D7.3 Second TRANSFORM Interim Monitoring Report

TRANSFORM

Deliverable description

Deliverable:

D7.3 Second TRANSFORM Interim Monitoring Report

University of Bergen has designed and performed a monitoring of the activities carried out in the first reporting period of the project. This corresponds to Task 7.3 and 7.4.

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[x] **PU:** Public (must be available on the website)

[　] **CO:** Confidential, only for members of the consortium (including the Commission Services)

[　] **CI:** Classified, as referred to in Commission Decision 2001/844/EC

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This document has been elaborated by the authors following the guidelines for data management in Horizon 2020.

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Summary

TRANSFORM is a coordination and support action funded under the SwafS-14 call topic of Horizon 2020 to help implement the principles and practices of RRI – Responsible Research and Innovation – into institutions, policies and practices of innovation at the regional scale. To this effect, the project involves itself in processes of innovation, policymaking and practice in three European regions: Lombardy, Catalonia and the Brussels-Capital Region (BCR), our so-called "clusters". The project initiatives include efforts to introduce RRI approaches into S3 policies in the three regions.

This document – TRANSFORM deliverable 7.3 – is an interim monitoring report within *WP7 Monitoring and Evaluation.* It gives an overview of the activities carried out in the first reporting period of the project and is as such the second annual report from Tasks 7.3-7.4.

The report lays out the monitoring approach that corresponds to the purpose to develop and carry out continuous monitoring practices in real time for "ongoing normative assessment" and learning within the project and to assess its own project activities, outputs, and outcomes, with due attention to the requirements of the Grant Agreement and the SwafS-14 call. It starts from the insight that there are multiple meanings of RRI and that instruments for monitoring and evaluation cannot be "pulled off the shelf" for TRANSFORM purposes. Thus, this monitoring report assesses the activities carried out so far in the clusters while also considering the specific situatedness of these activities within their R&I ecosystems.

The three clusters report on a number of pilot activities: Fondazione Giannino Bassetti (FGB), the Lombardy Region Directorate General for Research, Innovation, University, Export and Internationalisation of Enterprises ("Lombardy Region") and Finlombarda conducted a participatory process to embed RRI into the S3 plan of the Lombardy region and the development of the Strategic Three-Year Programme for Research, Innovation and Technology Transfer. Science for Change (SfC), the Generalitat de Catalunya (GenCat) and the University of Barcelona (UB) have established and developed their Think Tank into a larger activity than originally foreseen and have launched citizen science pilots on waste collection systems and endometriosis. BE Participation, Innoviris, and Université Catholique de Louvain (UCL) develop and integrate ways in which design thinking can contribute to embed RRI aspects into research and innovation activities funded or foreseen to be funded by Innoviris.

With regard to political-institutional context, several clusters report on current and long-term collaborations with partners from regional administrations and stakeholders beyond the

TRANSFORM ecosystem. These relationships and collaborations can be understood as activities in terms of the MoRRI indicator for RRI called GOV2 – RRI-related governance mechanisms within research-funding and performing organisations.

Table of contents

1. Introduction

TRANSFORM is a coordination and support action funded under the SwafS-14 call topic of Horizon 2020 to help implement the principles and practices of RRI – Responsible Research and Innovation – into institutions, policies, and practices of innovation at the regional scale. To this effect, the project involves itself in processes of innovation, policymaking, and practice in three European regions: Lombardy, Catalonia and the Brussels-Capital Region (BCR), our so-called "clusters". The project initiatives include efforts to introduce RRI approaches into S3 policies in the three regions.

Implementation of RRI or any other approach should come with a strategy for monitoring and evaluating the progress of that approach. TRANSFORM has a separate work package, WP7, dedicated to Monitoring and Evaluation, which operates in close interaction with another key strategic WP of the project, WP2 "Framework definition, oversight and shared learning".

This deliverable, D7.3, is the second of two interim monitoring reports produced in WP7 on the way to the final deliverables of this WP that will offer the mature assessment of outcomes, impact, and impact pathways for RRI (D7.4-7.6, Months 34-35). As such, this deliverable builds on D7.1, namely TRANSFORM's Monitoring and Evaluation Guide, D7.2, the first interim report. It continues to report preliminary results from project Task 7.3 "Continuous monitoring for ongoing formative assessment within the project" and Task 7.4 "RRI assessment of the activities and outcomes of TRANSFORM".

