

FoTRRIS

Fostering a Transition towards Responsible Research and Innovation Systems

Materials for fostering up- take of co-RRI

Deliverable D4.4

<http://www.fotrris-h2020.eu>

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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 focuses on global challenges, i.e. local or regional manifestations of global challenges and on local opportunities for addressing 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 so as 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 Introduction to this report

This deliverable collects all the tools FoTTRIS produced that are necessary to inspire and to guide an interested quadruple helix actor to set up a co-RRI competence cell, or to orchestrate a co-RRI transition experiment. By means of these tools, the consortium hopes that the FoTTRIS achievements can affect research and innovation processes all over Europe, and even beyond.

The materials for the uptake is a co-created, joint effort of all members of the FoTTRIS consortium. And this for two reasons. First, because all partners who managed a transition experiment could bring in different experiences and, second, because we wanted to show the versatile nature of co-RRI, that is how many formats these kind of processes can have depending on the context, the actors, the theme, etc.

We believe that the following tools are useful to look at when one wants to start up a co-RRI journey:

- **How to set up a competence cell** (short leaflet and more elaborated guidelines) - guidelines
- **How to use the FoTTRIS online platform** (short leaflet) – hands-on guidelines to the platform
- **Cookbook: How to co-create co-RRI projects** – explaining the methodological steps followed during the co-RRI experiments
- **Videos** recorded by the partners during/after their TE in the national language and subtitled for foreign audiences. These videos contain exactly those useful pieces of advice and explanation that are needed for the start of new competence cells and TE.

Videos can be found:

<https://www.youtube.com/watch?v=arXQf7uQpeY&t=0s&index=1&list=PLivtOKkDMT25UbhgznQ-1jrTbjar-BIYa> (Marian de Blonde summarising FoTTRIS project objectives and activities)

<https://www.youtube.com/watch?v=SjGXasEmFXk&t=0s&index=2&list=PLivtOKkDMT25UbhgznQ-1jrTbjar-BIYa> (video from the Spanish TE)

<https://www.youtube.com/watch?v=q39VLtUZVv0&t=0s&index=3&list=PLivtOKkDMT25UbhgznQ-1jrTbjar-BIYa> (video from the Spanish TE)

https://www.youtube.com/watch?v=zFd_Htrvni0&t=0s&index=5&list=PLivtOKkDMT25UbhgznQ-1jrTbjar-BIYa (Flemish experiment explained to university students)

<https://www.youtube.com/watch?v=Gntuhlv77ek&list=PLivtOKkDMT25UbhgznQ-1jrTbjar-BIYa&index=7&t=0s> (video from the Hungarian TE)

All of these guidelines have a 'handy' format, suitable for dissemination. This is the reason why this deliverable is not written in the traditional template but rather merges these stand-alone and user-friendly, attractive, colourful and visual fliers and booklets. Their language is also adapted to the objective: address the lay audience and inspire them to engage in co-RRI.

Setting-up the cell

Once you'll have chosen your mission, you'll have to:

- Build the cell's team
- Choose your governance model
- Choose your activity model (the way you'll be economically viable)
- Implement your mission (through activities)
- Monitor, reflect on and adapt your actions

Some hints:

- Remember that, whatever your mission, you'll have to work completely collaboratively with actors from the quadruple helix. Therefore, your cell must be composed of people that have diverse backgrounds, are able to work in such diverse settings and have a deep understanding of co-RRRI principles (the co-RRRI concept is available at <http://fotrris-h2020.eu/deliverables/>)
- You may be inspired by the values underlying the governance model of FoTTRIS cells: autonomy, gender equality, diversity, inclusiveness, reflexivity, responsiveness, transparency
- As for the economic viability you can choose between three models. In the funded model you either rely on funding, donations, or internal resources of an existing organisation. In the for-profit model, all your activities are commercial and generate a profit. In the mix model, some of your activities generate a profit, which allow to cover the costs of non-profitable activities.

Credits



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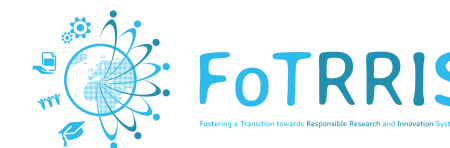
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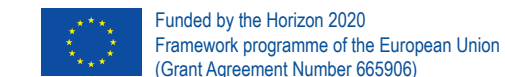


How to set-up a competence cell?

Short Guidelines



fotrris-h2020.eu/material-for-uptake



Fostering a transition towards co-RRI

The FoTRRIS project aims at fostering a [transition](#) of the European R&I system towards [co-RRI](#). It proposes to do so by setting-up competence cells.

During the project, 5 competence cells have been established:

- One embedded in VITO – Flanders, Belgium
- One embedded in the Environmental Social Science Research Group (ESSRG) – Budapest, Hungary
- One embedded in the Interdisciplinary Research Centre for Technology, Work and Culture (IFZ) – Graz, Austria
- One embedded in CESIE – Palermo, Italia
- The Association RRI Ibero-America – Madrid, Spain

They do not have the same characteristics (some are autonomous, some are not; most are regional while another one is intercontinental, etc.) but they do have the same long-term goal which is to foster this transition. To find more about these cells, consult Deliverables D2.3 “Design and mandate of the competence cells” and D2.5 “Activity models” available at: <http://fotrris-h2020.eu/deliverables>

This leaflet intends to give you the basics to [set-up your own cell](#). A longer version with detailed guidelines is available at: <http://fotrris-h2020.eu/material-for-uptake>

Hints from sustainable transition management

The science of sustainable transition management provides a framework to set-up the competence cells.

Transitions are [long-term processes](#) that [radically change](#) a given system, or society as a whole. Organisation, interactions, practices, culture, ... all have to change. The optimised way to produce all these changes is yet unknown. However, transition management gives sufficient knowledge to make a transition happen.

Two concepts are important in transition management: the [regime](#), and the [niches](#) [1].

For that, those who are in favour of transition need to [act](#), and to [organise](#) themselves. This combination of action and organisation should aim at:

- Destabilising the regime
- Proposing co-RRI alternatives, via the niches
- Phasing-out the non-co-RRI elements of the regime
- Institutionalising co-RRI alternatives

[1] The regime constitutes what is currently mainstream (R&I for economic competitiveness), while the niches are organisations, practices etc. that are not mainstream but embody and promote co-RRI. Transitioning implies both to increase the influences of niches on the regime, and to replace it with a co-RRI regime.

As for the organisational dimension of transition, it is important that transitioners form diverse [networks](#) of people that can [operationalise the new co-RRI structure and practices](#) in their day-to-day lives. These networks have to include both [the niches and regime actors](#) and be composed around the [quadruple helix model](#), including marginalised groups, and representatives of those who cannot speak (non-human agents, children, future generations, etc.).

Some general principles increase the effectiveness of transitioning:

- These networks, acting in different levels, have to coordinate themselves to maximise the effectiveness of their action.
- Transitioning is about doing by learning and learning by doing: this implies to be reflexive, to change the transitioning actions and transitioners’ organisation according to their capacity to foster transition, and to navigate contestations from the regime
- Transitioning actions should fit their context
- There should be actions for both the short, medium and long-term of the transitioning process
- Generating some short-term wins is important to launch and boost the transitioning movement
- Transnational networks strengthen each constituting network

Finding a mission for your competence cell

Your competence cell can function according to principles of transition management. Therefore, its mission can be chosen among the four types of transitioning action (see previous page). We propose here some ideas of missions (to see the complete list go to fotrris-h2020.eu/material-for-uptake)

✂ **Destabilising the regime:** The paradigm of R&I as a means of economic competitiveness is almost unchallenged. That is why it is still needed to destabilise this paradigm. The following missions participate of this action:

- Building the case for co-RRI
- Building critical mass by
 - Establishing the co-RRI discourse and inspiring actors to adopt co-RRI principles and to participate in the transition
 - Supporting existing co-RRI initiatives (through funding, methods, tools, etc.- see <http://ingenias.fdi.ucm.es/fotrris/home.php> to subscribe and log-in to FoTRRIS co-creation platform)

✂ **Proposing co-RRI alternatives:** All functional levels of the current R&I system should change. Therefore, many co-RRI alternatives have to be proposed:

- Proposing new ways to carry out R&I. For this, FoTRRIS has come with a framework to co-create RRI projects (see our “Cookbook” on how to co-create RRI projects available at <http://fotrris-h2020.eu/material-for-uptake>)
- Proposing a new organisation and structure of the R&I system (see D2.4 on ways to reward and valorise differently actors participating in co-RRI projects available at <http://fotrris-h2020.eu/deliverables/>)
- Etc.

How to Set-up a Competence Cell



A Score

A document by LGI, Sustainable Innovation

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1 Why this score?

The FoTERRIS project aims at fostering a **transition towards Responsible Research and Innovation Systems**. Or, more specifically, towards co-RRI systems. Indeed, FoTERRIS has a special vision on RRI, we believe that the added-value of RRI should be to bring together all actors, from the quadruple helix, to collectively reinvent new ways of doing R&I. So, we have decided to call our vision 'co-RRI' which means **co-created Responsible Research and Innovation**.

To read our co-RRI concept in details, consult <http://fotrris-h2020.eu/deliverables/>

To foster this transition, we propose to set-up **competence cells**. A competence cell is an organisational unit, either new, or part of an existing organisation, which ultimate **mission is to foster this transition**.

Ideally, they are at the junction of science, policy, the business sector and civil society, and form a network. However, if they share the same mission, they can differ in their actions and characteristics, for there are many ways to achieve this mission.

During the project, five competence cells have been established:

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- One embedded in the Interdisciplinary Research Centre for Technology, Work and Culture (IFZ) – Graz, Austria
- One embedded in CESIE – Palermo, Italia
- The Association RRI Ibero-America – Madrid, Spain

To know more about the FoTERRIS' cells, consult Deliverables D2.3 "Design and mandate of the competence cells" and D2.5 "Activity models".

What are we playing?

Like a same partition can lead to various musical interpretations, this score contains the musical pieces you need to play to design and establish your competence cell, but then, it will be your turn to interpret them as you wish!

Programme:

- **Libretto**: learnings from transition management studies
- **Prelude**: inspiration
- **Jig**: setting-up the cell
- **Courante**: running the cell
- **Allegro**: accelerating the cell
- **Rising stars**: learning from the best

2 Libretto: what's the plot?

Since FoTERRIS is all about transitioning, we learned from the research field of **sustainable transitions** and gained useful knowledge to design a competence cell.

What's a co-RRI transition?

From the perspective of this research field, a transition is a response to several persistent, problems confronting contemporary modern societies.

A transition manifests as a radical and structural **shift from one state of a socio-technical system to another**, such that the dominant means of production and consumption become more sustainable. This shift is the result of **non-linear processes of co-evolution** between **culture, structure, practices and technologies** which take place over decades.

In our case, this means that the ways R&I is produced and consumed change towards new production and consumption processes designed according to the co-RRI concept.

The co-RRI concept is foremost about solving the grand societal and environmental challenges, taking an approach based on **ecological sustainability, the acknowledgement of different forms of knowing, and social inclusion**. It put a particular focus on the solving of their local manifestations.

It says that it is the **joint responsibility** of traditional and non-traditional R&I actors to solve these challenges and that currently we lack the appropriate knowledge to face them. To build this knowledge we need to regroup the various knowledges that lie scattered among diverse stakeholders.

This implies to:

- Offer spaces for non-traditional knowledge and innovation actors to engage with science, technology and innovation
- Co-create knowledge and collectively act by cross-fertilising values, norms, experiences, expertise of the quadruple helix actors, and by transcending disciplines, cultures and practices
- Take a complex systems perspective to understand the root causes of these challenges and find successful solutions
- Recognise that such co-RRI processes are inextricably linked with making choices with ethical and political implications
- Embed reflexive monitoring in R&I processes

The current R&I system is far from this vision. It is governed by the thought that it can and must lead to economic competitiveness and growth, which can be attained via putting innovations on the market, via the interactions between the research and the innovation worlds. It is thought that such innovations require scientific specialisation, a competitive R&I system so that only the 'best' research and innovations are funded and invested in. The criteria of this competition are non-systemic, so unable to really select the appropriate solutions to the grand challenges.

Transitioning from the current R&I system to a co-RRI one implies to **change**:

- **Mindsets and paradigms**
- R&I **agendas** (from economic competitiveness to a main focus on ecological sustainability and social inclusion)
- the R&I **governance model** (for more reflexivity, transparency and bringing in different perspectives and knowledge)
- R&I system's **organisation** and **actors** (to change the interactions between R&I and society, and be inclusive)
- **Monetary flows** (funds, investments) within the R&I system (to fund and invest in solutions that are not only economically profitable but the most able to solve the challenges)
- The **process** of doing R&I (to adopt a complex systems perspective, co-create knowledge and collectively act)
- The **usages** of R&I (to broaden the liberal economic paradigm that rely on producing and selling goods towards more resilient ways to provide for the needs of society)
- The **evaluation system** of R&I (to encourage to and reward R&I actors for solving the challenges)

These changes must address the three levels of culture, structure and practices.

General principles of transitioning

The question we face now, is therefore, **how to make these changes happen?** Sustainable transition studies say that transitions are non-linear systemic changes, so, as for now at least (since we currently know little about this non-linearity), unpredictable and unmanageable. Fortunately, there are patterns, mechanisms and dynamics that can guide strategy and action. So even if we cannot transition in the most optimised way, we can still make it happen.

Two key concepts of sustainable transition studies are the **regime** and the **niches**. The regime constitutes the mainstream part of the system: it refers to the institutionalised organisations, interactions, rules, beliefs, routines, visions that stabilise the system and shape the activities of the system's actors. The niches are organisations, practices, etc. that are not mainstream but innovative in comparison to the standards of the regime.

Transitioning is obviously a question of **mechanisms, process, agency and governance** by actors (both from the regime and the niches) that are willing to transition towards co-RRI.

Transition mechanisms

With regards to the transitioning process, sustainable transition studies say that four mechanisms lead to a new system:

- **Destabilisation** of the regime
- Experimentation of **co-RRI alternatives**, to be then implemented at the side of the regime or in replacement of the regime's ways of thinking, doing and organising
- **Phasing-out** the non-co-RRI elements of the system
- **Institutionalising** co-RRI alternatives

A regime can be conceptualised as the equilibrium state of a given system. If we want to change the state of the system, we need to change its current equilibrium, so that means, destabilising the regime. This can be done in two ways: showing that it does not perform as it should and building and exceeding a critical mass of people that agree with the alternative (here co-RRI). Obviously, defining the new system is key, so that is the reason why we need to propose and experiment co-RRI alternatives on the one hand, and to implement them, at the side of the regime, or in replacement of the regime's standards, on the other.

