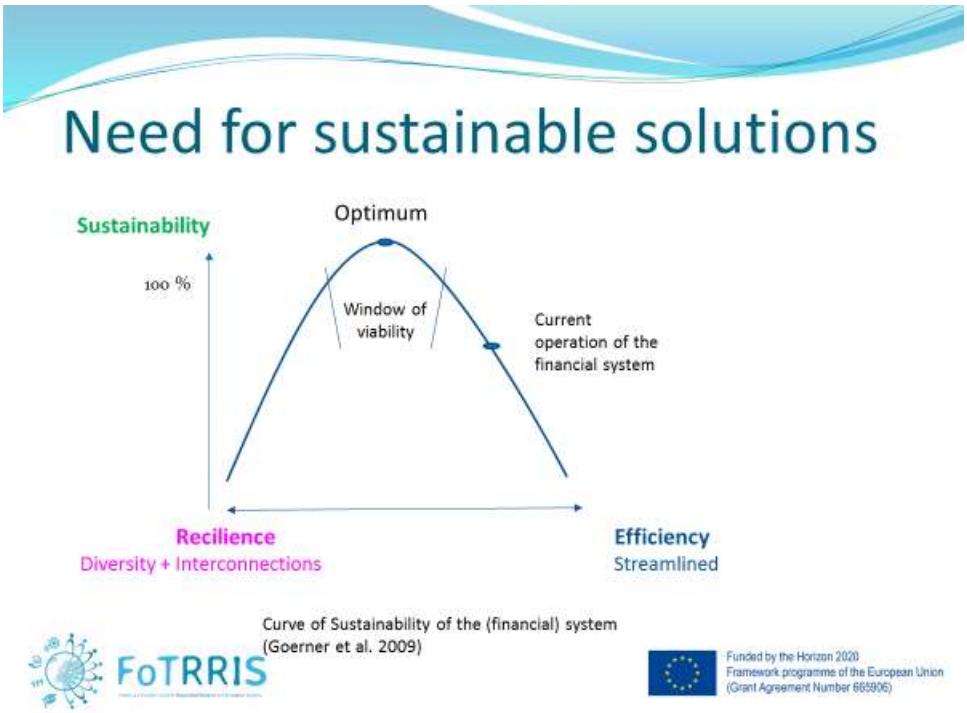
(http://fotrris-h2020.eu/), using the present experiment (workshop) as a tool and a kick-off action for planning a new international project proposal.

Both workshops 1 and 2 were celebrated on 13th December 2016, the first one before lunch in a morning session and the second one as continuity, in an afternoon session. In workshop 1, we created a system map for an international Refugee R&I project, including the following mission statement or system goal: Strengthen cooperation (European Union) between countries of origin and transit; exploring the root causes of the refugee problem and the potential of migration as a driving force for development.

Afterwards, a concept map of realities was designed using individual proposals and creative couples (get up and go exercise) where the participants offered different ideas for R&I. The concept map is visualized in Annex 1. Also, leverages and barriers were discovered when using these individual or couple dynamics to foster creativity, including the following:

- **Leverages**: opportunities for a common base of understanding across European countries offered by RRI working strategy, urgency to find solution and the good practices of civil society that can serve as benchmarking for global activities.
- **Barriers**: Contradictory political and economic drivers, xenophobic reactions, extreme and intolerant nationalist movements, lack of finance, lack of historical memory, scarce will to change things, self-centred state of mind, migration bureaucracy, border restrictions, etc.

The curve of sustainability was adjusted to the refugee case using the following schema:



In this case, economic drivers and the requirement of efficiency (economic growth) are in counter position with the social sustainability and resilient solutions necessary for solving the global refugee crisis.

Explaining MISC using the "sustainability curve" helped workshop participants to see how all the societal actors are interconnected, and that finding more sustainable solutions requires a more resilient approach, not merely based on efficiency. Nevertheless, quitting the regime point of view is not possible, but a general paradigm change is needed. Though innovations take place at different levels in the system (from niches to regimes), to make things/change happen it is necessary to see ways of up-scaling bottom-up innovations (niche innovation). Related to the main issue of our workshops, migration/refugee crisis, it was interesting to see how grassroots initiatives (civil society initiatives) had a strong presence and were largely discussed, even by institutional/research actors. These can be observed in Annex 1.

6.2.2 Workshop 2: visioning

In workshop 2, the working team had the task of visioning solutions towards a collective project proposal. The desired future in terms of the migration issue is a more welcoming and tolerant European society, a better understanding of the reasons of migration and accepting "otherness." This necessarily translates to an easier process for asylum seekers and a much larger number of refugees accepted by European countries, as well as improved integration policies.

Small work groups (we called them "partner teams") were set and produced 5 different project proposals, reducing the large number of individual/couples' ideas from workshop 1. These creative multi-stakeholder teams offered the following project concepts and action plans:

- **Team I**: Creation of a database. Considering socioeconomic variables (work, production and survival system), demographic and cultural variables (education, gender, religion…) of asylum seekers in countries of origin, transit, and destination. Other variables can be added: natural disasters, armed conflicts, political instability. Crossing variables and datasets with the different groups of migrants and the policies of countries of origin, transit, and destination. The aim is designing and managing better the global migratory policies. Discover the safer countries for transit and destination.
- **Team II**: Operative proceedings adapted to the situation of refugees. Applicable in refugee camps, countries of origin, transit, and destination. 2 years plan: During the first year, interdisciplinary working groups will be created. The will create the "concept map of realities". Participatory observation and reflect on refugees' situations to feed the conceptual map. Those who work operationally in the field will observe and researches will reflect. From 12th to 21st month, the interdisciplinary working groups will be formed by executive groups, reflective groups, and refugee groups. During the last months, conclusions will be made based on the results of these operative proceedings.

- **Team III**: Creating art and audio-visual workshops to achieve integration in society by means of art. An itinerant project of educational activities where users will develop the expressions of their feelings and the sensibility. Change the situation, image and opinion of refugees with the aid of local people.
- **Team IV**: Consider the benefits of immigration in the destination context as the focal point. Civil society will develop an online platform where migration will be seen as a driving force for development. Different activities will be put into practices to achieve that: in-depth interviews to sectors and evaluation of the social impact, showing a documentary film about refugees' situation.
- **Team V**: A research based in refugees' life stories in Turkey. This proposal implies serious obstacles and internal barriers such as bureaucracy, the political system and the difficulty of obtaining information. Furthermore, all information should be favourable for the Turkish government.

With this workshop a network was created to obtain collaboration and initiatives to foster good practices for the asylum seekers including the perspectives of the different contexts, to analyse the real situation of refugees and the problems of the internal system. Part of the network has already set up meetings and will share communications at conferences, for example in the forthcoming ECREA Migrations and Media Conference in Bilbao, on November 2-3, 2017. Also, Erasmus interchanges for lecturers and researchers will be used to settle meetings between participating universities and organizations, in Helsinki, Palermo and Madrid, for example.