The University of Bergen (UiB) has been the partner responsible for the preparation of the deliverable, while the entire consortium and our many collaborators in the three clusters have played an important role in providing the material on which the monitoring report is based. This task entailed close collaboration with WP2.

2. Monitoring and evaluation approach

This section details the goals of the monitoring exercise and the purposes (as laid out in D7.1) the monitoring relates to, it describes our approach to monitoring, and, finally, it details the objects of monitoring and the materials on which the monitoring is based on.

2.1 Project goals and purposes

In the early phase of the project WP7 developed a precise description of the various project goals and purposes for which there is a need for monitoring and evaluation activities. These are laid out in D7.1. Out of the five distinct (but not mutually exclusive) goals and purposes, two purposes (purpose 1 and purpose 2) are particularly relevant for this report:

> *"1. TRANSFORM WP7 should develop and carry out continuous monitoring practices in real time for "ongoing normative assessment" and learning within the project and n in close interaction with WP2. This is a contribution to project development (mutual learning). It corresponds to WP7 Task 7.3 and will be undertaken in close collaboration with WP2.*

> *2. TRANSFORM should perform an assessment of its own project activities, outputs and outcomes, with due attention to the requirements of the Grant Agreement and the SwafS-14 call. This is our own project evaluation proper. It corresponds to WP7 Task 7.4 and is primarily an independent activity within the TRANSFORM project."* (D7.1: 7)

Purpose 3 (assessing impact pathways and "benefits") will be addressed in D7.4 due in Month 34 of the project. Purposes 4 and 5 (contributing with indicators and monitoring/evaluation practices for the use of regional actors) are cross-WP activities of the project that will be reported in due course of the project and fall beyond the scope of D7.2.

The monitoring in this report will therefore focus on the project activities that indicate or have led to mutual learning within the project and ask how these instances of learning have shaped the project. Furthermore, the monitoring will address learnings that go beyond the project as far as these are visible in this early phase of the project. To do so, this deliverable will draw on the notion of "double-loop learning".

2.2 Core principles of monitoring and evaluation in TRANSFORM

The monitoring approach was described in detail in D7.1. Here we will lay out the elements that are of particular importance to the monitoring report at hand and add some additional elements that were developed in the first two years of TRANSFORM. An updated monitoring report will be submitted as "D7.5 - The TRANSFORM Monitoring and Evaluation Guide, final version".

As explained in D7.1, RRI has been described as a boundary concept that enables different actors to collaborate and coordinate efforts in the absence of a unique definition or a uniform approach. This means that there is some degree of freedom with regard to which of its many aspects one wants to focus on. Therefore, measuring "responsibility" needs to take into account the particular situation in which RRI is applied, especially when focusing on the implementation of RRI on a regional level. On the other hand, there is a variety of reasons for why things should be observed, described, measured and counted; thus, TRANSFORM needs to be attentive to the grain of truth in the saying that "only what is counted counts." (Turnhout, Neves and de Lijster, 2014). The multiplicity of meanings of RRI means, however, that instruments for measurement, monitoring and evaluation

> *"cannot be pulled off the shelf for TRANSFORM purposes without a close consideration of what purposes the indicator or monitoring practice was intended for, and what descriptive and normative background assumptions it is based on." (D7.1: 12)*

Consequently, working in and with a project like this and monitoring its progress crucially is a reflective practice. This means that it is necessary to explicitly look for instances of reflexivity in which guiding assumptions are questioned and shifted. For the purpose of the monitoring report, we therefore rely on an evaluation approach the combines the notions of double loop learning for the project formation processes under Task 7.3 with the concept of translation and ecologies of participation.

To start with, it is necessary that TRANSFORM defines its own **understanding of and position towards RRI**. For being able to answer the question "how to monitor RRI?", we need to consider also the question "why monitor RRI?", which depends on the answers to the questions "why RRI?" and "what is RRI?"