However, a cohabitation of the two states of the system at once (business as usual R&I and co-RRI), would not be efficient at all, for they would oppose each other, scattering resources. So, it is necessary to phase-out the non-co-RRI elements of the system (that means forbidding non-co-RRI practices that are too detrimental). To pursue the balancing process and strengthen the implementation of the alternatives, it is important the change the system's parameters (laws, rules, mechanisms, etc.), and institutionalise the co-RRI alternatives as the new norms.



REST: this paragraph leads to believe that we know where to go. That is not the case! A transitioning process is more like a structured improvisation rather than a fixed interpretation. If our grounds are the co-RRI concept, we shall recall that we have a limited understanding of the R&I system, and of transition mechanisms. So, it is important to remain flexible and reflexive when transitioning, and not be narrow and definitive about the actions to be implemented. Actually, it is better to think of this transition as a transformation, rather than as a defined path from A to B.

Process and agency

As a transition is a reconfiguration of a socio-technical system (so that means hundreds of thousands of people at least, settled routines, vested interests, ...), transition management studies argue that it cannot be decided and implemented unilaterally. Furthermore, as we do not know yet exactly how a co-RRI system should be, and how it could be effective, transition management studies recommend that the reconfiguration happens through a **collective and open process of experimentation and knowledge development**. It is thanks to this collective process that we will be able to propose co-RRI alternatives, to operationalise (institutionalise) them, and to change the system's parameters.

All stakeholders from the quadruple helix should be involved in this process, which should be **reflexive** so as to **select, adapt, refine** the co-RRI alternatives until they fit their context and meet their purpose in the best possible ways.

While this speaks about the process, agency – which refers to the capacity of an actor to act in a given context – is as much as important. Indeed, the transitioning process will not take place if certain actors do not have the power to activate and sustain it. Transition management studies introduce the concept of strategic agency, which refers to the ways individual and groups can **leverage resources to influence the speed and direction of transitions**.

Apparently, effective strategic agencies for transitioning would include:

- **Advocacy coalitions**
- **Hybrid frontrunners networks**: self-organising networks composed of both niches and change-inclined regime actors able to coordinate themselves, relying upon their own resource bases, knowledge and capacities
- **Transnational partnerships**
- **Networks of networks**, as a meta agency

Advocacy coalitions, and coalitions of coalitions, are appropriate for destabilising the regime since they increase the critical mass of people in favour of a change. Hybrid frontrunners networks are, them, well adapted to foster the collective process explained above. Through this process, they can aim at diffusing, translating, and operationalising the co-RRI alternatives that have emerged, in the contexts to which they have access.

If this collective endeavour is what is required, however, at least for the first period of experimentation, it is important that the groups and organisations that compose the networks have a certain degree of **autonomy**, so that they remain free to experiment and build their core values. In the same vein, those networks should be able to achieve **synergy**, inter and intra networks, while maintaining **diversity** (diverse experiments, diverse actors, etc.) and **inclusivity**.

Governance

Governance is as crucial as agency, although currently, few organisations have taken up this role.

The purpose of governance is twofold, first it is about answering the question of “**which different types and forms of (strategic) agency can influence the speed and direction of transitions, and how they can be engaged and empowered?**”. The second is about **orchestrating the experimentations** of the transitioning agents so that co-RRI alternatives and pathways to transition are developed.

Surely, this implies to also experiment and innovate to find the appropriate governance mechanisms to fulfil this purpose. At least, we now know that governance for transition should be **polycentric and multi-level**, to mediate the growing numbers of transitioning, hybrid, networks, that act at various levels and in various geographical areas of the European R&I system.

Call process out for an encore

If we learned previously about the overall process of transitioning, the following notes will help you conduct your cell on your daily actions.

Multi-dimensions

As any other socio-technical system, the R&I system is multi-dimensional, composed of the following dimensions:

- The **practice** dimension covers the “production” and “consumption” means of R&I (agenda setting, governance, allocations of funds, research and innovation processes, evaluation, use of the results, growth of knowledge, commercialisation of innovations etc.)
- The **structure** dimension, referring to the way the system is organised (various types of organisations – RPOs, R&D units, NGOs, etc.) governed (regionally, nationally, inter-regionally, at EU level, etc.) and geographically embedded.
- The **culture** dimension, referring to the paradigms and habits at stake

If the co-RRI transition is to transform completely the R&I system, then the transitioning actions should encompass all these dimensions. Practically, this means that there should be **enough transitioning networks and initiatives that interconnect to intervene at all levels of the R&I system**.

So, it might be useful, if you are to start a competence cell, to ask yourselves, according to your capabilities and resources, which dimensions your transitioning initiative can target. For example, if at your regional level many things are already happening, it might be interesting to establish a link from this regional level to the national level, or to other regions. Or, if all the research performing organisations are aware and willing to develop co-RRI but that research funding organisations are not aware of it, then, it might be preferable to work with these latter, so as to adapt the funding criteria to co-RRI.

System thinking

To help you visualising and understanding the R&I system, the system thinking approach is appropriate. Furthermore, **system thinking is truly necessary to develop promising co-RRI alternatives**. Without system thinking, we risk repeating the same mistakes and reinforcing the current system.

To see how we think system thinking can serve co-RRI and help foster a transition, consult our policy recommendations, and our cookbook 'How to co-create RRI projects'. For an introduction to system thinking, read *Thinking in systems: A primer* by D. Meadows; *Systemic Intervention: Philosophy, Methodology, and Practice* by G. Midley.

In practice, make sure that system thinking frames your transitioning actions.

Collective doing-by-learning and learning-by-doing

As the R&I system is a set of complex interactions, we do not know yet which co-RRI alternatives could work (system thinking serves to unravel this complexity), so that is the reason we need first to collaboratively experiment, instead of applying co-RRI alternatives pulled out of a hat.

Improving the transitioning process, and the likeliness to find suitable co-RRI alternatives, require us to **learn, grow our knowledge** of the transitioning dynamics, and **be reflexive** upon the transitioning course. This will help us anticipate and adapt these dynamics better and will increase our capacity to influence their speed and direction.

Monitoring and evaluating are therefore necessary components of the transitioning process, and your transition initiatives would benefit from being monitored and reflected upon regularly. **Co-create the required knowledge** for transitioning by collecting information and data, and by sharing them, as well as your results and experiences, with other the other quadruple helix stakeholders.

Context-sensitivity

Your co-RRI initiative will take place in a specific context, whatever the dimension of the R&I system in which you will be involved. Therefore, **it is necessary, for your initiative to influence this context and change it, to consider its characteristics**, and to develop co-RRI alternatives that fit. Be aware that the context might change over time, and that your initiative will have to follow this change.

Fostering a co-RRI transition implies to change the cultural, structural, and practical dimension of the R&I system. It might not be possible to change all three at once, but in case you sufficiently **change one of them, you might pass 'beyond the point of no return'**, and then you'll be able to change all three dimensions together, for transformational change requires a concomitant shift of the three.

Usually, each context is most responsive to a change in one dimension. To know which this dimension is, to shape your co-RRI initiative accordingly and hopefully reach the point of no return, consult *Pathways of system transformation: Strategic agency to support regime change* by L. Werbeloff, R. Brown, D. Loorbach.

3 Prelude: Inspirational missions and activities

In the Jig piece of this score we will help you set your competence cell. As a prelude, we present here some ideas of missions and activities that could be the ones of your cell, based on the previous learnings from transition management studies.

Mission

A mission corresponds to the changes your competence cell will be able to foster and/or implement. Since there are many things to change to arrive at a co-RRI system, there is a plethora of possible missions.

Your mission can participate of:

- Destabilising the regime
- Experimenting and embedding co-RRI alternatives
- Phasing-out non-co-RRI elements
- Institutionalising co-RRI alternatives
- Running co-RRI projects
- Supporting the transition process by building and managing:
 - Knowledge and capabilities for transitioning
 - Critical mass

To find your mission you can:

- Further analyse the current R&I system to find the root causes of the reason why it is not functioning according to co-RRI principles
- Enrich your understanding of co-RRI via a review of the literature, interviews of members of co-RRI initiatives, etc.

In any case, having a good understanding of the problem you target (causes, operating mechanisms, consequences, impacts on stakeholders, etc.), is obviously a plus.

It is not necessary that your mission focuses only on one of the transitioning mechanisms, for instance you could have a mission that pertains both to the destabilisation and embedding of co-RRI alternatives mechanisms. Your mission should be based upon the co-RRI concept and adapted to your capabilities.



REST: Phasing-out unsustainable practices and institutionalising co-RRI alternatives mechanisms means to forbid R&I system's elements that are too detrimental, and to change the legal system and rules so that they favour co-RRI elements (for e.g. it could mean

forbidding evaluations of R&I processes solely based on economic criteria, enforcing open access for all scientific articles, etc.). Most likely, missions related to these transitioning mechanisms cannot be undertaken, at system level, without top-down organisations, since they have the legal power to do so. However, that does not prevent single or several organisations to stop acting as in the current R&I system and to only implement co-RRI cultural and practical elements.

Activities

If your mission is your guiding principle, in day to day life, you will have to carry out activities, designed to fulfil the mission. We propose below some possible activities for some of the possible missions presented previously.

Destabilising

The co-RRI discourse is far from being mainstream and few are aware of its benefits for R&I. So, your activities could be orientated towards:

- **Strengthening the co-RRI discourse** and elaborating guiding visions. This should be done in a participatory way, to stimulate the development of shared discourse.
 - Be sure to mediate it through appropriate communication infrastructures
- Further **structuring the challenge** of transforming R&I for ecological sustainability, acknowledgement of different forms of knowing and social inclusion, using the system thinking approach
- Creating a reasonable **sense of urgency** to act for co-RRI, grounded in facts

Experimenting and embedding alternatives

As previously mentioned, the whole R&I system can be acted upon to include co-RRI elements. This means that you can experiment with / propose / embed:

- Co-RRI **mindsets and paradigms**
- Co-RRI **agendas**
- Co-RRI **governance model**
- Co-RRI system's **organisation** and **actors**
- **New monetary flows** within the R&I system
- Co-RRI **process** for doing R&I
- New **usages** for results of co-RRI processes
- A new **evaluation system** of R&I

New practices, technologies, business models, methodologies, policy instruments, etc. will be needed to make all these changes happen. However, these later are only means.

When you experiment with / propose /embed a co-RRI alternative, **think first about the function your alternative will enable**, instead of thinking first to develop a technology, or business model, etc. You need to remain open as much as possible at the beginning, so as to broaden your intervention repertoire with various options and mix of innovations.

The usual process is to have an idea of an alternative and to propose it to others, then to experiment to see if this idea is feasible, or not, or if it needs to be refined. If then a promising co-RRI alternative is found out, then it is time to embed it, by either replacing incumbent practices, standards, etc. or by aligning it with them.

Running co-RRI projects

Another way to foster the transition towards co-RRI is to carry out co-RRI projects. Indeed, as more and more co-RRI projects are implemented, new ways of thinking, doing, and organising will gradually pervade through the R&I system. Your co-RRI projects can be built around the following themes: new economies (collaborative, functional, etc.), transformative social innovation, sustainable urban transitions, etc.

To design co-RRI project concepts, see our cookbook '[How to co-create co-RRI projects](http://fotrris-h2020.eu/material-for-uptake/)' available at <http://fotrris-h2020.eu/material-for-uptake/> and do not hesitate to ask support from the FoTERRIS competence cell.

A [web-platform](http://ingenias.fdi.ucm.es/fotrris/home.php) can also help you running your co-RRI projects, available at <http://ingenias.fdi.ucm.es/fotrris/home.php>

Supporting the transition process

Building appropriate agency and governance

To help the transitioning agents to organise themselves and govern the transition process, you can:

- **Inspire, empower** actors to join the co-RRI community
- Foster **community and network engagement, coalition building**, and formation of networks of networks
- Support the **coordination of various co-RRI initiatives and networks**
- Secure **dissemination** of progresses, new initiatives, etc. and enable social learning
- Develop informal, open platforms in which individuals and organisations are provided the **mental, social, and physical spaces** to:
 - develop new ideas, common language, and ambitions, as well as new joint projects
 - reflect, learn and exchange about the transitioning progresses which they foster and are embedded in

Accelerating the transition process

In transition management studies, the acceleration phase of a transition is an increase in the pace, scale and diversity of changes thanks to transition initiatives. For example, it means spreading the co-RRI alternatives to a wider number of people, increasing synergies between multiple and diverse transitioning agents, reinforcing the governance of the transitioning process. There are five acceleration mechanisms:

- **Replication**, which is the adoption of co-RRI alternatives in another context of where they were born
- **Coupling**, which happens between two co-RRI initiatives that decide to pool, their resources, competences
- **Upscaling**, referring to the growth of members of a co-RRI initiative
- **Instrumentalising**, meaning that you draw upon opportunities provided by the usual R&I system
- **Embedding**, which is aligning co-RRI alternatives with current R&I elements so as to transform the existing system (or its local, regional, ... manifestation).

Acceleration mechanisms are therefore particularly important in the transitioning process. However, there are several obstacles and practices that can reduce their effectiveness. To know more about these obstacles and implement good practices instead consult *Accelerating Transition Dynamics in City Regions: A Qualitative Modeling Perspective*, P. Valkering *et al.*

Supporting existing co-RRI initiatives

They are very diverse ways to support existing co-RRI initiatives, which is as necessary as setting-up new initiatives. To do so, you can:

- Offer dedicated **funding**
- Build **co-RRI capacities** and knowledge by
 - Gathering and disseminating transitioning good practices and promising co-RRI alternatives
 - Offering training and dedicated support
 - Incubating and accelerate co-RRI initiatives
- Function as **matchmakers or brokers** between traditional and non-traditional R&I actors

If you're part of a top-down institutions (Research Performing Organisations, Research Funding Organisations, Innovation financier, etc.) you may support the transitioning process by:

- **Prioritising co-RRI** guiding visions, goals and targets instead of the usual ones
- **Powering acceleration mechanisms** by
 - creating an enabling environment for experimenting and embedding co-RRI alternatives
 - connecting, empowering niches and reinforcing their legitimacy and the credibility of their transitioning initiatives
 - becoming a transitioning agent, working collaboratively with transition initiatives
- Changing the ways you usually solves problems with by creating spaces for transitioning initiatives **instead of looking for generic solutions**
- **Innovating your governance model** in order to orchestrate co-RRI initiatives through the various phases of the transition

4 Jig: Set up!

Now that you know the general principles of transitioning, and got some ideas of missions and activities, it is time to set-up your own competence cell. The order of the different movements of this jig piece corresponds to the linear way of playing it, however, as they are many repeats in such musical piece, the process of setting-up your cell will not be linear, you might have to refine or change what you had previously decided.

Movement 1 – Find your mission!

The first step is to find your mission (see the Prelude). It is important that you clarify also your **aims and capabilities** so that you have an idea of what is feasible. However, if there is one thing that you would like to do but do not have all the capabilities and resources, that should not prevent you to do it, since you might find **partners** that can bring these capabilities in.