6.2.3 Workshop 3: project concept design

As seen before, the objective of the series of international RRI on refugees workshops our team has organized during Winter 2016 and Spring 2017 was to collectively develop a H2020 research and innovation project proposal related with migration/refugees, using the principles of Responsible Research and Innovation (RRI). The core idea was to benefit from the methodological synergies created by a previous H2020 research project titled FoTRRIS (http://fotrris-h2020.eu/) and use system thinking as a guideline for collective work, with the intention of listening to all societal actors.

The first two workshops, organized 13th December 2016 served as kick-off actions for starting to plan a project idea. In the first one, we developed a system mapping for a potential international refugee R&I project proposal: we defined the challenge, set goals and approached the context of refugees. In the second part, we were visioning solutions: we shared diverse ideas from all workshop participants and then picked the most interesting ones for further development, making an inventory of the best R&I ideas for a future project proposal.

In our April workshop, the participants were invited to take part and work in a specific refugee project proposal adjusted to the requirements of the new Horizon 2020 R&I calls for 2018, expected to be published in late 2017, early 2018. The collaborative work team selected two of the orientations marked in the "scoping paper" (provisional plan) of European Commission marked in the field of Migration and Refugee Crisis and defined a project concept as well as further designed a research and innovation plan to be presented in the next H2020 call. The

ideas generated in the two previous workshops will be used as a starting point for making applications for the forthcoming project calls.

Working on two different issues: refugee narrative on todays' media and refugees' inclusion on urban regions, a list of objectives was offered. On the one hand, the premises of 'better formation and access to information throughout the media of the receiving countries' and 'an adaptation of their narratives as identifying and positive impacting platforms for these vulnerable groups' were selected for this first topic. On the other hand, the main interest of the second subject was 'to work on refugees' independence and, consequently, self-esteem'; while secondarily, a) focusing with singular attention on gender perspective, b) establishing good and bad practices while setting comparative frameworks and c) creating a network of stakeholders.

As a conclusion, it was determined as primary goals to effectively adapt media narratives and structures according to refugees' reality and to give refugees' the recognition needed to facilitate being understood and integrated in the receiving societies. Some of the most notable evaluation and communication actions proposed to complement the project were: developing direct and indirect refugees' studies (surveys or focus group techniques, along methodical or legal matters), and using social media and innovative communication formats as main tools of content creation and raising social awareness.

6.3 Workshop process

6.3.1 Preparation process

6.3.1.1 Defining the systems goal

In the planning session, competence cell members from UCM decided to duplicate the experiment and make two series of RRI workshops, one with reference to disabled women and the other, referring to refugees, due to expertise and interests of the problem owner team. When it comes to the RRI on refugees workshops, the team decided to set the system goal as visioning a forthcoming European project call: to collectively design a refugee research and innovation project, using the principles of RRI and listening to all societal actors participating in the workshop.

6.3.1.2 Selecting and inviting TE participants

The transition experiment members were selected using the competence cell members former professional contacts due the previous research and innovation activities developed by them. In the specific case of refugees and asylum seekers, some personal contacts were provided by NGOs and Complutense University. Inter-disciplinary and inter-sectorial audience, in order to get a diversity of perspectives on the refugees. 32 people were invited from different countries such as Syria, Honduras, Turkey, France, Spain, Hungary, Italy, Switzerland and Finland. Finally, there was an average of 20 participants per workshop. The workshop hosted refugees from different fields (including a blue-collar worker, a university student and a journalist); researchers from the field of sociology, communications science and computer science, from Spanish, Italian, Hungarian, Finnish and Turkish universities and research institutes; UNHCR representatives, NGO representatives, a Madrid City hall representative, a judge from France, an artist and a video producer.

6.3.1.3 Selecting and inviting competence cell members

For the three RRI workshops on refugees we have used our multidisciplinary team of researchers from UCM to achieve a working group like competence cell, as many of them had professional experience in asylum, gender, human rights, new technologies and communication. This was the first time the group ever got to work together.

6.3.1.4 Web-based platform used

We have successfully used the FoTRRIS web-platform to control the list of participants and different aspects of logistics (like material) and organize presentations and dynamics.

6.3.2 Workshop 1

6.3.2.1 Outline of WS1

Program for Workshop 1: SYSTEM MAPPING FOR AN INTERNATIONAL REFUGEE R&I PROJECT

10-11.30 THE CHALLENGE OF MIGRATION, FRAMEWORK AND GOALS

- Role play to get to know the team. Presentation of team members.
- Introduction to Responsible Research and Innovation (RRI): FoTRRIS project work principles.
- RRI as a framework for refugee studies. How to implement RRI to a H2020 Research and innovation project application?
- Presentation of H2020 call: ENG-GLOBALLY-03-2017: The European Union and the global challenge of migration.

11.30-12.00 Coffee break

12:30-13.30 WORK STRATEGIES & CORE IDEAS FROM DIVERSE STAKEHOLDERS, CO-DEFINING A PROJECT SYSTEM MAP

- Get up and go: Brainstorming for specifying the project goals and introducing new refugee project ideas. Individual proposals.
- Collective feedback on ideas: Mapping of proposals, problems and opportunities.

13.30-14.30 Lunch

6.3.2.2 Facilitation

The workshop was performed in a large meeting room at the Faculty of Computer Science, Complutense University of Madrid, on 13th December 2016, from 10 to 14:30 (lunch included). This room has a large round table, and four separate tables, so it was possible to perform group dynamics. There was support for multimedia presentation, whiteboard, and material for brainstorming.

We considered celebrating this workshop in our Faculty because we have a spacious and adequate space to get people together, that fosters creativity and discussing the topic with the different stakeholders. UCM team member acted as facilitators, using different techniques to

foster the teams' creativity. "Get up and go" was a brainstorming exercise, carried out individually or in couples, that consists writing keywords of ideas on post-its and then reading them out and sticking them to a whiteboard or canvas. As participants are forced to move around, this relaxes the atmosphere. Collective feedback was used to map ideas together. All UCM team members actively fostered interaction between the participants and helped facilitators in their tasks.

6.3.2.3 Role of participants

All the attendants (representing the quadruple helix) participated in all the dynamics that were carried out during the workshop.

6.3.2.4 Role of competence cell members

Juan, Liisa and Susana, members of UCM-team, were the facilitators of the workshops to present the project, our topic and some dynamics carried out during the workshop, and Tamara, also part of the UCM team, carried out an ice-breaker exercise at the beginning of the workshop.

6.3.2.5 Interactions and deliberation (group dynamics)

A progressive step to step process was established for the workshops 1 and 2. In the first workshop, a large number of ideas and proposals were produced using individual and small team brainstorming, giving as a result a project system map, whereas these ideas were reduced and turned into a specific project proposal during the second workshop (as described later). After the icebreaker role play and project & task description at the beginning of the workshop, our idea was to develop ideas individually, but some participants preferred to work in couples instead. They wrote down their ideas on several post-its, stood up and shared their ideas sticking the post-its to a white board. After, we used collective discussion about the proposals to add different perspectives and, finally, all the participants provided individual inputs to promote a more effective settling. This way, the team produced a system map of proposals, problems and opportunities related with the issue of refugees and migration.