The TRANSFORM consortium has discussed these questions, also involving the advisory board, and developed the following position towards RRI as described in D7.1:

> *TRANSFORM embraces a broad understanding of RRI. It includes the so-called 5 or 6 keys or policy issues of the European Commission, and also R&I policy and practice efforts to*

contribute to substantive values such as social justice, inclusion, and sustainability as broadly conceived (and therefore a more social and greener Europe).

TRANSFORM furthermore endorses the "AREA" (anticipate, reflect, engage, act) understanding of the process dimension of RRI (…).

In terms of the policy keys, TRANSFORM focuses on public engagement and governance, and has a less structured actions on science education, gender equality and ethics, even if initiatives dealing with these concepts could be part of the broader approach of the 3 territories on implementing RRI.

Finally, as a group of researchers, and as a group of clusters, TRANSFORM should expect and tolerate a diversity of descriptive and normative background assumptions on what problems RRI is meant to solve, and how it solves them. For instance, we do not need a consensus on the policy narratives of RRI as a solution to the Collingridge dilemma or a contribution to acceleration of innovation. In both cases we can agree on the purpose of RRI to contribute to the common good and to the need to better align the development of science and technology with the values, needs and concerns of society.

D7.1 also proposed to use the concept of **double-loop learning** and defined it as follows:

"Double-loop learning can be defined as learning that involves the questioning and revision of elements of one's own world-view. This can happen gradually or also take place as crucial moments: "I never thought of this before!" In the context of RRI, it can involve the doubt or breakdown of commonsensical or uncritical beliefs about science, truth, authority, expertise, technology, the functioning of the market, et cetera." (D7.1: 20)

Double-loop learning directs attention to processes and instances in which the implicit assumptions or mental models of actors engaged in a collective activity are put into question and potentially revised in a collaborative effort. This can, in turn, lead to a shift in the perception of the world (Schön, 1983; Hesjedal *et al.*, 2020). As such it relates to the AREA framework that frames responsibility as a combination of anticipation, reflection, engagement, and action. Especially when it comes to reflexivity, it is important to include the assumptions and value systems on which the work of a project like TRANSFORM is based into the practice of monitoring.

In that sense, double-loop learning forms part of a broader understanding of monitoring and evaluation to direct attention to the fact that also through monitoring and evaluation practices the concepts and practices of RRI themselves are being shaped. Therefore, it is necessary to stay attentive to the politics of indicator development and standardization of RRI through guidelines, tools and best practice models (Wickson and Carew, 2014; Wickson

and Forsberg, 2015; Strand, 2019). Continuous monitoring of our own double-loop learning is one way to do so.

For analysing and exploring RRI related needs in smart specialisation D7.1 pointed to the work of Fitjar, Benneworth and Asheim (2019) on the **integration of RRI with RIS3**. An idea that is closely connected to RRI and potentially communicates easier, is the notion of a **common good**. French sociologists Luc Boltanski and Laurent Thévenot (2006) identified six distinct conceptual frameworks that actors use to justify (or criticise) social action, that are connected through shared values (or "economies of worth"). These frameworks will be employed in the final analysis of research data to be reported in D7.4 and D7.5, together with normative frameworks to **evaluate the quality of participation** such as Arnstein (1969).

2.3 Additions to D7.1 - translation and ecologies of participation

Already the initial version of TRANSFORM's monitoring and evaluation guide D7.1 touches on the idea of "translation". For the purpose of this deliverable, we need to expand a bit on this notion. The idea of **translation** has recently gained some traction in the assessment of engagement activities. Studies of this kind are especially interested in the "travel" of standardized methods or tools for engagement (Soneryd, 2015; Soneryd and Amelung, 2016; Laurent, 2017; Konopásek, Soneryd and Svačina, 2018). For the deliverable at hand, Linda Soneryd's use of the notion for her analysis of engagement activities is the most relevant. Her work brings together a material-semiotic notion of translation with organizational sociology and focuses on how "technologies of participation" (Soneryd, 2015) get transformed in their practical application in different local setting. She starts from the insight that engagement tools, techniques and methods are not stable entities but instead are continuously re-shaped:

> *"When public participation instruments are situated in specific local contexts, however, their ideas, values, formal rules, and tools become remixed, giving rise to new meanings. (2016: 171)*

The way she uses translation the focus is on both (1) the shifts – "re-mixes" – in meaning of concepts like participation, citizen, expert and so on, and (2) the making and re-making of links between different actors thus directing attention to the political and organizational settings in which they are applied.