Movement 2 – Determine your activity model

What's an activity model?

An activity model describes the architecture of the cell and of its networks of partners, which enables them to deliver activities, in an economically viable way, to fulfil the cell's mission.

Questions to help you find your activity model:

- *What will be your main directions of action to fulfil your mission?*
- *What kind of organisation(s) will be necessary? Should it be brand-new? Or part of an existing organisation?*

You might need several organisations – if you want to build something like a network of Fab-labs, you may have a coordinating entity, and decentralised hubs for instance. Consider also that your competence cell, and the other organisations that you may create, will need a certain degree of autonomy.

- *Which dimension to target? practice, structure (geography, governance, ...), culture*

See the Prelude to know why this is an important question and remember that a transition requires an interconnected networks of transition initiative, operating at different levels (it is polycentric).

- *More precisely, what kind of activities are needed? And which resources will they require?*
- *Who will be your beneficiaries, collaborators, partners?*

Remember that a transition initiative (whatever the type of mission chosen – destabilising, experimenting, etc.) is first a collective doing by learning and learning by doing process.

So, pay attention to partnering with advocacy coalitions, hybrid frontrunners network, transnational partnerships, etc., and to implement your activities with partners from the quadruple helix.

If your competence cell is a brand-new organisation, try to find or create an institutional home, that is, to have an institutional existence, in between the regime and the niche.

Establishing formal partnerships can be interesting to get access to resources and multiply your capacities.

In the **open organisational model**, your partners and your cell collaborate to produce all the activities. In a **hybrid model**, some of your activities are produced openly with your partners, while some others are only produced by your cell.

Even if looking more traditional, certain activities such as training are still perfectly useful activities to carry out (for instance, if you propose training on writing co-RR1 project proposals).

- **How will you ensure the economic viability of your cell?**

As any organisation, your competence cell must be viable to continue delivering its mission over time. There are several revenue streams to ensure its viability:

- **Internal funding:** this means embedding the cell in an existing organisation, that will provide all the resources needed to carry out the mission
- **External funding:** project-funding, subsidies, alternative finance and funding, donations, volunteering time, etc.
- **Commercial revenues** (for-profit, not-for-profit)
- A mix of the other streams. This is especially useful if there are some activities that are absolutely necessary to your mission but are not profitable nor easily funded, in that case you can implement a for-profit commercial activity which benefits will cover the non-profitable, but crucial, activity.

In case you rely mostly on resources from top-down, incumbent institutions, you'll have to manage possible attempts of '**co-option**' or '**capture**'. However, that could mean that these institutions consider your initiative important, and if the relationship is well-managed, that could eventually lead to more resources.

In case you have chosen an **open organisation model**, you have three options to ensure the viability of your cell:

- **Contribution:** this is the Wikipedia model; your partners contribute for free (or almost). This model is especially adapted if you can only rely on external funding, but its viability is rather low.
- **Hybrid:** it is a contribution model which viability is increased by additional for-profit activities
- **Dual or freemium:** one part of what is produced collaboratively is offered for free to certain beneficiaries and against payment for others; or one part is offered for free while upgrades are commercial.

FoTRRIS' competence cells rely mostly on internal and external funding, and for some, on not-for-profit commercial revenues.

Independently from the type of your production model there is another factor on which you can play to fine-tune the viability of your cell: **the means of exchange**. If most of the time it will be your national currency, think also about **alternative currencies**, such as vouchers (including knowledge vouchers), time banks, etc.

The Flemish competence cell has experimented with a knowledge voucher and hopes to perform it at a larger scale in the future. To know more about this knowledge voucher, consult Deliverable D2.4 "Financing, Rewarding and Compensation Strategies" available at <http://fotrris-h2020.eu/deliverables/>

- **What will your image be? How other actors will perceive your organisation(s)?**
- **How will you communicate what you're doing, and how will you reach to your beneficiaries, collaborators and partners?**

Movement 3 – Determine your governance model

Internal governance is an essential condition for a transitioning initiative, to reflect and monitor it. FoTERRIS' competence cells have a governance model built on the following values:

- Autonomy
- Gender equality
- Diversity
- Inclusiveness
- Reflexivity
- Responsiveness
- Transparency

Movement 4 – Build your team

The team is obviously crucial in the success of your competence cell, so do not overlook to think about:

- The **leadership style and team spirit**
 - Pay attention to the fact that long-term dominance by personalities seen as unchallengeable can be detrimental to the team spirit and ultimately to the effectiveness of your cell
- The **competencies and profiles**
 - Go for a diverse mix of skills (social, technical, environmental, ... backgrounds) and if possible, people that had experiences in the niches and regime
 - Ideally, the team should gather individuals with skills that complete each other

Movement 5 – Choose your methods

- Favour methods that are **innovative and foster open collaboration**. Also, your methods should be flexible, remember that finally, a transition is rather a transformation, rather than a defined path from A to B.
- When addressing a deep problem, use a **system approach** to determine its root cases.
- Tailor your activities to the **context** in which they will take place.
- Your methods should allow you to **learn and reflect** on what you do.
- Especially, set metrics that will allow you to **monitor** your actions, and will support your communication about your activities and outputs

Movement 6 – Assess your competence cell

That's it! You have played the five movements of the jig, soon you will have to play another piece, the Courante, to run your competence cell! But before that, take some time to assess the design of your competence cell. The following questions might help you:

- Is-it clear what your mission is?
- Are you truly collaborating with quadruple helix actors?
- Is there long-term commitment from your partners?
- Are your activities based on co-RRI principles?
- Are your activities
 - desirable?
 - feasible?
 - viable?
- Overall, is the competence cell and its mission and activities aligned with the transitioning principles presented previously?

5 Courante: Run your competence cell!

Now that your competence cell is well set-up and operational, you will have to manage it and reflect upon its course.

Movement 1 – Manage and strategize

First, make sure to maintain the **motivation of your collaborators high**. To do so:

- Satisfy the needs of your collaborators and partners for autonomy and competence, and sense of impact
- Maintain unity, sense of purpose and integrity
- Pay attention to ambitious expectations and the fear of failure
- Set realistic timescales
- Generate short-term win
- Celebrate success and share credits

On the strategic level:

- Continually demonstrate and communicate about the added value of your activities
- Adapt your cell to **changing circumstances**, contestations with dominant institutions, and maintaining your original vision
- Remain autonomous

Movement 2 – Monitor and Reflect

Take time to define metrics, and regularly assess your actions against them, to stop what is not working and spend your resources on activities that are.

However, as previously explained, there is no known path to transitioning. So, you **might need to change your metrics**. Do not do that in a tick boxing approach.

Really take the time to **think, reflect and deepen** your understanding of your action, with all your collaborators and partners, so that, ultimately, the course of your cell remains aligned to each one's vision and wishes.

6 Allegro: Accelerate

Eventually, after a certain time of operation, you might decide that it is time to accelerate. Several models can help you to do that:

- **Deepening:** go deeper and improve what you do. Improve your impacts and gain efficiency by ameliorating internal processes, reaching economies of scale and gaining productivity. For that:
 - Build staff and team capabilities
 - Develop internal systems and tools
 - Acquire supplementary expertise.
- **Diversifying:** diversify your activities, adopt new actions, communication streams and funding strategies to reach to as many people as possible. Diversification can occur through bottom up, top down and collaborative approaches.
- **Replication:** replicate your activities within a different context or territory or disseminate your model and allow other to replicate it. Once your organisation has been replicated by you or by others, you can organise all the related organisation in a flexible network, a system of franchises or a network with a central organisation.
- **Coupling:** cooperate further with different stakeholders and build new partnerships, and/or pool and mutualise your resources.

To strengthen your acceleration, eventually develop your advocacy actions by:

- Reinforcing your dialogue with quadruple helix actors
- Speaking at conferences and events
- Publishing papers or articles
- Communicating and posting via social media

Rising stars

In the next section we showcase height organisations which we think could inspire you in setting your competence cell. Each organisation is presented through a description of its mission, operational system, activity model and transitioning features.

Sensorica

Identity and Mission

Geography

- Headquarters: Montreal, Quebec, Canada
- Action scope: Registered in Canada, Sensorica is an international network with affiliated members in many different countries, including Switzerland and Uganda.

Origin and mission

• Origin:

Sensorica was created in 2011, becoming the first **commons-based peer production network** in the world devoted to hardware development, production and distribution.

• Mission:

Sensorica is an **Open Value Network (OVN)** specialized in open source hardware development. It is part of the open source movement as it aims to participate in the democratization of knowledge. It is an open, decentralised, and self-organising value network, designing, producing and distributing optical fiber-based sensors and other intelligent systems. It embraces open innovation in favour of local development, supporting local economies and connecting them globally.

Operational system

Legal statute

Sensorica is a non-registered association that operates together with other two legal structures responsible for fulfilling specific functions, a custodian and a exchange firm.

Operational form

Sensorica is an Open Value Network (OVN), a peer-to-peer decentralized network in which members exchange and interact in a volunteer but reciprocate basis.

It is run by the most active members of the network and its rules, methodologies of work and tolls are developed through a bottom-up approach. Due to its operational form, it could be considered a permanent structured crowd organization.

Sensorica has established a fair meritocratic reward system based on contribution from the network members, meaning that members are remunerated based on their work and on the value they bring to the network, sometimes only when products are commercialized.

• Governance:

In order to give ownership to the network members and preserve an horizontal management system, Sensorica supports value-based relations and avoids power relations among network members. It encourages work self-organisation, with a feedback system and voluntary subordination.

Activity model

Activity block:

Sensorica operates as an OVN (for more details go to the Operational Form section). It exchanges hardware solutions in the market for revenue, while network members are allowed to initiate projects that are mostly passion-driven, without expecting any extrinsic reward (financial compensation). Sensorica main activities are the following:

1. Crowdsourcing of innovative solutions and ideas for companies willing to transform their products and production lines.
2. Research application and prototypes for all types of research institutions. For example, they work with medical centers in the use of research findings for the development of new medical instruments.
3. Through LE VOICE, Sensorica is building 5 new innovation labs specialized on different topics. The goal is to stimulate the local economy and co-create solutions for local community by engaging different social actors.

• Channels

Sensorica's webpage/platform is a meeting space for the network members. There innovators connect and co-create while generating hardware R&D. In addition, network members promote their projects, do fund raising and recruit volunteers on Sensorica's platform.

Resources block:

Sensorica has between 20-30 very active members and 100-150 participating sporadically. It is an international network, with members from all over the world, with different professional backgrounds, such as engineers, designers, managers, etc.

In addition, Sensorica possesses material resources, as it generates income from its activities (see the Activity Block section).

• Partners

Sensorica works in partnership with private companies and research institutes. Private companies are often looking for crowdsourced innovative solutions, while research institutes are more interested in applying their research into new prototypes.

Economics block:

Up to date, Sensorica does not have a steady cash flow. Its main income streams are research projects in partnership with the academia and R&D development for private companies. In the past, they have also relied on sponsors, research grants from government, government projects such as Fablabs and on crowdfunding.

They reward people for their work through:

- Peer to peer evaluation
- Benefit redistribution (money, reputation, affiliation to a paper, etc)
- Reputation (internal and external)

Transitioning features

Actions

- Sensorica contributes to the transition toward a Co-RRRI system by proposing and experimenting alternative approach, operational framework and business model. This non-registered association demonstrates that a transparent, inclusive and cooperative R&I system is possible.

Agency

- Community/ builder: Sensorica is a peer-to-peer decentralized network in which members exchange and interact in a volunteer but reciprocate basis
- Autonomous
- Sensorica works in partnership with private companies and research institutes

Processes, methods

- Flat hierarchy
- Knowledge development
- Open and reflexive process of engagement

So Science

Identity and Mission

Geography

- Headquarters: Paris, France
- Action scope: France

Origin and mission

- Origin:

Before creating So Science, Mélanie Marcel was an expert for the Horizon 2020 Commission on Science with and for Society and Responsible Research. Then, in partnership with Eloïse Szmatala, another leading expert in the field, Mélanie founded So Science.

So Science is pioneer in creating partnerships between research institutes and the private sector in Europe.

- Mission:

So Science's ambition is to modify the research system. It aims to increase the social and environmental values of science.

So Science aims to foster the uptake of responsible innovation by doing social impact research with scientific excellence.

Operational system

Legal statute

So Sciences is a private company registered in Paris with the status of Société à Responsabilité Limitée (SARL). It considers itself a social business, since it aims to generate social benefits for society as an output of its activities.

Operational form

It follows the structure, the operational form and governance model of a conventional small enterprise. Currently, So Science has a team of five and they intend to growth in the near future.

In addition, So Science is building a network with the status of association of around thirty engaged RRI expert organisations.

- Governance

No information available

Activity model

Activity block:

- **Consultancy:** It targets businesses' R&D departments and aims to accompany their transformation towards RRI. They help them develop concrete RRI projects.
- **Collaborative research:** *The Future_of* is a programme dedicated to the creation and follow-up of collaborative RRI projects between academia and social enterprises. This initiative also channels funding opportunities for financing RRI projects.
- **Training:** So Science train research organizations to develop their own *The Future_Of* programme.
- **Channels:**

So Science interacts both with research institutions and with business. When doing collaborative projects between actors from different sectors So Science moderates and mediates the discussion.

Resources block:

- **Key resources**

So Science key resources are its team, methodologies and know-how.

- **Partners**

It has partnerships with established research organizations, such as the Institut de recherche pour le développement (IRD), social enterprises and big businesses. In addition, it owns a large database of contacts.

Its expertise has been recognised by the European Commission, Ashoka, Change Maker Exchange and Echoing Green.

Economics block:

- **Spending**

They have mensal operational expenses among others.

- **Economic exchanges**

Commercial exchanges:

- So Science consultancy and training activities are "for profit".
- In the future, the idea is to develop a network/association of around 30 "RRI engaged" research organizations, their membership fees would serve to cover the cost of the programmes.

Funding:

- The programme *The Future_Of* is funded by sponsors or by private companies interested on a given project. The Institute for research and development (IRD) partially funds *The Future_Of* programme. Up to date, it has allocated around 200K€ for this programme.

- **Economic sustainability:**

Consultancy is their main source of income, which ensures the business sustainability as it continues to growth every yearly.

Transitioning features

Actions

- So Science's main objective is to drive partners/clients to Responsible Research and Innovation. It proposes Co-RRI alternatives and accelerate the transitioning process through its program "The future of..."