6.3.2.6 Web-based platform used

The FoTRRIS web-based platform was used to assist the coordination of the preparatory information, prior to the workshop, including invitation lists, budget and programme.

6.3.3 Workshop 2

6.3.3.1 Outline of WS2

PART 2: VISIONING SOLUTIONS: TOWARDS A COLLETIVE PROJECT PROPOSAL

14.30-16.30 INVENTORY OF BEST R&I IDEAS FOR FUTURE REFUGEE PROJECTS

- Collective decision on the most original and effective proposals of part 1.
- Brainstorming using creative couples to develop the best working ideas.

16.30-17.30 Coffee break

17:30-19:00 INVENTORY OF BEST R&I IDEAS FOR FUTURE PROJECT PROPOSALS

- Collective feedback on best working ideas and mapping a core refugee R&I project.
- Discussion on constructing partnerships and alliances for other future collaborations. Reinforcing networks.

6.3.3.2 Facilitation

Workshop 2 was performed in the same facility as workshop 1: in a large meeting room at the Faculty of Computer Science, Complutense University of Madrid, on 13th December 2016, and it was the continuation of the WS 1 morning session, celebrated from 15:00 to 19:00.

6.3.3.3 Role of participants

All the attendants (representing the quadruple helix) participated in all the dynamics that were carried out during the workshop.

6.3.3.4 Role of competence cell members

All competence cell members guided and monitored the dynamics. Liisa and Noelia gathered the stickers that were created during the activities and two recorders took notes of the main ideas.

6.3.3.5 Interactions and deliberation (group dynamics)

As the second workshop was carried out during the same day as the first one, with the same persons participating, it was easy to start over and get back to work after lunch. During the morning session, the teams had provided a large number of ideas, a map of proposals. At the beginning of the second workshop, all the participants collectively decided which of these proposals would be worth developing. Then, teams of 4 persons picked up these best choices and worked on them, using canvases to design a concrete project proposal. Five teams produced a project idea (the proposals are detailed in Annex 2). At the end of the workshop, the teams shared their ideas, discussed about the best final ideas and interchanged impressions.

The atmosphere was very easy-going and relaxed during the workshop, though in the beginning, some participants were a bit excited or worried, for example, one of the refugees said she was surprised she could collaborate and exchange ideas with a "high level expert", the UN spokespersons. There were no tension and interesting cultural differences were pointed out, for example, the Turkish participant explained that forced migration and the difficulties that refugees face in her hometown by the Syrian border, is everyday life for her. The participants found it refreshing to have a genuinely multidisciplinary and cultural workshop.

With this workshop, a network was created to obtain collaboration and initiatives to foster good practices for the asylum seekers including the perspectives of the different contexts, to analyse the real situation of refugees and the problems of the internal system.

6.3.3.6 Web-based platform used

The FoTRRIS web-based platform was used to assist the coordination of the preparatory information, prior to the workshop, including invitation lists, budget and programme.

6.3.4 Workshop 3

6.3.4.1 Outline of WS3

The detailed program was the following:

PART 1: DEVELOPING A TRANSDISCIPLINARY REFUGEE R&I PROJECT CONCEPT

9:30-10.00 WELCOME AND PRESENTATION OF PARTICIPANTS (in the lobby)

10.00-12.00 STRUCTURING A PROJECT PLAN

- Introduction to FoTRRIS and RRI.
- Brief presentation of the new H2020 calls: Challenge 6, priority Migration and refugee crisis. Selection of the project orientation.
- Brief presentation of the ideas suggested in previous workshops.
- Collective brainstorming/creative groups for specifying the objectives and structuring a core plan. Step by step action plan.
- Get up and go: resources needed.

12.00-12.30 Coffee break

PART 2: CREATING IDEAS FOR ASSESMENT AND COMMUNICATION OF THE PROJECT

12.30-14.30 MEASURES FOR EVALUATION AND DISSEMINATION

- Collective brainstorming/creative groups defining the timing.
- Collective brainstorming/creative groups for defining indicators to assess and monitor project implementation.
- Get up and go: Ideas for dissemination/communication
- Collective decision on the most original and effective ideas for a communication plan.

14.30-15.30 Lunch

15:30-16.30 COLLOQUIUM

- Next steps to be taken.
- Networks

6.3.4.2 Facilitation

The 3rd workshop was celebrated at the Faculty of Communication Science in similar installations as the two previous ones, in a large meeting room with an oval table in the middle. Micros, black-and whiteboards as well as projector were used in the interactions, as well as some smaller tables in diverse parts of the room for small team exercises. Team members Juan, Noelia and Liisa made the introductory presentation of the project, the RRI working

methodology, the results of the previous workshops as well as an introduction to the new project calls.

6.3.4.3 Role of participants

The participants took actively part in all the group dynamics. After the presentation of the working methodology, etc., at the beginning of the workshop, the participants formed 3 work teams, each of which had representatives of the diverse societal groups, though this time, one of the requirements for forming groups, was language used. Thus, we had an English, a French and a Spanish speaking work team, with around 5-6 members in each one. At least one competence cell member was included in each team, helping the team to focus in the task and fostering equal participation of all.

6.3.4.4 Role of competence cell members

The design, organization, invitations, paperwork and all the practical arrangements before, during and after the workshop were carried out by the competence cell members, UCM core team, including travel arrangements for the international participants. Team members Juan, Noelia and Liisa made the introductory presentation of the project, the RRI working methodology, the results of the previous workshops as well as an introduction to the new project calls. The filming for the event video was done by team members Maria and Rubén. The diverse dynamics were moderated by Liisa, with the support of the whole team and two post-graduate students served as recorders taking notes of the most essential issues discussed.

6.3.4.5 Interactions and deliberation (group dynamics)

Having in mind the recent tough situation this community is affronting, the aim of the workshop was to develop a H2020 research and innovation project proposal related to migration/refugees issues, using the principles of Responsible Research and Innovation (RRI). Hence, to work in a specific refugee project proposal adjusted to the requirements of the new Horizon 2020 R&I calls for 2018 by defining a project concept and further designing a research and innovation plan. Methodology wise, this years' action was meant to be benefited from the methodological synergies created on the previous H2020 research project; using system thinking as a guideline for collective work. More specifically, it was established a progressive stage process of: 1) reduced brainstorming groups to specify objectives and structure a core plan, 2) group presentation to share the previous conceived ideas, 3) collective discussion about the proposals presented to add different perspectives and 4) individual input to promote a more effective settling.

Working on two different issues: refugee narrative on nowadays' media and refugees' inclusion on urban regions, a list of objectives was offered. On the one hand, the premises of 'better formation and access to information throughout the media of the receiving countries' and 'an adaptation of their narratives as identifying and positive impacting platforms for these vulnerable groups' were selected for this first topic. On the other hand, the main interest of the second subject was 'to work on refugees' independence and -as a consequence- self-esteem'; while secondarily, a) focusing with singular attention on gender perspective, b) establishing good and bad practices while setting comparative frameworks and c) creating a network of stakeholders.