What is furthermore interesting and resonating with our work in TRANSFORM is her call for research into the performativity of engagement discourses. As she puts it,

> *"we need to treat this growing interest in public engagement instruments as a research object in its own right and potentially as a new organized space that changes the conditions for governance." (2016: 157).*

This points to questions about the work that RRI discursive practices and implementations are doing in different settings, who is doing this and with what consequences. The organizational settings of individual engagement activities are addressed through a focus on organizational carriers (organizations and networks) and normative and symbolic systems (e.g. shared beliefs and unquestioned dogma) as visible in ideological frames or institutional 'myths'.

This framing is closely tied to a co-productionist approach to the evaluation of participation and engagement processes captured in the notion of **"ecologies of participation"** (Chilvers and Kearnes, 2015; Chilvers, Pallett and Hargreaves, 2018). This means understanding participatory practices as part of particular institutional settings and issue spaces as well as embedded in certain legal frameworks, infrastructures, collective imaginaries, established social practices, and collective forms of public reason (Chilvers, Pallett, Hargreaves: 2018).

For the purpose of this report, a focus on translations of RRI within broader ecologies of participation has several advantages:

- It allows for moving beyond the assessment of individual engagement activities as "good" or "bad" and scoring, scaling or ranking them.

- It enables us to assess how techniques or methodologies of engagement shift and change when they are applied in a particular regional or territorial setting. In TRANSFORM we can assume that this happens on (at least) two levels:

  o The translation of RRI in Lombardy, Catalonia and Brussels through the Smart Specialisation Platform (S3 Platform): Which shape does RRI take in each region? What is the meaning of responsibility and in which relations is it embedded?

  o The translation of certain engagement techniques in these regions: How is citizen science translated in Catalonia? What is "design thinking" in Brussels? And, how is the method of "participatory research agenda setting" translated in Lombardia?

Hence, we see a double movement of translation, RRI is translated in a specific way in the clusters (through different methods/approaches) which in turn means that also these methods are translated as RRI in specific ways. Importantly, these shifts and changes are not random or arbitrary. They are entwined with the political and organizational contexts in the three different clusters.

2.4 The objects of monitoring

The monitoring for this deliverable focuses on the activities of the different TRANSFORM clusters and on the ecosystems (see chapter 2.3) in which these activities are embedded. To do so, we mainly draw on a series of evaluative conversations with members of the TRANSFORM clusters as well as on written documentation from the project itself as well as on policy documents related to the cluster activities and the respective regional research and innovation strategies. In addition, in continuation of D7.2 and in relation to task 7.3, the objects of monitoring focuses on a number of different instances or situations in which double-loop learning has occurred in TRANSFORM:

- The ongoing activities of the three different clusters are monitored through a combination of evaluative conversations, project internal reporting and an analysis of related policy documents. The activities include:

  o The interactions between Fondazione Giannino Bassetti (FGB), the Lombardy Region Directorate General for Research, Innovation, University, Export and Internationalisation of Enterprises ("Lombardy Region") and Finlombarda to embed RRI into the S3 plan of the Lombardy region; the development of the Strategic Three-Year Programme for Research, Innovation and Technology Transfer-Citizen engagement process.

  o The interactions between Science for Change (SfC), the Generalitat de Catalunya (GenCat) and the University of Barcelona (UB) to advance the implementation of RRI into the RIS3 of Catalunya and specifically to develop two citizen science pilots;

  o The interactions between BE participation, Innoviris, Université Catholique de Louvain (UCL) to develop and integrate ways in which design thinking can contribute to embed RRI aspects into research and innovation activities funded or foreseen to be funded by Innoviris;

- o All of this also including think tank activities and interactions and the various interactions of the clusters with project-external actors.

- Consortium meeting and inter-cluster WP2/WP7 meetings, which provide a window into internal learning processes *across* the different clusters of the consortium;

- Intra-cluster (i.e. cluster-specific) meetings, which allow to monitor cluster-internal learning processes *within* the different clusters of the consortium;

- The TRANSFORM mutual learning webinar series that has the explicit aim of capacity building.