Agency

- So Science ambition is to enlarge its current RRI research organisations network
- Through its consultancy activity, So Science diffuse within its clients RRI Knowledge and good practises

Processes, methods

- Context-sensitive insofar as So Science focuses its activity on the serious challenge of our time
- System analysis. So Science brings closer the CSR ambition and R&I activities to avoid green washing
- Under certain condition, they invite citizens in R&I projects

CASIC (Community Animation and Social Innovation Centre)

Identity and Mission

Geography

- Headquarters: Keele University, Keele, England, United Kingdom
- Action scope: Keele and Keele University

Origin and mission

• Origin:

The Community Animation and Social Innovation Centre (CASIC) is part of Keele University's work on multi and trans-disciplinary research.

• Mission

CASIC mission is to foster community development and facilitate creative and constructive cooperation between academia and local communities. Similarly to FoTRRIS, it aims to develop interdisciplinary solutions to complex societal issues based on creative and inclusive processes.

Operational system

Legal statute:

CASIC is part of the Keele University.

Operational form

- CASIC is made of a steering group, full members and affiliate members.
- Governance:

CASIC is hosted by the Faculty of Humanities and Social Sciences, where it welcomes 60 academics, along with 30 community partners.

Activity model

Activity block:

- CASIC core activities:
 - Summer school: Co-production and community engagement programme designed for students and early career researchers.
 - Working paper series: A peer-reviewed collection of work that aims to present rigorous research, promote scholarly writing and provide materials for discussion in the field of community research and engagement.
 - Connected communities festival: Thematic workshops that fosters creative debate on a certain issue among different community stakeholders.
 - Methodology: CASIC works in partnership with the award-winning New Vic Theatre, with whom they developed a methodology to facilitate knowledge co-creation through games, entitled 'Cultural Animation'.

• Channels:

The main channel used by CASIC is the Keele University and their own partnerships.

Resources block:

• Key resources

Full members and affiliate members are CASIC's main asset, as they contribute to the organisation activities and intellectual debate.

CASIC relies on funding from research institutions such as the AHRC Northwest Consortium Doctoral Training Partnership.

• Partners

They are bringing together community partners, activists, community members and academics to hopefully bring down some of the barriers that exist between academics and the rest of society.

Economics block:

- Spending :No information available
- Economic sustainability: No information available

Transitioning features

Actions

- CASIC support the transitioning process by fostering cooperation between academia and local communities. Similarly to FoTRRIS, CASIC experiments co-RRI alternatives and develops interdisciplinary solutions that are presented in research paper

Agency

- In its summer school, CASIC coordinates transitioning actors who share good practices and knowledge
- As part of Keele University, CESIE has an institutional home

Processes, methods

- Multi actor process
- Knowledge development

LabGov (Laboratory for the governance of the city as a commons)

Identity and Mission

Geography

- Headquarters: Rome, Italy
- Action scope: Italy and few cities across the world, such as Accra, Amsterdam, Liverpool and New York

Origin and mission

- Origin: The LabGov was created by LUISS Guido Carli University with the aim of training young professionals in the governance of the urban commons and the city as a commons. It is part of the University's informal education path and has the objective of creating public good through public engagement.
- Fostering direction: The LabGov was created to accomplish the objectives established by LUISS Guido Carli University (Top down approach).
- Mission: LabGov is a multi stakeholder urban co-governance organisation. It is a place of experimentation and multi stakeholder engagement for the development of projects, regulations, and policies related to urban commons and aimed to reconceiving the city as a commons.

Operational system

Legal statute: LabGov is part of the LUISS Guido Carli University. Today it is an independent organization run by the alumni.

Operational form

The LabGov is a permanent organisation hosted by LUISS Guido Carli University in Rome. The team that carries out LabGov's activities is made of a scientific committee, advisors, senior tutors, associate researchers, editors and a project manager.

- Governance:

In collaboration with other cities, LabGov runs Labs of collaborative and policentric governance experimentation with several cities in Italy and across the world.

Today LabGov research activities are developed as a joint venture between the LUISS International Center on Democracy and Democratization led by Professor Leonardo Morlino and Fordham Urban Law Center led by Professors Sheila Foster and Nestor Davidson.

Activity model

Activity block:

LabGov's main activities:

- The Education Labs on Storytelling, which carry out workshops, co-design sessions and fieldwork in the premises of the University to explore the instruments and practice of urban commons.
- The Governance labs, present in multiple cities, in which they offer different activities, such as a policy innovation lab for public servants in Bologna, research on alternative economies in New York and support developing the of strategic guidelines for the Municipal City Plan of Battipaglia.
- The commons post is a virtual archive of articles on the commons economy written by researchers and experts in the field.
- Channels: The main channels used by LabGov are the LUISS Guido Carli University, Italian cities representatives and their own partnerships/ members.

Resources block:

- Key resources:

GovLav's team is its main asset.

- Partners :

Its main partners are the LUISS Guido Carli University and the Fordham University.

Economics block: No information available

Transitioning features

Actions

- LabGov contributes to the transition toward a Co-RRRI system by proposing and experimenting alternative to the classic R&I system. Embed in LUISS Guido Carli University, it supports the transitioning to a co-RRRI system which focuses on glocal issues

Agency

- LabGov is part of a transnational transitioning network
- Place of experimentation and multi stakeholder engagement

Processes, methods

- Multi stakeholder urban co-governance organisation
- Knowledge development
- Co-governance organisation

P2P Foundation

Identity and Mission

Geography

- Headquarters: Amsterdam, the Netherlands
- Action scope: Global

Origin and mission

- Origin: The P2P Foundation was founded in 2005 as a non-profit organization and global network dedicated to the advocacy and research of commons-oriented peer to peer (P2P) dynamics.
- The P2P Foundation was created from scratches as a bottom-up organisation.
- Mission:

The P2P Foundation was conceived to help people, organizations and governments transition towards commons-based approaches. The P2P Foundation exists as an 'organized network' that serves as an incubator and catalyst of projects and ideas based on open knowledge and co-creation.

Operational system

Legal statute: The P2P is a formal foundation registered in the Netherlands.

Operational form

- The P2P Foundation is a permanent organisation with four interdependent operational hubs:
 - The vision stream is responsible for observation and theoretical knowledge production on commons economy and society.
 - The advocacy stream is responsible for the communication and advocacy of the P2P Foundation.
 - The research stream is lead by the P2P Lab in Greece. It coordinates and participates in research projects focusing on free/open source technologies and commons-based practices.
 - The infrastructure stream is responsible for the legal, financial and technical aspects of the Foundation.
- Governance:
 Their internal governance and structure are inspired by the P2P values. Rather than a top-down hierarchical structure, they respect the principles of heterarchy, trust and autonomy. Measurable goals are set collectively per stream and the global core team meets twice yearly to review and share progress.

Activity block:

• P2P Foundation core activities:

- They gather and document all the P2P projects' information in their open access Wiki
- They report on and critique relevant events on their daily blog
- On the Commons Transition webpage they have a platform for policy proposal and co-creation and a web magazine featuring stories and interviews
- The P2P Lab is responsible for the development of academic research projects
- The P2P Library is an online library with free of charge publications on commons and P2P dynamics
- PROJECTS is the branch of pilot-projects of the P2P Foundation, which aims to apply P2P know-how in practice. This branch current PROJECTS are Phygital, Open Design and Manufacturing and P2PValue.

• Channels: Wiki, daily blog, webpages and web magazine

Resources block:

• Key resources

Their asset is their global team and international network.

Their activities are sponsored by grants and donations.

- Partners: They have partners and supporters across the world, including the Foundation Charles Léopold Mayer, Heinrich Böll Foundation and the Transnational Institute.

Economics block:

- Spending: Administrative and operational costs, consultancy services, and infrastructure
- Economic exchanges: Donations and grants
- Economic sustainability: Long term grants and funding for several specific projects give some economic stability to the P2P Foundation.

Activity model

Transitioning features

Actions

- As an incubator and catalyst of projects and ideas based on open knowledge and co-creation, P2P accelerate and support the transitioning process toward co-RRi

Agency

- P2P acts as a global network to help people, organizations and governments transition towards commons-based approaches
- Diffusion of knowledge
- Cooperation with transnational networks

Processes, methods

- Inspired by the P2P values: heterarchy, trust and autonomy
- Bottom-up approach

ELab Europe

Identity and Mission

Geography

- Headquarters: Spain
- Action scope: Europe

Origin and mission

- Origin: No information available
- ElabEurope is an organisation committed to promote civic engagement and new forms of participatory democracy. And evidence-based advocacy in the public interest in Europe and beyond.
- Mission

They make use and promote advances in technology and emerging collaborative approaches to re-invent existing institutions and processes of governance to improve people's lives.

They strive to fill the gap between academic thinking and reality by fostering synergies and debate between policymakers, citizens and civil society, and lobbying in the public interest.

Operational system

Legal statute: Association

Operational form

- The eLabEurope operates as an advisory and research platform. And through the Good Lobby project, it operates as a network of professionals across different disciplines.
- Governance: No information available

Activity model

Activity block:

eLabEurope core activities are the following:

- **Experiment:** Academic research carried out through the EU Clinic, a project that to explore and enable citizen participation in the EU decision-making process.
- **Empower:** Consultancy offered by the Good Lobby project to support NGOs with skills and expertise helping them to achieve the public good.
- **Educate:** They created and offered a MOOC in partnership with HEC Paris on “Why it Matters and What it Can Offer You”
- **Channels:** New York University School of Law, HEC Paris and MOOC

Resources block:

- **Key resources:** Alberto Alemanno’s personal network
- **Partners:** New York University School of Law, HEC Paris, among others.

Economics block:

- **Spending:** No information available
- **Economic exchanges:** No information available
- **Economic sustainability:** No information available

Transitioning features

Actions

- ELab Europe supports the transition toward co-RRI by fostering synergies and debate between policymakers, citizens and civil society, and lobbying. It experiments alternative to the classic R&I system by involving citizens in decision-making process

Agency

- Community of interdisciplinary experts collaborating with citizens and civil society.

Processes, methods

- Knowledge development and diffusion
- Multi-actors process

Future Earth

Identity and Mission

Geography

- Headquarters: The Future Earth Secretariat is currently based in five Global Hubs and in three Regional Centres and Offices in Asia, Middle East and North Africa, and Latin America.
- Action scope: Global

Origin and mission

- Origin: Future Earth was created in June 2012 at the UN Conference on Sustainable Development (Rio+20). In 2014, a consortium from five different countries successfully bid to create Future Earth. It became fully operational at the end of 2015.
- It is atop down that builds on more than three decades of global environmental change research from other institutions.
- Mission

Future Earth is a global community that facilitates research, mobilises networks, sparks innovation, and turns knowledge into action. Its mission is to accelerate transformations to global sustainability through research and innovation.

Operational system

Legal statute: Future Earth is an international platform for research and innovation. At its core, Future Earth is a federation of projects related to environment and climate change.

Operational form

The Future Earth operates as a global network of thousands of researchers inquiring, discussing and exploring the natural environment and its transformations.

- Governance:

Future Earth has a Governing Council of the Sciences and Technology in Society (STS) forum, the Sustainable Development Solutions Network (SDSN) and the members of the Sciences and Technology Alliance for Global Sustainability (the Alliance).

It has also an Advisory Committee responsible for supporting Future Earth's development and evolution as an international platform.

The Future Earth Secretariat is based in the five Global Hubs and in the Regional Centres and Offices. The Global Hubs coordinate the international efforts of Future Earth and are located in Canada (Montreal), France (Paris), Japan (Tokyo), Sweden (Stockholm) and the United States (Colorado). The Regional Centres adapt and spread the vision of Future Earth in regions around the world.

Activity model

Activity block:

Future Earth activities:

- Facilitate and amplify research: Future Earth serves as a platform for international scientific collaboration.
- Convene and mobilize networks: Knowledge action networks to facilitate collaborative research, policy innovation, debate and exchanges.
- Spark and promote innovation: Future earth media lab creates digital products and experiences to communicate about the challenges of global sustainability to the general public and turn knowledge into action.
- Channels: Webpage, the Anthropocene magazine, webinars, publications

Resources block:

- Key resources

Future Earth counts on network of qualified scientific collaborators and partners.

- Partners

Future Earth has formed strategic partnerships and relationships with a number of international organizations working across sustainability research and action

Economics block:

- Spending

From April 2016 to March 2017, the total funding received by Future Earth for the operation of the five global hubs was 5.5 million EUR.

- Economic sustainability

Future Earth is economically sustainable, thanks to its multiple partnerships and to the variety of products offered.

Transitioning features

Actions

- As a global platform, Future of Earth experiments and embed an alternative ways of doing research.

Agency

- Global network of thousands of researchers
- Cooperation with number of international organizations working across sustainability research and action

Processes, methods

- Knowledge development and diffusion

TETRIS

Identity and Mission

Geography

- Headquarters: Pays de Grasse, South of France
- Action scope: Pays de Grasse

Origin and mission

- Origin:

Three years ago, the Agglomeration Community of the Pays de Grasse committed to promote social innovation within its territory. TETRIS emerged in this context and with the mandate to support local actors developing innovative socioeconomic activities in the region.

Mission

TETRIS mission is to support and foster the uptake of social innovation in the Pays de Grasse. It aims to encourage socioeconomic activities capable of generating wealth that have a positive social and environmental impact in the region. TETRIS aims to foster the local emergence of innovative socioeconomic activities favourable for a sustainable development.

Operational system

Legal statute: TETRIS is a Société coopérative d'intérêt collectif (SCIC), a cooperative society that works for the collective interest and local sustainable development by promoting research and innovation.

Operational form

No information available

- Governance:

Multiple actors work together in the promotion of a common economic project to promote the local development. Both the Territorial Pole of Economic Cooperation (PTCE) and TETRIS are managed cooperatively and work together to accomplish their joint mission.

Moreover, TETRIS brings together five structures:

- Evaleco, an association created specialized in education for sustainable development
- Résines Esterel Azur, an association responsible for three projects of insertion through the fabrication of eco leather goods, eco joinery and sales.
- The TEDEE, a network that recycles electronic waste
- A cyclist association called Choisir Initiative Vélo
- A local currency association called APese

Activity model

Activity block:

Tetris main activities are the following:

- The Applied research centre is responsible for accompanying the social innovative initiatives
- An incubator with the means and partner structures to support the development of initiatives that address local needs

TETRIS activities focus on four key areas: waste management, furniture development, production and exchange, and development of a social and digital economy.

- Channels: Agglomeration Community of the Pays de Grasse

Resources block:

- Key resources

TETRIS has access to equipped office and human resources from the Agglomeration Community of the Pays de Grasse

- Partners: National universities, researchers, local authorities and other stakeholders

Economics block:

- Spending: No information available
- Economic exchanges: No information available
- Economic sustainability: TETRIS relies on funds from the Agglomeration Community of the Pays de Grasse. As long as this funding is available, TETRIS economic sustainability is probably not an issue.