As a conclusion, it was determined as prime goals to effectively adapt media narratives and structures according to refugees' reality and to give refugees' the recognition needed to facilitate being understood and integrated in the receiving societies. Some of the most notable evaluation and communication actions proposed to compliment the project were: developing direct and indirect refugees' studies (surveys or focus group techniques, along methodical or legal matters), and using social media and innovative communication formats as main tools of content creation and social raising awareness.

6.3.4.6 Web-based platform used

As in previous workshops, the platform was used to assist the coordination of the preparatory information, including invitation lists, budget and programme. The Web-based platform was used by the post-graduate students to record the main ideas in real time. Later, those ideas served to develop further reflection and to upload different documents.

6.3.5 Post-workshop process

6.3.5.1 Outputs and outcomes

After these workshops, we have obtained a deeper perspective of refugees' and asylum seekers' actual necessities and main problems. As this has been a transition experiment, we will continue with this R&I topic and human collective to develop a Refugee research and innovation project based on RRI principles. Part of the network created at the workshop will (most likely) start to work on a shared project application end of 2017 and, naturally, all participants of the workshop will be invited to take part as part in the consortium or in the advisory board.

6.3.5.2 Communication and outreach plans

Part of the results will be shared with the academia during the ECREA Diaspora, Migration & the Media conference "Migration and communication flows: rethinking borders, conflict and identity through the digital" under the title "Responsible Action Research: Co-defining Solutions to Forced Migration and Communication Flows" (2 and 3 November 2017). More information about the call available at http://www.koenleurs.net/2017/02/call-for-papers-ecrea-diaspora.html

6.3.5.3 Signs of and plan for continuity

Considering the interest of the competence cell and part of the participants from several European countries, the resulting network plans to apply for a new Horizon 2020 call related to migratory flows. Our attendance to ECREA conference will allow us to enlarge the network for the new Horizon 2020 call in 2018.

6.3.5.4 Web-based platform used

The platform will be used as previous workshops for the preparation of the Outreach workshop and to gather the main conclusions of the meeting, as well as a tool for saving all the preparatory and resulting FoTRRIS documents applied to this transition experiment, to communicate with the rest of the network and to prepare the next Horizon 2020 call.

6.4 Learning and adaption during the process

Paths for solutions were nearly as varied as participants, as the issue was approached from diverse perspectives and maybe none of them would even pretend to solve the situation on its own, but summing up and adjusting, and regime permitting (requires a paradigm change), niche innovations would help to make the system more sustainable. The regime (EU, national legislations, migration authorities, etc.) not only hinders the upscaling of niche innovations (of activists, collaborative citizens, NGOS, alternative political movements, etc.), but can also make problems worse, generating "externalities" in its' blindness to see and use a holistic paradigm when looking for solutions to the grand challenges of our times. We explained this by using images of how everything on planet is interconnected and you cannot separate social sustainability from environmental sustainability, a prove of this being "climate refugees". A good example how opening a more holistic and collaborative point of view to a global challenge can help to open lock-ins was actually seen in the Project "call" that we used to define the objectives and main guidelines.

The MISC methodology was useful as it permitted us to explore a large number of different approaches and ideas, listening to diverse stakeholders at the very early stage of project planning. This is a totally different approach to problem solving and project design, based on the collaborative ideas of RRI, that offers a holistic way of analysing things using the idea of mapping. Permitting citizens, academy, companies, artists, administration, e.g. take part in the design of a project concept is not often used in R&I, even if they are often listened to once plans are already made.

We used simplified language for explaining the system thinking approach, and approached the methodology indirectly, not explaining all the theory behind, but applying the principles to our working method during the workshop. For example, we discussed and explored diverse action options for desired outcomes or goals (to find solutions for the refugee crisis) and saw how growth/economic efficiency as a driver for many European governments makes these goals difficult to reach…instead of defining them as "balancing and reinforcing feedback loops". Otherwise, we found no special difficulties in terms of the vocabulary related with RRI, as we used a more common vocabulary for complex terms.

Annex 1: Concept map of realities and core R&I ideas produced in Workshop 1

A. CONCEPT MAP OF REALITIES:

- Field research to know the culture and the different conflicts a migrant has to face (personal, during transit….)
- Find the factors of forced displacement (natural disasters, climate change…)
- Creating a concept map of realities (social, political, education, cultural, armed conflicts, religion, administration, gender…)
- Defining the causes that foster migration in different geographical areas. Searching for convergences and divergences in each area.

B. CORE IDEAS, PROJECT SYSTEM MAP:

INTEGRATION:

- Research of the factors that determine the integration of migrants in the reception communities.
- Generating interdisciplinary groups to create proceedings for an effective integration.
- Understanding the different perceptions of local people in European countries: the reason why groups against asylum seekers are created.
- Strategies of sociocultural integration for migrants.
- Study the role of migrants as a bridge of information with the countries of origin and transit, in order to:
    - Improve the migratory policies with better information about migratory processes, different actors, good and bad practices…
    - Foster a future integration of the migrants with the experiences of those who already live in the destination countries.

LEGISLATION:

- Study how the current European legislation address gender violence and human trafficking as causes for seeking asylum.
- In-depth interviews and surveys to refugees and asylum seekers to know their causes for migration.
- How to validate the asylum requests? How to decide in controversial cases? Stakeholders' bias. Catalogue of causes for asylum.
- Comparative study of the different legislation about migration.

OTHER:

- Empathic instead of Occidental point of view. Give voice to asylum seekers and favouring their participation.
- Fostering a transdisciplinary research that includes the different actors in its design and dissemination of results.
- Developing a system of information: seminar of psychology.
- Life stories.
- Observation of different types: sociology, psychology, economics, human resources, linguistics, religion.
- Analysing the impact of awareness campaigns.
- Analysing religious stigmatization and Islamophobia.

- Helping migrants to show their ideas by means of visual testimonies, drawings, and audio-visual pieces.
- Adaptation of contents: simplifying texts.
- Studying the positive consequences of migration for the destination countries.
- Study the stereotypes related to migration.
- Study of the rupture and difficulties that migration implies.
- Analysing the role of mass media depending on the editorial line: biased information.
- Social security for migrant people.
- Working with researches that are refugees or asylum seekers.
- Dissemination of the results of researches beyond the academic world: increasing public awareness.

TECHNOLOGICAL AREA:

- App: wiki (collaborative website): "How to…?" To help asylum seekers and migrants in their daily lives.
- 'Co-learning' app for languages.
- International platform with several countries of origin, transit and destination.
- Developing apps that improve the access to information for asylum seekers.
- Creating a map with the use of systems of geographical information.
- Biometric identification plus electronic profile (managed by European Union).