2.5 Materials for assessment

The objects of monitoring (see section 2.4) have been monitored and assessed in accordance with the chosen methodological approach (sections 2.1-2.3) by analysing a number of different materials. The data were either gathered through evaluative conversations, direct participation in meetings, or provided by our consortium partners.

The material that builds the basis for this report includes (1) transcripts from evaluative conversations with cluster partners by members of the UiB team who travelled to the cluster partners during December 2021, (2) meeting minutes from both cross-cluster meetings and internal cluster meetings, (3) cluster progress reports and other documentation from the different clusters, and (4) related TRANSFORM deliverables such as D2.1-D2.4 and D5.1, and (5) relevant policy documents as provided by the clusters and described in D2.4.

Using translation as an overarching framework allows us to broaden the evaluative approach and add to a stance of assessment and evaluation methods that can be subsumed under the term "evaluative inquiry" (Fochler and De Rijcke, 2017) or from working with indicators to working on "indicating" (Marres and de Rijcke, 2020):

> "'Evaluative inquiries' are not solely structured along the lines of externalizing explanations and metrics. They are also capable of representing the heterogeneous associations and practices that constitute our work. (…) Evaluative inquiries perform a shift from a predominantly bureaucratic to more substantive modes of assessment. In this, a standardization of indicators and methods is less relevant than "staying with the trouble" (Haraway 2016); staying closer to the epistemic missions, frictions and resonances of the work under scrutiny." (Fochler & de Rijcke 2017: 34)

The evaluative conversations were conducted as semi-structured active interviews (Holstein and Gubrium, 1997) that combine elements of narrative and expert interviews (Silverman, 2006, 2009). Active interviewing in the sense of Holstein and Gubrium aims to create a space for reflexive discussion of engagement activities in the TRANSFORM project.

Interviews as well as group discussions were designed to enable an open conversation about the project partners experiences with trying to implement RRI in the different territorial clusters and with setting-up and conducting engagement activities. In addition to talking about the concrete cluster-activities, the conversations were also intended to stimulate reflections on their organizational-institutional settings.

Interview guides were prepared that consisted of the following broad sections:

- the current status of the activities in the cluster and the rationales for conducting these kinds of activities (implementing RRI and citizen science)

- the specific hurdles and resistances that you are facing in your work - practical as well as more systemic

- a historical perspective on RRI notion, i.e. your experiences with previous attempts of doing RRI and RRI-like work in the region (and how TRANSFORM relates to those)

- a future outlook and continuation of the TRANSFORM activities or its desired legacy respectively

The conversations lasted between 60-120 minutes and were audio recorded and transcribed for further processing.

2.6 Impact of the COVID-19 pandemic

Following the COVID-19 pandemic crisis that unfolded from March 2020 on, the TRANSFORM partners have had to adapt to the various restrictions imposed. To a very large extent, activities that had been foreseen as normal events taking place in physical locations have had to be converted to digital activities. This regards small and large project meetings, mutual learning activities, workshops, interviews, field studies and more. In many ways, the TRANSFORM project had to reinvent its practical day to day working methods and develop digital alternatives, as have many other projects and endeavours during the COVID-19 crisis. The situation has also impacted this deliverable The COVID-19 restrictions also imposed the need for methodological adaptations of WP7 work. Under normal circumstances, the UiB

researchers with the responsibility for the monitoring and evaluation would have performed several travels to each of the clusters to perform field studies and research interviews *in situ*. Only in December 2021 have we been able to conduct a minor field study. Until then, we have analysed written and recorded documentation and remote interviews and workshops. The partners of the Consortium have done their utmost to fulfil our methodological needs and we believe we can present valid and robust results.

3. Continuous monitoring for learning

The section reports on Task 7.3, the purpose of which is to support the development of the TRANSFORM project. To this purpose we have found it convenient to organise our findings thematically rather than chronologically or by site (clusters and inter-cluster settings). To the extent that it is useful, we will specify the site of the finding. This chapter is an update of the equivalent section of a previous, non-public deliverable D7.2.