Transitioning features

Actions

- TETRIS supports the research transition by accompanying social innovative initiatives at local level
- As an incubator, it accelerate the development of initiatives

Agency

- TETRIS is part of a regional quadruple helix network
- TETRIS enables the development of local and social initiatives thanks to dedicated spaces

Processes, methods

- Context sensitive
- Multi-actor process

Composers

This work is based on our free interpretation of the following sources, although they influenced our ideas extensively. We interpreted them according to the knowledge gained through the FoTRRIS project.

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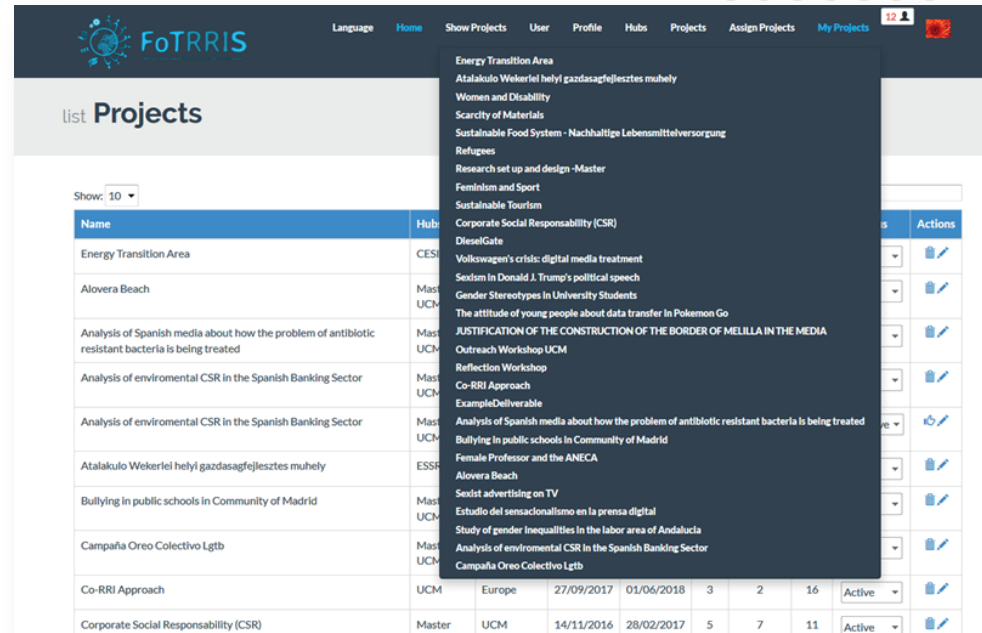
FoTERRIS resources

- Deliverable D1.2 “Conceptual Framework for co-RRI”
- Deliverable D4.3 “Policy recommendations for co-RRI”
- Deliverable D2.3 “Design and mandate of the competence cells”
- Deliverable D2.4 “Financing, Rewarding and Compensation strategies”
- Deliverable D2.5 “Activity models”

All available at <http://fotrris-h2020.eu/deliverables/>

- Cookbook “How to co-create RRI projects”
Available at <http://fotrris-h2020.eu/material-for-uptake/>
- FoTERRIS web-platform for co-creation of RRI projects
Available at <http://ingenias.fdi.ucm.es/fotrris/home.php>

Open access to the platform



Any organisation can use this platform and administer projects by themselves. The administrator has access to and control over all the functionalities of the platform and can create new profiles and hubs. The administrator can create user profiles, edit information and change their profiles, as well as create new projects, edit them and assign users to the projects.

Credits



The FoTTRIS co-RRR web platform has been developed by the **UCM-GRASIA** research team and it is available as open source at <https://github.com/Grasia/fotrris>.

ingenias.fdi.ucm.es/fotrris/home.php

QR-CODE



Find out more at
www.fotrris-h2020.eu



@FoTTRIS



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UND KULTUR (IFZ), Austria
www.ifz.tugraz.at

LGI CONSULTING
(LGI), France
www.lgi-consulting.com

ESSRG Kft.
(ESSRG), Hungary
www.essrg.hu

European Regions Research and Innovation Network
(ERRIN), Belgium
www.errin.eu

CESIE
Italy
www.cesie.org

Universidad Complutense de Madrid Universidad
(UCM), Spain
www.ucm.es

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FoTTRIS Co-RRR platform
for co-creation of RRI Project ideas

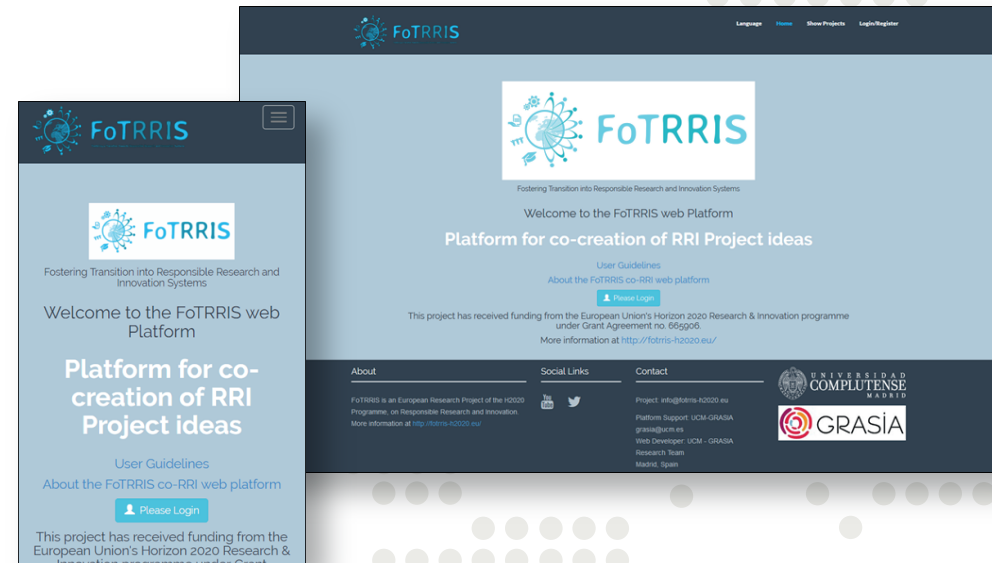
User Guidelines

ingenias.fdi.ucm.es/fotrris/home.php



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(Grant Agreement Number 665906)

FoTRRIS Co-RRR platform

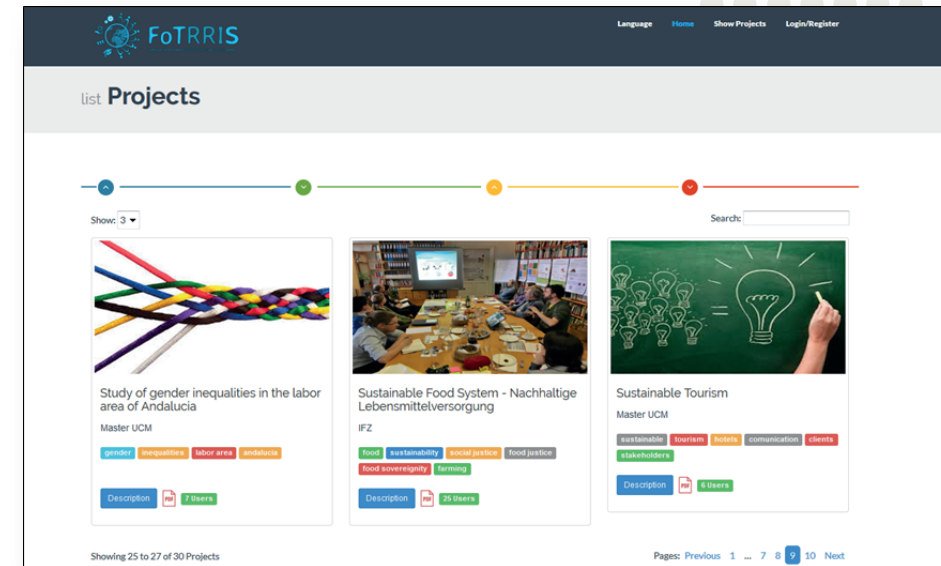


The FoTRRIS approach to Co-RRR includes a specific methodological framework, which combines a systemic approach to 'sustainable goals' with a co-creative process including various groups of societal actors.

Does this sound complicated? FoTRRIS offers an online tool to support this process. This tool guides you through the steps of Co-RRR and facilitates the exchange and mutual learning among Co-RRR practitioners.

You can access the platform using computers as well as mobile devices.

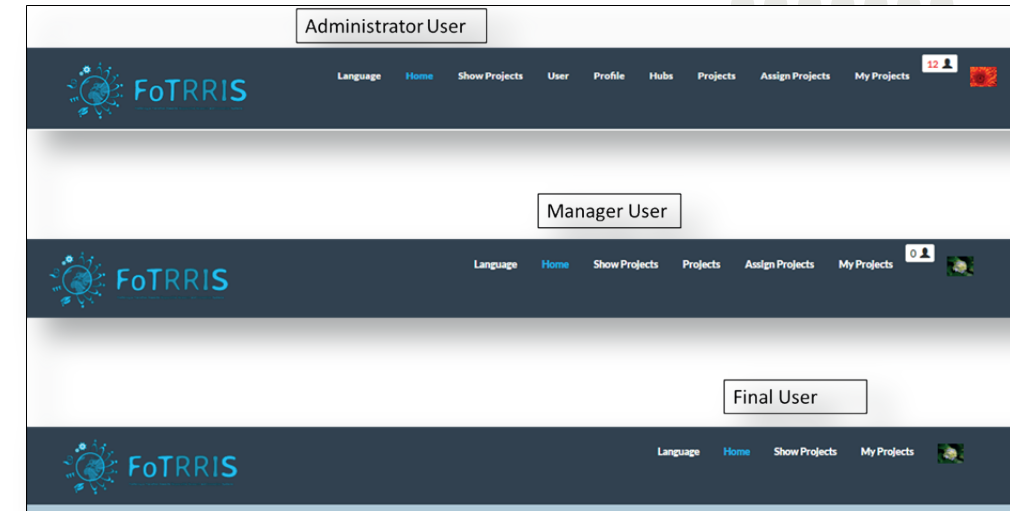
Co-created projects



The platform publishes information on the projects that have been created with it, as well as on project ideas that are looking for external experience and want to invite practitioners or stakeholders for co-creating a project. All visitors, even those who are not registered the platform, can access this information.

The platform provides you with the opportunity to ask practitioners and stakeholders to collaborate in your project; this requires you as well as the collaborators to register on the platform and log in.

Management of the platform



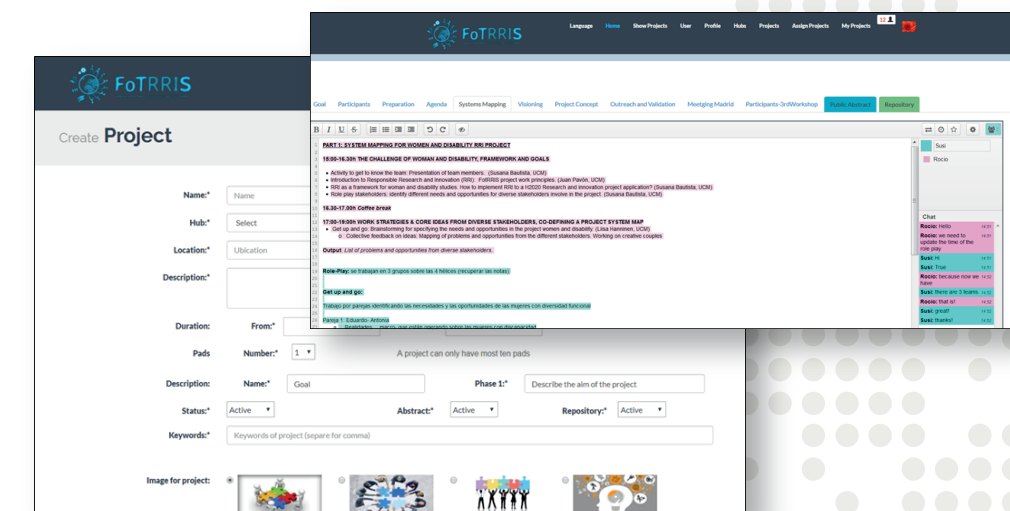
There are three different profiles on the platform:

An administrator has the control of all projects and users.

A manager is assigned to each project; this person can manage the configuration of a project and the users that collaborate on it. A project manager can create a new project by filling in the different features and defining the phases or steps of the project. In addition, the project manager can add users to the project using the 'assign project users'-function.

Other registered users will collaborate in in one or more projects on the platform. There are different options (for example: edit content or change profile) depending on the profile of the user.

Characteristics of the platform



The co-RRR platform provides several collaborative tools to support the users in the co-creation of a RRI project:

- Online communication (discussion, presentation of comments) with a chat tool.
- Online collaborative edition of documents (to record the results of the co-creation stages) with a collaborative pad.
- Dissemination for the general public with a tool to generate public information on the project.
- A searchable repository of past projects.

COOKBOOK



HOW TO CO-CREATE RRI PROJECTS



FoTRRIS
Fostering a Transition towards Responsible Research and Innovation Systems

7 PARTNERS

FoTRRIS Project

FROM 6 COUNTRIES



c e s i e
the world is only one creature



ERRIN European Regions
Research and Innovation Network

● **ESSRG**

Environmental
Social Science
Research Group



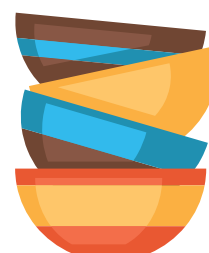
LGi

sustainable innovation



vito

vision on technology



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FROM FoTTRIS' TRANSITION EXPERIMENTS TO A COOKBOOK

The FoTTRIS project aims at fostering a transition towards Responsible Research and Innovation Systems. One way to do so, is to **co-create R&I projects that match the RRI principles**, or in the case of FoTTRIS, that match the co-RRI principles.

Indeed, FoTTRIS has a special vision on RRI. We believe that the added-value of RRI should be to bring together all actors from the quadruple helix, to collectively reinvent new ways of doing R&I. So, we have decided to call our vision 'co-RRI', which means **co-created Responsible Research and Innovation**.

To co-create co-RRI projects, FoTTRIS proposes **a specific 5-step method**. We have tested this method in 6 transition experiments, in Graz (Austria), Flanders (Belgium), Wekerle (Hungary), Palermo (Italy), and Madrid (Spain).

You can learn more about these transition experiments in Deliverables D3.1 Co-RRI project concepts, D3.2 Evaluation report and D3.3 Validation report. These deliverables are available on **the FoTTRIS website (www.fotrris-h2020.eu)**, where there is also a webpage describing each FoTTRIS transition experiment.

Each of these transition experiments concerned a specific topic:

- Local food sovereignty (Graz)
- Circular economy and resource efficiency in buildings (Flanders)
- Sustainable local economic development (Wekerle)
- Renewable energies (Palermo)
- Refugee crises and women with disabilities (Madrid)

Each transition experiment worked the same: **a competence cell** was set-up, a group of stakeholders from **the quadruple helix** was invited to join in, and then, together, they applied the 5-step method to co-create one or several co-RRI project concepts. We call this group of people all co-creating together, a transition arena. However, as you'll discover below, these experiments were not at all completely identical!