FACILITATOR FACTORS FOR INTEGRATION:

- Developing integral systems for innovation considering the possibilities of cultural diversity and the need for integration. Cooperation among socioeconomic agents (refugees' centres, local government, companies, NGO's, health centres, education centres…)
- Promoting citizen initiatives to help refugees and asylum seekers in their daily lives.
- Learning the language of the destination country as the key factor for integration.
- Actions for integration by neighbourhood associations.
- Creating aid groups for migrant / refugees among civilian population.
- Honour conferred by the local government for those people or entities that promote integration.
- Refugees as driving force for development and integration: art, languages, gastronomy…
- Creation of an interactive space to gather people (migrants and local people) with art as a meeting ground.
- Celebrating events between refugees and companies.
- Improve the infrastructures of refugee camps or creating shared apartments to avoid ghettos.

EDUCATION:

- Special attention to vulnerable groups (children and women): local language, art workshops, sports… Discover talents (music, poetry…)
- Free language courses and business training.
- Adapting the curricula.

PUBLIC AWARENESS:

- Good practices to avoid stereotypes: integrated or successful migrants.
- Spots to promote acceptation.
- Curricula adapted to the learning or knowledge of the realities of the countries of origin. ¿Why they escape?
- Curricula for the basic knowledge of Islam and its different branches.
- A campaign for public awareness: Human Rights, causes for seeking asylum, the difficulties of migrants in countries of transit, informing local people how refugees and asylum seekers live.
- Refute false arguments: high cost of social security.
- Migration as a human and universal phenomenon.

REFUGEES AS AGENTS OF SOCIAL CHANGE:

- Workshops where young migrants can relate their personal experiences.
- Train them as representatives of their cause.
- Communal radio (online).
- Documentary films with migrants' testimonies. Use of the drawings of refugee children.

MASS MEDIA:

- Create their own social network.
- Create a European code of ethics for media treatment about refuge. Denounce bad practices.

DURING THE TRANSIT:

- Possible solutions: good and bad practices.
- Socioeconomic integration process during transit and creation of (real or virtual) integration places for a multidisciplinary aid (law, psychology, bureaucracy…). All based in dynamism and proactivity.
- Links between countries of transit and destination to help asylum seekers.

OTHER:

- Creating a tool to detect the strengths, weaknesses, opportunities, and threats (SWOT matrix).
- Become aware of the differences among all European countries (European disUnion?)

Annex 2: Project proposals produced during Workshop 2

Team I:

Creation of a database. Considering socioeconomic variables (work, production and survival system), demographic and cultural variables (education, gender, religion…) o asylum seekers in countries of origin, transit, and destination. Other variables can be added: natural disasters, armed conflicts, political instability. Crossing variables and datasets with the different groups of migrants and the policies of countries of origin, transit, and destination. The aim is designing and managing better the global migratory policies. Discover the safer countries for transit and destination.

Team II:

Operative proceedings adapted to the situation of refugees. Applicable in refugee camps, countries of origin, transit, and destination. 2 years plan:

During the first year, interdisciplinary working groups will be created. The will create the "concept map of realities". Participatory observation and reflect on refugees' situations to feed the conceptual map. Those who work operationally in the field will observe and researches will reflect. From 12th to 21st month, the interdisciplinary working groups will be formed by executive groups, reflective groups, and refugee groups. During the last months, conclusions will be made based on the results of these operative proceedings.

Team III:

Creating art and audio-visual workshops to achieve integration in society by means of art. An itinerant project of educational activities where users will develop the expressions of their feelings and the sensibility. Change the situation, image and opinion of refugees with the aid of local people.

Team IV:

Consider the benefits of immigration in the destination context as the focal point. Civil society will develop an online platform where migration will be seen as a driving force for development. Different activities will be put into practices to achieve that: in-depth interviews to sectors and evaluation of the social impact, showing a documentary film about refugees' situation.

Team V:

A research based in refugees' life stories in Turkey. This proposal implies serious obstacles and internal barriers such as bureaucracy, the political system and the difficulty of obtaining information. Furthermore, all information should be favourable for the Turkish government.

7. Spanish report on Women & Disability co-RRI transition experiment[13]

7.1 General summary

The UCM team has addressed the context of women and disability during the workshops. The main aim during these workshops was working together with different kind of participants, from different stakeholders, to identify the needs and problems and the opportunities that this group of people has in our society, focusing on different aspects, like mobility, housing, employment, etc. To be woman has its challenges, nowadays, and women with disabilities still have more challenges to overcome.

The three RRI workshops on women and disability used the quadruple helix approach when designing the TE participant lists, with the intention to foster the participation of women with disability, civil society members and organizations, as well as private companies, as these groups are often ignored when designing projects incubated within the academy.

Gender balance was taken into account and even positive discrimination towards female participation was done. The goal was to collectively design a women and disability project, including both research and innovation actions, so that after the workshop, an application for a future Horizon 2020 project call could be presented. Local solutions for global problems are needed in terms of the woman and disability, as the social realities.

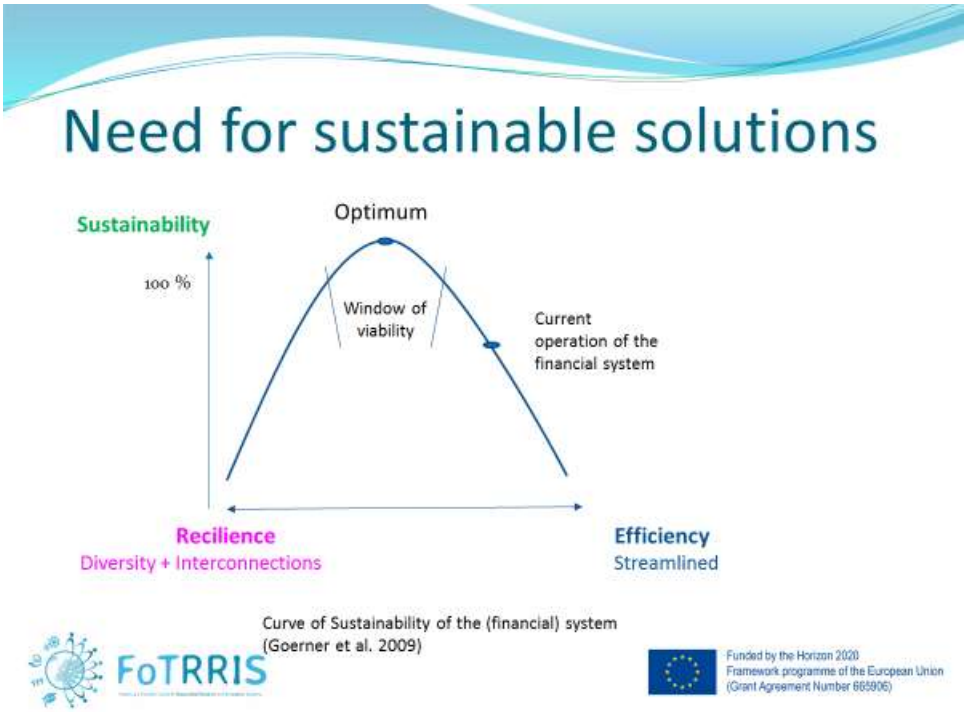
7.2 Workshop content

7.2.1 Workshop 1: Systems mapping

The objective of the workshop was to collectively develop a research and innovation project proposal related with women and disability, using the principles of Responsible Research and Innovation (RRI). The core idea was to benefit from the methodological synergies created by a previous H2020 research project titled FoTRRIS (http://fotrris-h2020.eu/), using the present experiment (workshop) as a tool and a kick-off action for planning a new international project proposal. The first and second workshops were celebrated on March 23thand 24th 2017, in the main room of the Computer Science Faculty, at Universidad Complutense de Madrid, in Madrid, Spain.