Diversity is key!

WHAT IS RRI?

Responsible Research and Innovation (RRI) means bringing innovations that offer solutions to global challenges. These challenges are complex and interlocked systemic problems, driven by increasing production and consumption patterns, which are in turn institutionalised in legal frameworks and academic theories.

Today, the industrial economic system is negatively affecting the safe space for humanity (in terms of climate, air, water and soil). Therefore, only the design of new socioeconomic systems can truly bring a transition towards thriving communities and ecosystems.

As the global challenges manifest themselves in different ways on a local scale, solutions should also be developed at a local level, while remaining connected to the global agenda (as embodied for instance in the Sustainable Development Goals (SDGs)).

A global challenge that manifests at local level is qualified as **'glocal'**.

RRI is about combining the intelligence of **four types of actors** (researchers, policymakers, entrepreneurs, civil society – also called the **'quadruple helix'**), integrating social and economic innovations with technical and legal ones, and involving citizens and stakeholders as equally important actors from the early stages of the innovation project.

Needless to say, in fostering the transition towards RRI systems, various sectors - such as the media, education, culture, finance – have all to contribute and become partners in RRI.



RECIPES TO COOK UP

Your transition experiments

Would you like to know how to set up and manage a transition experiment and learn how to co-create RRI projects for tackling a glocal issue?

If yes, then, this booklet will guide you through **the 5-step method**. Think of it as **recipes for cooking a 5-course meal**: this cookbook is your source of inspiration and gives you the basic ingredients and procedures for every course, but local variation and inspiration are crucial for the success of your meal.

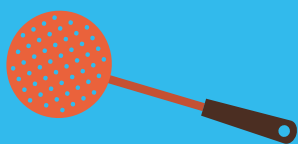
When you look at FoTTRIS experiments, you will discover that there is not one single best way to design a co-RRI process. Many good solutions exist, moreover, co-RRI requires a multitude of tools and methods, varying according to the geographical area, the context, topic, participating experts and citizens, linkages to political priorities.

In co-creating solutions to 'wicked problems', asking the right questions is more decisive than pursuing a single final solution. Since our universe is evolving through a complex process of non-linear causalities, RRI requires us to "come to grips with

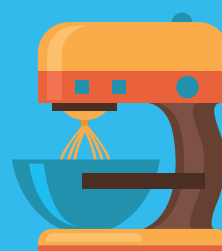
the fact that knowledge and information, no matter how detailed, will remain an insufficient basis for guiding our path into the future" (Wahl, 2016). So, after each 'course' of the co-RRI meal, some spicy questions are asked that are meant to make you stop and reflect upon critical choices or dilemmas, as they are key to the principles of co-RRI.

Don't feel overwhelmed, there are no good or bad answers to these questions! If you follow the main steps of this cookbook, and if you feel free to replace some of the ingredients in response to your local context, your co-RRI dish can be still delicious. Perhaps, it will taste different from the others, but this is the essence of diversity.

BON APPÉTIT !



The aim of this cookbook is to facilitate the further spreading of co-RRI transition arenas in Europe and globally. By setting-up your own transition experiment, you will help to scale FoTTRIS results by nourishing a diverse and connected network of local/regional co-RRI initiatives.



We hope you will be inspired by this framework but do not hesitate to explore many different transition pathways for your experience!

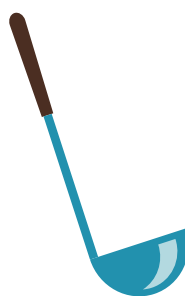
WHAT ARE WE COOKING?

An overview of the 5-course meal

A 5-course meal resulting in one (or several) **co-RRI projects** addressing a global challenge, directly or indirectly related to the Sustainable Development Goals. This whole meal is based upon a framework called **MISC** (**M**apping **I**nnovations on the **S**ustainability **C**urve), and each course corresponds to one of the 5 steps of the method.



STEP 1: STARTER
(goal setting)



STEP 2: SOUP
(system mapping)



STEP 3: MAIN DISH
(visioning)



STEP 4: DESSERT
(project concept design)



STEP 5: LIQUEUR
(outreach)

ORGANISING YOUR KITCHEN

Bringing in the chefs!



**One chef cannot cook a co-RRR project on its own,
but many can! Who will be in your kitchen?**

**For a successful meal, the co-chefs team
should be composed of a competence cell plus
stakeholders from the quadruple helix.**

WHAT IS A COMPETENCE CELL?

A competence cell can be imagined as a three-star Michelin restaurant. It includes all the skills and local ingredients that are needed for a tasty co-RRR meal and it builds a crowd-sourced pool of recipes, knowledge and skills that emerge in a particular context and may inspire other initiatives.

In FoTRRIS experiments, the cells included around 3 to 5 members. That should not preclude you to compose a bigger cell. The role of a cell is to facilitate the transdisciplinary process at stake in a transition experiment, that is the reason why facilitation skills, and a good knowledge of this 5-step method and co-RRR are needed.

WHO CAN BE PART OF THE COMPETENCE CELL?



Experts on co-RRR to
facilitate the transition
experiment.



Directly involved knowledge
actors familiar with the theme
of the transition experiment,
including experts representing
groups affected but who cannot
participate directly themselves
(for instance, children,
non-human agents, future
generations).



Knowledge actors indirectly
involved who possess a knowledge
that may be useful to support
various transition experiments
(for example: representatives of
local communities who are familiar
with the political context, cultural
sensibilities...).



Experts in project development
(with specific knowledge about
funding of R&I projects or
other subsidies).

Co-RRI competence cells can be seen as 'pop-up' research units that look for the available infrastructure to set up co-RRI initiatives, keeping the threshold as low as possible for various actors to join. By using [the FoTRRIS web platform \(www.ingenias.fdi.ucm.es/fotrris/home.php\)](http://www.ingenias.fdi.ucm.es/fotrris/home.php) their experiments, results and lessons learned can be stored and made accessible to other competence cells worldwide.

The co-RRI competence cells function as 'liaisons' that facilitate relationships among different stakeholders with an interest in a certain theme .

DEFINITION & INVITATION OF THE STAKEHOLDERS FROM THE QUADRUPLE HELIX

The subject of your transition experiment will determine who your partners around the table will be. Ideally, it should be a **varied group of stakeholders from the quadruple helix** , ready to invest time and personal/professional experiences in co-creation processes. The key criterion for selecting this group is that they support the goal of the transition experiment ('how to create access to sustainable energy?', for example) and that they are both from mainstream (**regime**) organisations and from 'outside the box' initiatives (**niches**).

To draw up a list of co-chefs that you will invite in your kitchen, start by making a **'social map' of all relevant stakeholders** that may be relevant to the theme your co-RRI initiative will be working on. One condition: that they recognise the value of the goal and are willing to contribute to it, even if that means questioning their current practices.

It is important to invest enough time and energy to draw your 'social map' of relevant stakeholders beforehand; use 'snowball sampling', meaning let the relevant actors you know use their networks to bring in more (**diverse**) **actors**; especially make sure you include groups that tend to be marginalised yet who often are more affected by the challenges than other citizens.

The map should include **stakeholders of the quadruple helix**, both from **the regime and niches**.



List the main organisations (including researchers, companies, governance institutions) that play a role in the system and have shown an interest in experimenting with new, more responsible or sustainable approaches. They will represent the pioneers within the current socio-technical regime, and they will be able to clarify the barriers they encounter in their pioneering work.



List the main bottom-up initiatives, both by citizens, Civil Society Organisations (CSOs), local politics, independent researchers or start-ups that are exploring radically new, outside the box approaches to the theme in question. They will represent diverse ways of grassroots experimentation and they will be able to indicate what barriers keep them from scaling up and gaining real impact on the system.

To be taken into consideration concerning the co-chefs:

- All groups of the quadruple helix are equally represented and considered in terms of expertise (public/private sector, for-profit/non-profit sector)
- Regime and niche actors are present
- A diverse group in terms of ethnicity, gender references , local communities...



TASTY HINTS

Invite CSOs well in advance. They might need time to set up participatory processes to bring out the expertise of the citizens in question. But often these CSOs already set up actions around the theme. Think of a way to reward, compensate and valorise the time invested by the CSOs or other volunteers.

Ensure a meeting space at the local level, allowing all participants to meet physically and get to know each other, but also to continue working together during and after the co-RRI initiative. This space can be an 'unused resource': a school building, town hall, or a cultural centre after working hours, for instance.



SPICY QUESTIONS



How much diversity and inclusiveness is necessary for your co-RRI activity?

How can the voices of those that remain out of the process still be taken into account?

What about gender equality, social inclusion and openness of the process to the broader community?

How much public engagement do you really achieve?

What could be the added value of the co-RRI process for the stakeholders invited to participate?

How do you motivate all groups to join the co-RRI process? What's in it for them?

TASTY HINTS

Take care to clarify the reasons for involving specific more 'distant' knowledge actors in the competence cell. They may help you to keep an eye on the global agenda even as you focus on local problems and solutions.

Share the insights you gained from working with the competence cell experts on [the FoTRRIS' co-RRI web platform](http://www.ingenias.fdi.ucm.es/fotrris/home.php): www.ingenias.fdi.ucm.es/fotrris/home.php



PRINCIPAL INGREDIENTS

To co-create RRI projects

A co-RRI initiative may have been initiated by you, or you may have been asked by a public service, company or CSO/NGO to set one up. In any case, you will need to bring together the best possible group of co-chefs that offer their knowledge as ingredients to the project. And you will need some cooking utensils to produce something good in a relatively short time.

This 5-step method is built upon the 'Mapping Innovations on the Sustainability Curve' (MISC) and systems approach frameworks, designed to accelerate transitions. We only provide a summary of it here, so we recommend that you read the complete version (see the resources section)



FOTRRIS WEB PLATFORM

[A platform](#) has been designed to facilitate the co-creation of RRI projects. Available in open access, anyone can use it. It contains a collaborative pad, a chat, and repository. As it can be tailored to follow the 5-step chronological order, it can be used to collaboratively prepare the workshops and record their results.

ENERGISERS & A NICE ATMOSPHERE

Going though these recipes will require many workshops, with some lasting a full day. For a productive working environment and good results, it is important to create an atmosphere which will stimulate friendly relations among co-chefs and facilitators. Use ice breaker games to get the group engaged. Or have a goodie bag full of energisers at hand when energy levels get low. Offer coffee breaks and lunches if an activity is planned for all day.

TIME

Be flexible in providing enough time slots for various groups of stakeholders to be able to participate, especially for those in a vulnerable position. Also make sure you plan meetings in a sensible way, avoiding overlap with care time or providing childcare during the meetings.

FACILITIES

Look for a space with a low threshold, making people feel safe to exchange views and experiences. Think of a restaurant or café! A setting with chairs grouped around tables is more inviting than an auditory with all chairs facing a podium. If you want to build in plenary moments (an expert with a presentation, or a film), just move the chairs around the tables so they can see the screen or the speaker.

FACILITATION TOOLS

Computers, handouts, Post-its and markers, supporting documents, name badges, team building activities or games, questionnaires for evaluation of workshops... Make sure you have an overview of the Sustainable Development Goals (SDGs), either as a poster adorning your wall, or as postcards which the co-chefs can keep.

FEASIBILITY

Draw up a list of potential resources and different types of contributions which can allow for the implementation of the co-created projects in the near future (for example, EU funding calls, crowdfunding, private investment...).

REWARD & COMPENSATION STRATEGIES

To valorise the input of your co-experts, especially those who are not professionally involved in the transition experiment but rather as citizen scientists, think of a way you can visualise the value of their contribution and compensate for their time and resources invested. It can be a voucher for local goods and services (bus tickets or entrance to the swimming pool or library). Things that can be offered at a marginal cost for the provider but may make a difference for the co-chefs. Or you can set up a knowledge exchange network whereby the vouchers can be used to buy other knowledge from experts or educational institutions (promoting life-long learning). Give stakeholders a certificate of participation which they can put up on their wall.



COOKING TIME

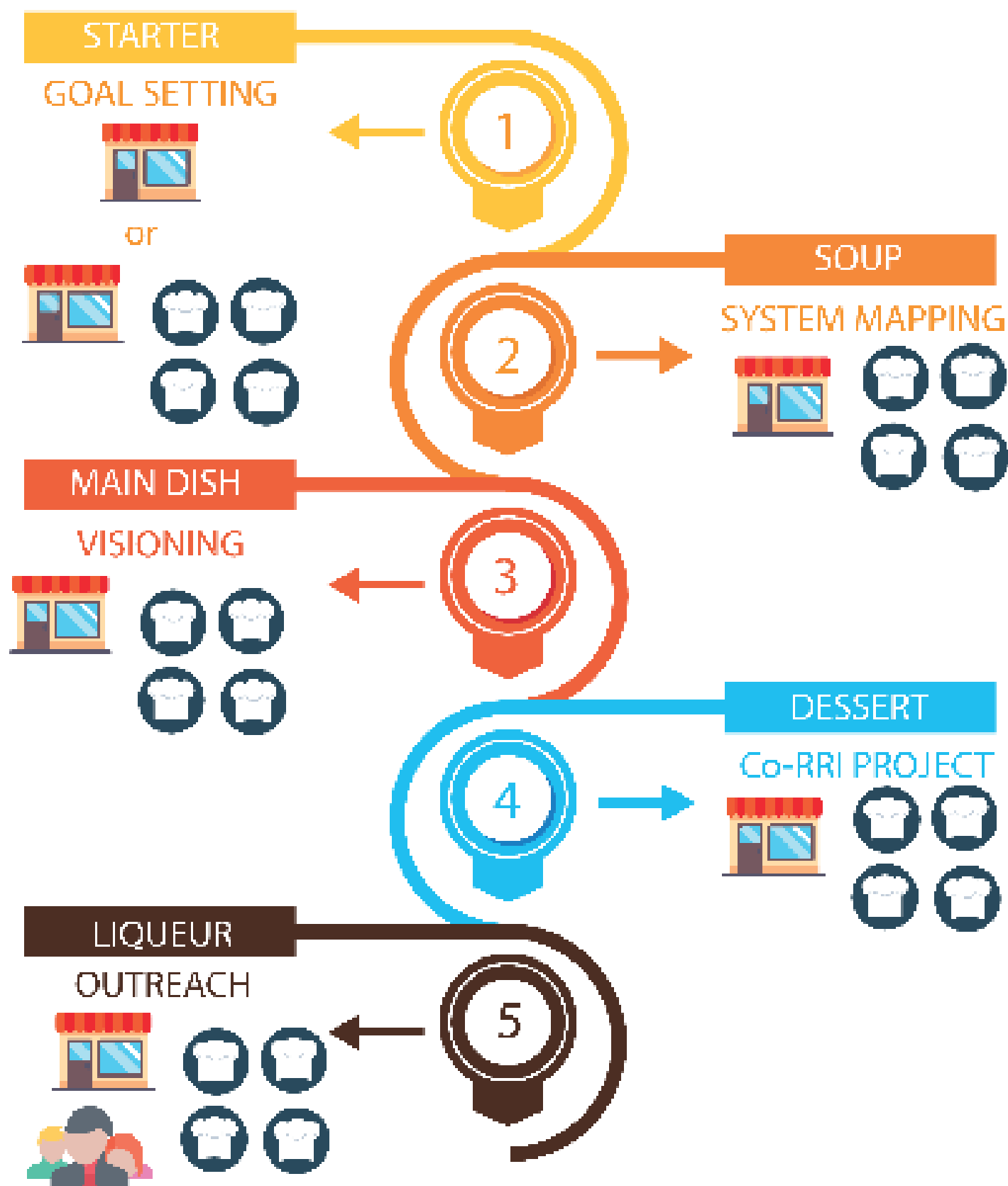
How many workshops will be needed?

These guidelines describe the 5 stages but not their length. Ideally, one workshop per stage. But in reality, for some stages you might need more than one workshop. Take your time, do not rush it through. One workshop might be two hours, another one might take a whole day, or might even spread over two days. It really depends on a number of local factors, such as:

Do the stakeholders already know and trust each other?

Have they worked together on previous projects?

Is the theme of the experimentation novel for them?



TRANSITION EXPERIMENT

COMPETENCE CELL



QUADRUPLE HELIX

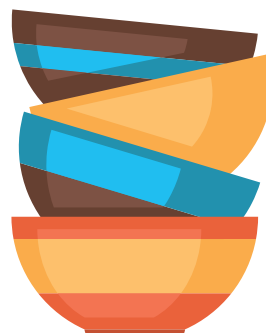
TRANSITION ARENA

RECIPES



RECIPES

1 | STARTER



DEFINING THE SYSTEM GOAL AS A FUNCTION, NOT A PRODUCT

The topic of your co-RRI transition experiment is linked to **a certain socioeconomic system**, which is currently not working well. You will apply the MISC framework to see what prevents this system from working well, and what could be changed. Your co-RRI project will be designed to make this system change. So, as a first step, **the goal of a working system has to be defined.**

The Sustainable Development Goals (SDGs) offer a broad outline of goals, and at the same time present a checklist of all the other goals that should not be negatively impacted by your innovation.

The goal will function as a compass for your co-RRI experiment, allowing you to adjust your course of action as you go. Just like a compass, the goal should not be defined in a too specific and narrow way, because that will limit your scope of possible solutions or ways to get there.

Therefore, it is crucial to **define the goal as a function, not as a product or object.** A product may be one of the solutions to achieve that goal, but is not the goal itself.

At the same time, it should be defined clearly enough for all actors to move in the same general direction and to avoid wasting time on arguments about very specific subgoals. A functional goal is like a working definition that keeps your team going rather than as a predefined description of where you want to arrive, or how exactly you want to get there.

Four examples:

→ If the goal is stated as **'guaranteeing access to healthy food for all'**, your scope of possible solutions becomes much broader than if you define it as a product (for instance, GMO milk for people with allergy).

This product approach focuses on a very small scale (individuals with milk allergy), and overlooks the fact that in our part of the world we may be consuming more animal proteins than necessary for us. Moreover, it does not consider ethical and long-term ecological impacts.

THE GOAL SHOULD NOT BE DEFINED IN A TOO NARROW WAY

→ If the goal is stated as **'guaranteeing a quality life for all in a population with a large proportion of senior citizens'**, it allows to think about social innovations (including seniors) that are more inclusive and accessible for all, and might have less impact on the planet than selling technological aids, for instance.

→ If the goal is stated as **'guaranteeing access to a good quality place to live for all people in a neighbourhood given the scarcity of building materials'**, it allows solutions such as co-living.

→ If the goal is stated as **'guaranteeing access to healthy and sustainable food (including eating habits) in a certain geographic region'**, it enables to rethink the food socioeconomic system instead of improving health by selling food complements.

HOW AND WHEN DEFINING YOUR GOAL?

The goal of the socioeconomic system you're working on should be defined through a participatory procedure with the other co-chefs. To do so, the competence cell can either:



Propose a first definition, based upon past experiences, to be refined with all co-chefs during the 'Soup workshop'. Or, can contact the co-chefs before the 'Soup workshop', to get their views on the system's goal, and then refine it during the 'Soup workshop'.



Do it in a fully co-creative way, dedicating one full workshop to this aim, before the 'Soup workshop'.

CHARACTERISTICS OF THE SYSTEM GOAL

Please make sure that your system goal fulfils all the criteria below:

Describes
a desirable
situation

Relates to
or covers
a global
challenge

Allows access
to a service
or function
rather than
possession of
goods

Is always
constructive

Is defined
broadly to
include many
possible
innovations

Is functional
and pragmatic
and defined in
concrete terms

Everyone
understands
and supports
it

Should not
be impacted
by the
project's
activities

TASTY HINTS

Always include the perspectives of those actors that are marginalised in the regime. Even though they are not recognised as researchers or innovators in the current R&I system, their knowledge is crucial for RRI to be innovating and inclusive at a systemic level.

Do not allow this phase to turn into a philosophical discussion!

SPICY QUESTIONS



How to avoid seeing this systemic goal as a static fact?

How to avoid that the focus narrows down too much, losing sight of the global perspective?

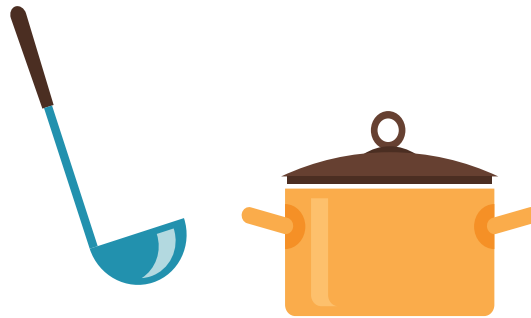
How to leave room for new insights that would improve your project but would require to change it?

Who can bring in the outside perspective?

Do stakeholders feel that their contribution to this goal is important and valued?

Is the goal shared by all the stakeholders? Accepted by all of them?

2 | RECIPES SOUP



SYSTEMS MAPPING

This second course is about elaborating, in **two parts**, a map of the system under consideration. This map will help you reflect on how it behaves with regards to sustainability and why. To do so, you will map the system around a **'curve of sustainability'** (part 1). Then, you will understand the ins and outs of its behaviour (part 2).

Given the complexity of our societies and of the planetary context, each theme or sector is influenced by and has an impact on other domains. To give you an example, an antibiotic not only fights a disease, but also it leaks into the soil where it might cause new health threats.

So, this system map, or **MISC-map**, is here to see these interlinkages. One of the reasons why the current systems do not work well is because they have been designed without taking these interlinkages into account.

However, **your MISC-map doesn't have to be complete to be useful**, in fact it is very difficult, if not impossible, to visualise every element that influences a system's behaviour. The main objective is to help you and your co-chefs understand the systems' dynamics leading to lock-ins and get a grasp of what transitions are needed to restore sustainability.

PART 1 - AIM: to introduce the exercise & co-define a system map

1

EXPLAIN THE CURVE OF SUSTAINABILITY

Sustainable systems depend on maintaining a balance between **efficiency** (or ascendancy, streamlining) and **resilience** (diversity, outside the box thinking, creativity), whereby resilience is slightly more important than ascendancy. Try to do this by using examples relating to the theme you will address but avoid classifying agents as either resilient or efficient: most organisations have some resilience, and most innovations have some efficiency. Yet, innovators will often situate themselves at the resilience side of the curve, and explain why external factors (rules, regulations, power games...) keep them from becoming more mainstream. Likewise, regime actors will point out that their efforts at changing course are thwarted by external mechanism (financial pressures, short term reporting...).

2

INTRODUCE THE SYSTEM GOAL

According to how you ate your starter, the goal can be already co-defined, in case you had a preparatory workshop for that, or you will have to co-defined it with the co-chefs at this stage. Remember : your goal shall address a global challenge.

3

ADD REGIME ACTORS

List on the 'efficiency-side' of the curve, the main regime organisations (governance institutions, big market players...) that play a role in the current system (co-define the regime). Also, explore what other institutions or mechanisms determine the behaviour of these organisations (legislation, international politics, party politics...).

4

ADD NICHES

List the main niches playing a role in the system (**co-define niches**). Step 3 and 4 can be an eye opener, for system agents might not always be aware of the roles of each other.

5

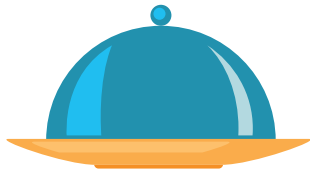
DRAW FEEDBACK LOOPS

Draw feedback loops (balancing and reinforcing feedback loops) to indicate how the niches and regimes are stuck, or what allows them to breakout. Use blue arrows for reinforcing loops (**increasing efficiency**) and green arrows for balancing loops (**increasing resilience**). Remember that sustainability depends on a (governed) balance between green and blue loops and that both are necessary.

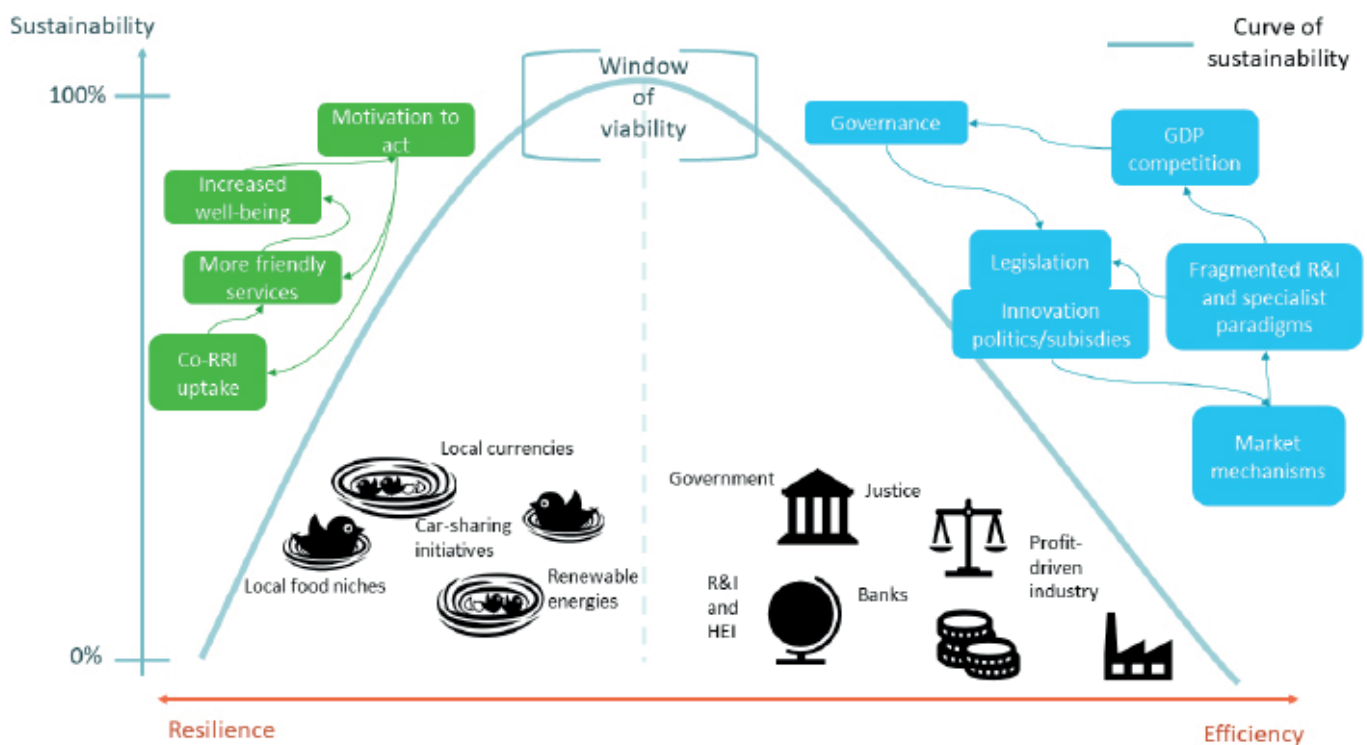
OUTCOME

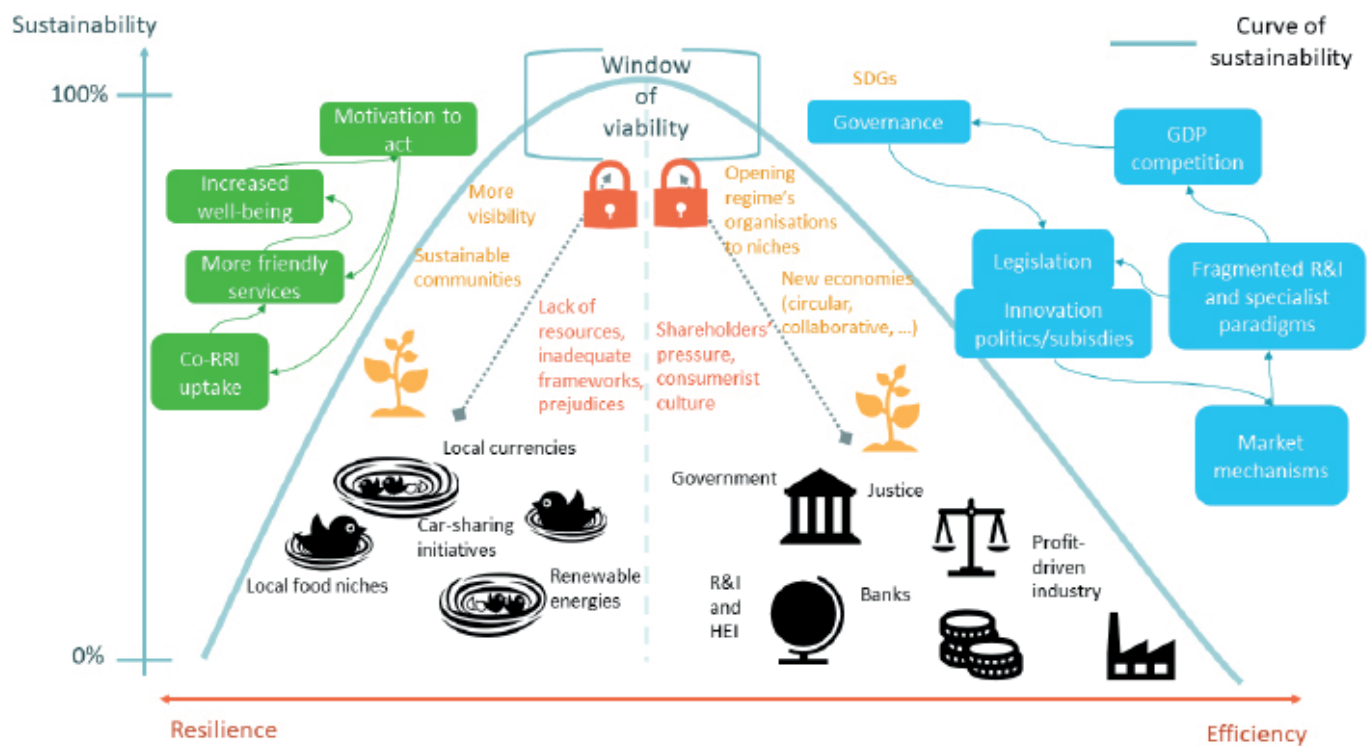
System map of the stocks (actors, laws, mechanisms) and flows (relationships, influences, dependencies, feedback mechanisms) relevant for your goal.