In the first workshop, we created a system map for a Women and Disability R&I project. Afterwards, a concept map of realities was designed using individual proposals and creative couples (get up and go exercise) where the participants offered different ideas for R&I. The concept map is visualized in annex 1. In addition, leverages and barriers were discovered when using these individual or couple dynamics to foster creativity. The curve of sustainability was adjusted to the case using the following schema:

[13] Susana Bautista, Tamara Bueno, Rubén Fuentes, Noelia García, Liisa Hanninen, and Juan Pavón (UCM)



In this case, economic drivers and the requirement of efficiency (economic growth) are in counter position with the social sustainability and resilient solutions necessary for solving the global women with disability situation.

Explaining MISC using the "sustainability curve" helped workshop participants to see how all the societal actors are interconnected, and that finding more sustainable solutions requires a more resilient approach, not merely based on efficiency. Nevertheless, quitting the regime point of view is not possible, but a general paradigm change is needed. Though innovations take place at different levels in the system (from niches to regimes), to make things/change happen it is necessary to see ways of up-scaling bottom-up innovations (niche innovation). Related to the main issue of our workshops, it was interesting to see how grass root initiatives (civil society initiatives) had a strong presence and were largely discussed, even by institutional/research actors. These can be observed in Annex 1.

7.2.2 Workshop 2: Visioning

In the second workshop, the working team had the task of visioning solutions towards a collective project proposal. The desired future in terms of the women and disability issue is more welcoming and tolerant in our society.

Using the technique of small partner teams, 3 different project proposals were created, reducing the large number of individual/couple ideas from the first workshop. These creative multi-stakeholder teams offered the different project concepts and action plans.

7.2.3 Workshop 3: Project concept design

In the third workshop, the participants were invited to take part and work in a specific project proposal, which ideally should be adjusted to the requirements of the new Horizon 2020 R&I calls in the next years. The ideas generated in the two previous workshops were used as a

starting point. The main goals were specifying the objectives and structuring a core plan. Identify the resources needed and create ideas for assessment and communication of the project, focused on measures for evaluation and dissemination.

7.3 Workshop process

7.3.1 Preparation process

7.3.1.1 Defining the systems goal

In the planning session, competence cell members from UCM decided to duplicate the experiment and make two series of RRI workshops, one with reference to women and disability and the other, referring to refugees, due to expertise and interests of the team. When it comes to the RRI on women and disability workshops, the team decided to set the system goal visioning a forthcoming European project call: to collectively design a women and disability research and innovation project, using the principles of RRI and listening to all societal actors participating in the workshop.

7.3.1.2 Selecting and inviting TE participants

We have used our networking to invite a group of participants from the different stakeholders. We have also used the email to disseminate the event to make a call of participation. We achieved 20 participants. Inter-disciplinary and inter-sectorial audience, in order to get a diversity of perspectives on the women and disability.

7.3.1.3 Selecting and inviting competence cell members

We have used our multidisciplinary team of researchers from UCM to achieve a working group like competence cell. We have experts of accessibility, experts of Communication and Gender issues and experts of Software development.

7.3.1.4 Web-based platform used

We have used the FoTRRIS web-platform to control the list of participants and different aspects of logistics (like material) and organize presentations and dynamics carried out. During the workshop, there were two persons taking notes in parallel using the platform. After the workshop, these were reviewed in order to get a consistent summary of the results of the workshop. This has proved to be useful to prepare the next workshops, in order to remember what was the point when finishing the previous.

7.3.2 Workshop 1

7.3.2.1 Outline of WS1

PART 1: SYSTEM MAPPING FOR WOMEN AND DISABILITY RRI PROJECT

15:00-16.30h THE CHALLENGE OF WOMAN AND DISABILITY, FRAMEWORK AND GOALS

- Activity to get to know the team: Presentation of team members. (Susana Bautista, UCM)
- Introduction to Responsible Research and Innovation (RRI): FoTRRIS project work principles. (Juan Pavón, UCM)
- RRI as a framework for woman and disability studies. How to implement RRI to a H2020 Research and innovation project application? (Susana Bautista, UCM)

- Role play stakeholders: identify different needs and opportunities for diverse stakeholders involve in the project. (Susana Bautista, UCM)

16.30-17.00h *Coffee break*

17:00-19:00h WORK STRATEGIES & CORE IDEAS FROM DIVERSE STAKEHOLDERS, CO-DEFINING A PROJECT SYSTEM MAP

- Get up and go: Brainstorming for specifying the needs and opportunities in the project women and disability. (Liisa Hanninen, UCM)
    - Collective feedback on ideas: Mapping of problems and opportunities from the different stakeholders. Working on creative couples

Output: *List of problems and opportunities from diverse stakeholders.*

7.3.2.2 Facilitation

The workshop was performed at a large meeting room in the Facultad de Informática, Universidad Complutense de Madrid, Spain. It was celebrated on 24th March 2017, from 10am to 14pm (4hours). This room has a large round table, and four separate tables, so it was possible to perform group dynamics. There was support for multimedia presentation, whiteboard, and material for brainstorming.

We considered celebrating this workshop in our Faculty because we have a spacious and adequate space to get people together, that fosters creativity and discussing the topic with the different stakeholders. Juan, Liisa and Susana, members of UCM-team, were the facilitators of the workshops to present the project, our topic and some dynamics carried out during the workshop. Using different techniques to foster the teams' creativity. "Get up and go" was a brainstorming exercise, carried out individually or in couples, that consists writing keywords of ideas on post-its and then reading them out and sticking them to a whiteboard or canvas. As participants are forced to move around, this relaxes the atmosphere. Collective feedback was used to map ideas together. All UCM team members actively fostered interaction between the participants and helped facilitators in their tasks.

7.3.2.3 Role of participants

Our participants played different roles during the workshop because there were dynamics where they had to consider other roles to identify needs of this collective.

7.3.2.4 Role of competence cell members

All members of the competence cell had different roles during the workshops. Sometimes as the facilitator, other times as one more participant, or as observers, in addition to carry out some dynamics during the workshop.

7.3.2.5 Interactions and deliberation

A progressive stage process was established for the workshops: 1) reduced brainstorming groups to specify objectives and structure a core plan, 2) group presentation to share the

previous conceived ideas, 3) collective discussion about the proposals presented to add different perspectives, and 4) individual input to promote a more effective settling.