MISC-MAP SAMPLES



That is how your MISC-map could look like, both after part 1 and 2 of the Soup course. Note that these are basic examples, your MISC-map can be more detailed and looking differently, as you and your co-chefs will co-define the socioeconomic system under consideration.





TASTY HINTS

It is not important for the map to be scientifically correct or exhaustive. The main function of the map is to allow the co-chefs to take a broader look at the problem and to understand underlying drivers. This will allow them to tackle the root causes of the problem and avoid just treating the symptoms.

PART 2 - AIM: to explore the lock-ins and leverages

1

REGIME LOCK-INS

Ask the actors that represent regime organisations what keeps them from really contributing to the sustainable system goal and add those factors to the map. These factors may be situated at an institutional, legal, political or cultural level (ads or media, commercial pressures, legal frameworks...).

2

NICHE LOCK-INS

Similarly, ask the actors that represent the niches what keeps them from having real impact on the system.

3

JOIN FORCES

Ask the co-chefs to brainstorm on how they could join forces to obtain the chosen systemic goal, and to map what factors are currently hindering such a collaboration.

4

FIND LEVERAGES

Groups of co-chefs will brainstorm on leverages, and all ideas will be added to the map (as a growing ecosystem of solutions).

OUTCOME

A MISC map, as a common platform, either for direct collaboration or for policy recommendations.

These recommendations in turn can be presented as a leverage to political actors or public services which support transition, but often lack the access to co-creative platforms where bottom-up input guarantees community support.



TASTY HINTS

The leverages may be readily available to the actors involved in the co-RRR project, or they may require political support. In that case, establishing a common platform for advocacy or policy recommendations may be an accessible leverage.

In part 2, steps 1 and 2 can be done in plenary. Steps 3 and 4 should be done in small groups of no more than 12 people.

SPICY QUESTIONS



What kind of facilitation can lead to true co-creation instead of a 'blame game' (niches are naives, regimes are sharks)?

How to keep the spotlight on what positive impact co-chefs already have on the system and what has allowed this to happen?

Does the mapping of stocks (actors, laws...) and flows (relationships, influences, feedback mechanisms) revealed other stakeholders not yet involved? Make sure to include them in the map!

How to make co-chefs focus on solution-oriented dynamics rather than on powerlessness and frustration?

3 RECIPES MAIN DISH



VISIONING A BETTER FUTURE

AIM: to envision a new future and the path to get there

1

LET YOUR IMAGINATION SPEAK

Ask co-chefs what the world (their city, neighbourhood, school...) will look like once the transition is achieved, or the goal is reached. Ask them to describe it as if they were walking through the place and tell you what they see: who does what, who talks with whom, what the streets look like, what people say, what about water, birds, air, weather, sound...?

2

DISCUSS ROADS TO THE FUTURE

Co-chefs use the MISC-map drawn in the previous step to discuss what needs to be done to achieve this envisioned future: upscaling viable alternatives, installing governance to strengthen resilience, increasing the efficiency (and decreasing the overhead) of niche innovations, without losing their agility, cooperation among various actors and sectors... An inventory of research topics and/or innovation activities is collected.

3

PRIORITISE

Prioritise the research topics and innovation activities according to individual co-chefs' preferences.

OUTCOME

A vision of the desirable future.

A priority list of R&I activities as ways to get there.

SPICY QUESTIONS



How do you strengthen co-chefs' capacity to think outside the box?

What formats or tools would allow co-chefs to connect elements of the vision to already existing initiatives, projects...?

What facilitation techniques do you know that can help them to visualise different roles or contexts?



4 RECIPES DESSERT



PROJECT CONCEPT DESIGN

AIM: put together your co-RRl project

1

CHOOSE PRIORITIES

Priorities can be determined according to the expected impact of the action and its concrete feasibility. Is there sufficient support for it in the community? Do you need political support and are you likely to get it? Is a big budget required or can the goal be achieved with a minimal financial budget and a large-scale use of alternative valorisation (knowledge vouchers that stimulate the exchange and co-creation among all citizens)?

2

LIST RESOURCES

Define the resources needed for each action or step and make a list of where those resources can be found. Do not only think of money as a resource, but also consider natural or physical elements (an empty building, an abandoned park, underused public resources...), as well as human capacities. For instance, in a neighbourhood with high unemployment, people have time and are motivated to collaborate in a transition initiative such as community gardening.

3

SCHEDULE

Define the timing of each action or step and check its congruence with other agendas (school holidays, election periods, deadlines for R&I calls, other relevant local events...).

4

MEASURE SUCCESS

Based on the visioning course, you can ask co-chefs to describe in concrete terms how they will know the project was successful. This may result in qualitative as well as quantitative indicators. The first are often more difficult to measure, but that does not make them less relevant or important. Moreover, allow co-chefs to develop indicators on the envisioned goal (traffic safety has increased as more people and children use bicycles for daily transport), but also on the leverages (all political parties promote cycling as a means of daily transport, or bicycle repair services or skills are available in every neighbourhood). Lastly, even if the envisioned outcome has not been reached, other unforeseen impacts may have been realised, such as new partnerships have been built, and companies are increasingly aware of societal pressures and expectations.

5

DEFINE RISKS

Define risks and propose plans for risk management. Keep in mind that transition experiments are inherently risky since their goal is to innovate while being fully aware of the unpredictability of the future in our complex and nonlinear (social as well as planetary) system. In that sense, it may be more appropriate to replace the term **risk management** with **boundary critique**. If the goal is not achieved as planned or within the foreseen timeframe, this can teach you something about blockages you overlooked. As such, it allows you to broaden your map and redefine its boundaries. Co-RRR is always an iterative process full of balancing and reinforcing feedback loops!

6

PLAN COMMUNICATION

Remember that the transition arena is not there to pursue its own private goals, but to contribute to sustainable goals for society. They can be seen as the laboratory or the think tank that explores what can stimulate the transition of society towards a new paradigm. It is therefore crucial that the results – the successes as well as the lessons learned – , are communicated with the local community, its leaders and its entrepreneurs. Also the learnings should be shared on the FoTRRIS web platform so as to strengthen the co-RRR community worldwide.

OUTCOME

A realistic and achievable project concept with innovation activities - supported by research - with the ambition of contributing to systemic change in a given domain.

SPICY QUESTIONS

How to guarantee their involvement throughout the co-RRR project?

Could you define future contributions of each of the co-chefs to the research and innovation project itself already in this stage?

What will be the implication of each stakeholder in the project development?

How do you make sure the academic expert considers himself/herself as a co-expert (dependent on collaboration)?

Or should contributions be envisioned and adjusted as the process takes shape?



ICING ON THE CAKE



Co-chefs of your workshops have specific interests in these activities, and you should think in advance what will motivate them and how you can valorise or reward their input. For this, different options are available: compensation, remuneration, acknowledgement...

SPICY QUESTIONS



How can you compensate the contribution of each co-chef without letting your budget explode?

How will you ensure the open character of the outputs and protect them from privatisation and enclosure?

Is there a Creative Commons licence you can use?

As the output is the result of a shared endeavour, how can you limit the unfair appropriation of the results?

RECIPES

5

LIQUEUR



OUTREACH & VALIDATION

That's it, you have made it through this meal! The liqueur part is always a convivial one, so that's the moment to share the experience and results of your co-RRI transition experiment with others. Even if co-RRI processes focus on local manifestations of global challenges, their impact may be multiplied if the results are brought to a broader platform for collaborative validation and outreach.

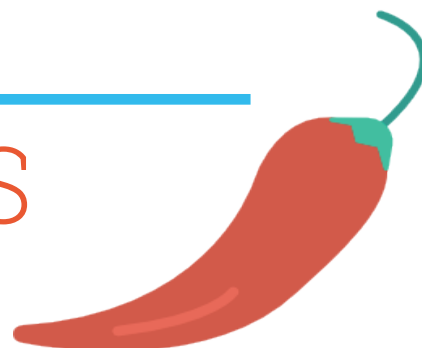
Organise an 'Outreach & Validation workshop'

- Share knowledge, ideas and projects generated by the co-RRI transition arena
- Provide space for upscaling and continuity
- Make a validity check on the knowledge generated

Participants

- Members of the competence cell and the other co-chefs that want to play a role in this last phase
- Other relevant actors (the media, higher education institutions, NGOs, companies, policymakers in the field of circular or generative economy, international cooperation, social inclusion...), with different expertise to assess the knowledge generated. Importantly, bring in the actors that can be interested in participating in the new project(s), or that can support it with resources.

SPICY QUESTIONS



How to make sure broader stakeholder groups understand what sustainability implies?

Have you addressed all relevant stakeholders to upscale the uptake of your Co-RRI project?

Who else is implied or affected and should be included in the next steps?

What this involves in terms of a needed paradigm shift and transition towards co-RRI?

Is there a willingness to replicate it in other communities, cities or regions?

Is this experiment relevant for other actors, cities, communities?



JOIN THE CO-RRI COMMUNITY

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**Visit our website
for more
information**



www.fotrris-h2020.eu

RESOURCES

& REFERENCES

MISC FRAMEWORK

Snick, A. (no date). Mapping Innovations on the Sustainability Curve.
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SYSTEM THINKING APPROACH

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Midgley, G. (2000). Systemic Intervention: Philosophy, Methodology, and Practice. Springer US. Retrieved from www.springer.com/la/book/9780306464881
Wahl, D. C. (2016). Designing Regenerative Cultures. Axminster, England: Triarchy Press Ltd.

CO-RRI WEB PLATFORM

Subscribe and log-in at www.ingenias.fdi.ucm.es/fotrris/home.php
→ **Deliverable D2.1** : Design and specs of the co-RRI web-based platform
→ **Deliverable D2.2** : Co-RRI web-based platform
All two available at <http://fotrris-h2020.eu/deliverables/>

User guidelines – short version
Available at <http://fotrris-h2020.eu/material-for-uptake/>

FoTRRIS' TRANSITION EXPERIMENTS

→ **Deliverable D3.1** : Co-RRI project concepts
→ **Deliverable D3.2** : Evaluation report
→ **Deliverable D3.3** : Validation report
All three available at <http://fotrris-h2020.eu/deliverables/>

REWARDING & COMPENSATION STRATEGIES

→ **Deliverable D2.4** : Financing, rewarding and compensation strategy
Available at <http://fotrris-h2020.eu/deliverables/>

COMPETENCE CELLS' ACTIVITY MODELS

→ **Deliverable D2.5** : Activity models
Available at <http://fotrris-h2020.eu/deliverables/>
Guidelines : How to set your competence cell
Available at <http://fotrris-h2020.eu/material-for-uptake/>

GLOSSARY

COMPETENCE CELL

A small organisational unit, which functions as a local innovation platform that encourages various knowledge actors from science, policy, industry and civil society to co-design, co-perform, and co-monitor co-RRI-projects that are attuned to local manifestations of global sustainability challenges.

FoTRRIS

Fostering the Transition towards Responsible Research and Innovation Systems (FoTRRIS) is a Horizon 2020 research innovation action project investigating how R&I can contribute to tackling the grand societal challenges, and how the R&I system can join the partnership for the Sustainable Development Goals (SDGs) by joining forces with all societal actors, including citizens, political leaders, civil servants and entrepreneurs.

QUADRUPLE HELIX

A quadruple helix is an intertwined structure of four strands that together can steer development. In co-RRI –tackling complex and intertwined problems – this refers to the collaboration of citizens (CSOs, citizen scientists, social innovators...), policymakers (or public services), entrepreneurs (including green financing initiatives) and scientists. All of them being equally important, bringing their own kind of expertise. (www.ec.europa.eu/digital-single-market/en/policies/open-innovation)

Co-RRI (Co-Created Responsible Research & Innovation)

This is a concept that does not substitute former definitions and principles of RRI. It attempts to supplement them in order to clarify our normative position and our understanding of RRI principles. Co-RRI is characterised by its normative assumptions, content, its approach and its process. The underlying values co-RRI is committed to are: ecological sustainability, social justice, acknowledgement of different forms of knowing and social inclusion. Co-RRI addresses specific local manifestations of grand societal challenges. Its characteristics are: transdisciplinarity, reflexivity, systemic thinking, collaboration, co-creation, transparency, awareness of making choices with ethical and political implications, inclusiveness, responsiveness, long-term, on-going process.

GLOCAL CHALLENGE

The local manifestation of a global challenge is the way a global issue (such as climate change, migration, extinction or pollution) manifests itself in a given context or community. The locally available needs and assets determine what can and what needs to be done locally to address the global issue.

RRI (Responsible Research & Innovation)

An approach that anticipates and assesses potential implications and societal expectations with regard to research and innovation, and with the aim to foster the design of inclusive and sustainable research and innovation. (www.ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation)

SDGs (Sustainable Development Goals)

A global agenda for sustainable development defined by the UN and endorsed by 193 countries. If RRI is to co-create solutions for big challenges, it is also to become a member of the partnership for the SDGs.

TRANSITION ARENA

A group of people working together to tackle a global challenge. They consist of four types of actors: citizens (or civil society organisations), public services and/or political leaders, entrepreneurs, and responsible researchers.

TRANSDISCIPLINARY

Refers to the fact that the complex and non-linear nature of the current global problems can no longer be solved by separate disciplines, or by a group of various disciplines (interdisciplinary or multidisciplinary), but requires the engagement with non-academic societal actors (citizens, politics and entrepreneurs) → [see Quadruple helix](#)

TRANSITION EXPERIMENT

An experiment to support the transformation of present-day (specialist, competitive) research and innovation strategies into systemic, transdisciplinary co-RRI-strategies.



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Contributors: ERRIN (European Regions Research and Innovation Network), CESIE (European centre of studies and initiatives), ESSRG (Environmental Social Science Research Group), IFZ, LGI Sustainable Innovation, Universidad Complutense (Madrid), and VITO.

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