In the first workshop, a large number of ideas and proposals were produced using individual and small team brainstorming, giving as a result a project system map, whereas these ideas were reduced and turned into a specific project proposal during the second workshop (as described later). After the icebreaker role play and project & task description in the beginning of the workshop, our idea was to develop ideas individually, but some participants preferred to work in couples instead. They wrote down their ideas on several post-its, stood up and shared their ideas sticking the post-its to a white board. After that, we used collective discussion about the proposals to add different perspectives and finally, all the participants provided individual inputs to promote a more effective settling. This way, the team produced a system map of proposals, problems and opportunities related with the issue of refugees and migration.

7.3.2.6 Web-based platform used

The FoTRRIS web-based platform was used to assist the coordination of the preparatory information, before the workshop, including invitation lists, budget and programme. During the workshop, there were two persons taking notes in parallel using the platform. After the workshop, these were reviewed in order to get a consistent summary of the results of the workshop. This has proved to be useful to prepare the next workshops, in order to remember what was the point when finishing the previous.

7.3.3 Workshop 2

7.3.3.1 Outline of WS2

PART 2: VISIONING SOLUTIONS: TOWARDS A COLLETIVE LIST OF PROPOSALS

10-11.30h INVENTORY OF BEST R&I IDEAS FOR FUTURE WOMAN AND DISABILITY PROJECTS

- Collective decision on the most original and effective proposals of part 1.
  - Brainstorming to select the 10 best R&I ideas proposals

11.30-12:00h *Coffee break*

12:00- 14:00h INVENTORY OF BEST R&I IDEAS FOR FUTURE PROJECT PROPOSALS

- Collective feedback on best working ideas and mapping a core woman and disability R&I project.
- Discussion on constructing partnerships and alliances for other future collaborations. Reinforcing networks.
- General Feedback of workshop

7.3.3.2 Facilitation

The workshop was performed at a large meeting room in the Facultad de Informática, Universidad Complutense de Madrid, Spain. It was celebrated on 24th March 2017, from 10am to 14pm (4hours). This room has a large round table, and four separate tables, so it was possible

to perform group dynamics. There was support for multimedia presentation, whiteboard, and material for brainstorming.

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7.3.3.3 Role of participants

Our participants played different roles during the workshop because there were dynamics where they had to consider other roles to identify needs of this collective.

7.3.3.4 Role of competence cell members

All members of the competence cell had different roles during the workshops. Sometimes you are acting as the facilitator, other times you are acting as a participant, or as an observer, in addition to carrying out some dynamics during the workshop.

7.3.3.5 Interactions and deliberation

A progressive stage process was established for the workshop: 1) reduced brainstorming groups to specify objectives and structure a core plan of the project, 2) group presentation to share the previous conceived ideas, 3) collective discussion about the proposals presented to add different perspectives, and 4) individual input to promote a more effective settling.

7.3.3.6 Web-based platform used

The FoTRRIS web-based platform was used to assist the coordination of the preparatory information, prior to the workshop, including invitation lists, budget and programme. During the workshop, there were two persons taking notes in parallel using the platform. After the workshop, these were reviewed in order to get a consistent summary of the results of the workshop. This has proved to be useful to prepare the next workshops, in order to remember what was the point when finishing the previous one.

7.3.4 Workshop 3

7.3.4.1 Outline of WS3

The detailed program was the following:

PART 1: DEVELOPING A TRANSDISCIPLINARY WOMEN AND DISABILITY R&I PROJECT CONCEPT 15.00h -15.15h WELCOME AND PRESENTATION OF PARTICIPANTS 15.15h- 17.00h STRUCTURING A PROJECT PLAN

- Brief presentation of the ideas suggested in previous workshops.
- Collective brainstorming for specifying the *objectives* and *structuring* a core plan. Step by step action plan.
- Get up and go: *resources* needed.

17.00-17.30 Coffee break

PART 2: CREATING IDEAS FOR ASSESMENT AND COMMUNICATION OF THE PROJECT

17.30-19.00 MEASURES FOR EVALUATION AND DISSEMINATION

- Collective brainstorming for defining indicators to assess and monitor project implementation.
- Get up and go: Ideas for *dissemination/communication*.
- Collective decision on the most original and effective ideas for a communication plan.
- Next steps to be taken.

7.3.4.2 Facilitation

The 3rd workshop was celebrated at the Faculty of Computer Science, Complutense University of Madrid, in similar installations as the two previous ones. Micros, black-and whiteboards as well as projector were used in the interactions, as well as some smaller tables in diverse parts of the room for small team exercises. Team members Juan and Susana made the introductory presentation of the project, the RRI working methodology, and the results of the previous workshops as well as an introduction to the new project calls.

7.3.4.3 Role of participants

The participants took actively part in all the group dynamics. After the presentation of the working methodology, etc., at the beginning of the workshop, the participants formed 3 work teams, each of which had representatives of the diverse societal groups. At least one competence cell member was included in each team, helping the team to focus in the task and fostering equal participation of all.

7.3.4.3 Role of competence cell members

The design, organization, invitations, paperwork and all the practical arrangements before, during and after the workshop were carried out by the competence cell members, UCM core team, including travel arrangements for the international participants. Team members Juan and Susana made the introductory presentation of the project, the RRI working methodology, the results of the previous workshops as well as an introduction to the new project calls. The diverse dynamics were moderated by Liisa and Susana, with the support of the whole team.

7.3.4.4 Interactions and deliberation

Methodology wise, this years' action was meant to be benefited from the methodological synergies created on the previous H2020 research project; using system thinking as a guideline for collective work. More specifically, it was established a progressive stage process of: 1) reduced brainstorming groups to specify objectives and structure a core plan, 2) group presentation to share the previous conceived ideas, 3) collective discussion about the proposals presented to add different perspectives, and 4) individual input to promote a more effective settling.

7.3.4.5 Web-based platform used

As in previous workshops, the platform was used to assist the coordination of the preparatory information, including invitation lists, budget and programme. The Web-based platform was

used by two scribas (post-graduate students) to record the main ideas in real time. Later on, those ideas served to develop further reflection and to upload different documents.

7.3.5 Post-workshop process

7.3.5.1 Outputs and outcomes

After these workshops, we have obtained a deeper perspective of women with disabilities and asylum seekers' actual necessities and main problems. As this has been a transition experiment, we will continue with this RI topic and human collective to develop a real RRI sustainable project.

7.3.5.2 Communication and outreach plans

Part of the results will be shared with the academia in future research articles.

7.3.5.3 Signs of and plan for continuity

Considering the interest of the competence cell and part of the participants from several associations, the resulting network plans to apply for a new Horizon 2020 call related to this topic.

7.3.5.4 Web-based platform used

The platform will be used as previous workshops for the preparation of the Outreach workshop and to gather the main conclusions of the meeting, as well as a tool for saving all the preparatory and resulting FoTRRIS documents applied to this transition experiment, to communicate with the rest of the network and to prepare the next Horizon 2020 call.

7.4 Learning and adaption during the process

Paths for solutions were nearly as varied as participants, so the issue was approached from diverse perspectives. None of them would pretend to solve the situation on its own, but summing up and adjusting, and regime permitting (requires a paradigm change), these niche innovations would help to make the system more sustainable. The regime (EU, national legislations, authorities, etc.) not only hinders the upscaling of these niche innovations (of activists, collaborative citizens, NGOS, alternative political movements, etc.), but can also make problems worse, generating "externalities" in its' blindness to see and use a holistic paradigm when looking for solutions to the grand challenges of our times. We explained this by using images of how everything on the planet Earth is interconnected and you cannot separate social sustainability from environmental sustainability. A good example of how to open a more holistic and collaborative point of view to a global challenge can help to open lock-ins was actually seen in the Project "call" that we used to define the objectives and main guidelines.

The MISC methodology was useful as it permitted us to explore a large number of different approaches and ideas, listening to diverse stakeholders at the very early stage of project planning. This is a totally different approach to problem solving and project design, based on the collaborative ideas of RRI that offers a holistic way of analysing things using the idea of mapping. Permitting citizens, academy, companies, artists, administration, e.g., take part in the design of a project concept is not often used in R&I, even if they are often listened to once plans are already made.

We have used simplified language for explaining the system thinking approach, and approached the methodology indirectly, not explaining all the theory behind, but applying the principles to our working method during the workshop. For example, we discussed and explored diverse action options for desired outcomes or goals and saw how growth and economic efficiency as a driver for many European governments makes these goals difficult to reach…instead of defining them as "balancing and reinforcing feedback loops". Otherwise, we found no special difficulties in terms of the vocabulary related with RRI, as we used a more common vocabulary for complex terms.

Annex 1: Concept map of realities and core R&I ideas produced in Workshop 1

Working in pairs to identify needs and opportunities of the women with disabilities:

Work team (couple) 1: Macro-realities that are related with disabled women

Participants are asked to point out some priorities, but they think the following aspects are all equally important:

- To make the collective visible (changing perceptions)
- Women to govern their own lives and find public policies that can assist them
- To end up with violence, both symbolical and institutional and to eliminate patriarchy, endocentric…aspects that generates inequalities

Work team (couple) 2: Academic career and studies

For temporality, in the academic career

- Family barriers when it comes to college associations and support products that can assist the family
- In technical careers, they do not have support when they are incorporated - teaching and business innovation, stock of qualified people who can provide this training
- Erasmus: personal and family fears - make the difference of your C.V. within the professional branch

Couple 3: Basic life issues

- Basic aspects (basics)
- Needs
    - Choice of places to go for a drink
    - Socially inclusive education, the whole world learns to potentiate their senses, to generate empathy in society
    - Adapted public transport: where ever I want to go, I manage to go
- Opportunities
    - Empowerment
    - Regulated studies
    - Innovation: coexistence of automatic systems with manual systems: if the automatic fails, you can use the manual.

Team 4: Deinstitutionalization

- Needs
    - Disenfranchisement of women with functional diversity (policies)
    - Deinstitutionalization of women with functional diversity (gender issues, since for disabled men there are more actions)
    - Recognition of women with functional diversity by other women. Being a woman includes a lot of diversity. In gender studies, there is evidence of those aspects.
- Opportunities
    - Recognition of functional diversity (vs. other diversities that are transient)

- Condition of woman with functional diversity, it can generate anti-normal stereotypes by the rest of the collective of women in society
- Fostering the culture of social independence: addressing such persistent discrimination in this field, offers us the opportunity to create a better society! (discussion about human improvement ... trans-human) -> build a more inclusive society to live in

Team 5: Autonomy at work

- Autonomy---inclusive workplace
- Labor mediation measures - reference centres, databases, grants, aids, related information

Team 6: Independence and self-determination

- Independent living - resources to achieve this autonomy
- Self-determination: decision making and assertiveness of the person - changing the social environment, changing attitudes, fostering through education, changing emotions (or ways of feeling), policies, language and terminology
- Empowerment: self-esteem, awareness of what I am and what I can do, self-love, self-worth - generate support networks between women with and without functional diversity (feel that you are not alone)

Annex 2: Project proposals produced during Workshop 2

First Working Group: Easy to Read

- Needs: eradicate multiple discrimination, accessibility with a gender perspective
- Opportunities: change the look, change the social environment, and generate support networks between women with and without disability
- Easy reading with a gender perspective
- Cognitive accessibility
- Cognitive, computational work (to systematize this)
- Empowerment of women
- Interdisciplinary: psychological, sociological, technological, and linguistic
- Validation groups (women with and without disability)
- Impact is to generate support networks (gender, emotions, disability)
- Incorporate cognitive accessibility (Easy to Read) combined with other resources (AACs)
- Support web platforms, apps
- Transversal: gender perspective
- "Change perceptions": reduce stereotypes

Second working group: Creation of a reference centre, a one-stop service for formalities/bureaucracy, offering the necessary resources (rights, law, advice, leisure and tourism topics, associations, subsidies for specific cases, technical aids, suppliers ...

- Empathy, cooperation
- Needs: Family barriers faced by women with disability and making multiple discrimination visible
- Stakeholders
- Family
- One self
- Administration: health, education, social services,
- Environment: where you live, associations, neighbours,
- Media: social networks
- Idea: centralize, organize, filter and present to society.
- Doubts: at the national level, at the regional level, at local level....

Third working group: to detect the knowledge that women have with disability. on the possibilities and resources available from the market, state, etc.

- Needs: empowerment of women with DF, deinstitutionalization, independent living
- Yesterday and today we detected in the workshop that there is not a deep knowledge of all the resources we have to achieve an improvement in the quality of life of women with disability.
- Research: detect the knowledge that women have with disability on the possibilities and resources available from the market, state, etc.

How?

- Documentary, resources, institutions
- Qualitative work, life stories, participant observation, interviews, focus groups ... Take the step outside Spain and identify good practices in nearby countries.
- Empowerment -> transparency in knowledge
- RRI: "ecology of knowledge", sharing of knowledge
- New employment niches: inclusive education, universal accessibility, personal assistants,
- New supports that are transferable, sustainable and made universal
- It is important to constantly contrast the resources respecting the Declaration of the Rights of Persons with Disabilities
- Monetize what already exists! Because as there are resources that are not known...
- It is not a question of inventing something completely new, it is necessary to reuse, to make the existing resources profitable.
- Requirement of the development of basic regulations
- To make visible the lack of resources so that regulations can be applied
- Activation of people (women with disability) in terms of pro-positive measures -> pro-activity and co-creation
- Active participation of users, feedback, creative aspect of users.
- You have to change the mentality of passive people to active, those who have needs can also help.
- Perceptions of experts about the figure of a person with functional diversity. The professionals (also) need to learn
- PRO-ACTIVITY ==> CO-CREATION ==> EMPOWERMENT