3.1 Negotiation and learning while operationalising the project

Irrespective of the topic and content of any coordination and support action, learning will occur as it develops *qua* project from a proposal and grant agreement phase into the operational phase. Whereas many dimensions of this development are close to trivial and do not deserve specific mention, others can be noteworthy. Based on our analysis, we would like to make the following observations:

- Developing a common language and a shared understanding of central concepts. In the case of TRANSFORM, central concepts include RRI, participation, S3, regional actor, indicators, and others. In project meetings and inter-cluster activities we have observed a development from initial differences (e.g. misunderstandings or disagreements) to implicit and explicit negotiation of understandings, towards shared implicit or explicit working definitions, in particular with regard to the concept of RRI itself. We shall return to this point below.

- Developing relationships of trust and efficient communication between participants, in this case both within and between clusters. Under normal circumstances, work events where people get to meet in the same physical space play a major role in forming such relationships of trust. In the first period of TRANSFORM this has not been possible because of COVID-19 restrictions. Some partners of the consortium had prior established relationships of trust, whereas most had not. We observe that emphasis has been put on the social dimension of interactions during digital encounters. An example is to have shared meals during digital meetings. A less conspicuous but very important example is that of cultivating a friendly, inclusive and sociable atmosphere during digital encounters. We observe that in spite of the severe and prolonged stress

that the individual members of the consortium experience due to the COVID-19 restrictions, the limitations imposed by remote communication only, and external events such as the withdrawal of a consortium partner in 2020, relationships of trust and efficient communication have formed in a satisfactory way.

- Clarifying "what is it that we are going to do" is in one sense a trivial necessity of operationalizing a grant agreement. We observe in general that the management of expectations across the consortium, with the negotiations of and learning processes that are a normal part of project execution, is unfolding. For instance, there have been productive processes going on to align mutual expectations within and across clusters with respect to indicator and mapping approaches proposed by UiB and SfC for WP7 and WP2, respectively. Similar examples could have been presented for intra-cluster negotiations. This is a normal feature of the co-creation process.

We believe that all three observations bring evidence of normal project development but also draw attention to issues that deserve continuous attention in the project.

3.2 Negotiation and learning in TRANSFORM qua RRI action

RRI is an R&I policy principle that is used to instigate and motivate practices in R&I ecosystems that to some extent run counter to the normal institutional logic of those ecosystems. This feature RRI shares with its many relatives, precursors as well as co-existing principles, such as ethics, corporate social responsibility, ELSI/ELSA, participatory technology assessment, co-creation, etc. As a result, RRI actions and related endeavours typically give rise to some specific tensions that call for attention (Strand, 2019). Digital workshops and meetings with other SwafS-14 actions, coordinated as part of the RRI ecosystem efforts by the Horizon 2020 RIA SuperMoRRI[1], have confirmed that such tensions appear to be ubiquitous also for this set of actions. They include:

- The tension between the conceptual ambiguity of RRI and the need to be practical. In consortium meetings as well as inter- and intra-cluster meetings this tension has been observed. On one hand there is a need to present and discuss "what is RRI?", and on the other several project participants have previous experience that a meaningful content to RRI is better found through practice than theoretical

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[1] https://super-morri.eu/rri-ecosystem/

discussion. For instance, in webinars and project discussions we have observed that participants express the need to "get more practical". We have observed, however, a development towards a common language of RRI in the sense of the AREA framework and emphasis on certain RRI "keys" (notably public engagement and governance). Moreover, there has been a development towards appreciating the specificities of each cluster. For example, from the methodological perspective of the citizen science-oriented partners (Science for Change, UB), all the RRI "keys" can play a role as regulative normative principles in their practice, while the frame of understanding for the actions and actors closer to S3 policy work, is that the "keys" of public engagement and governance are constitutive to action.

- The tension between the different policy narratives of RRI[2], and in particular the potential tension between RRI as *steering* of innovation (at the possible expense of its acceleration) and RRI as means to *boost* innovation. We have not observed this tension to play out strongly in any of the clusters so far.

- The tension between ideal conceptions of RRI, participation, indicators, etc. and real constraints in terms of context and resources. As expected, such tensions became gradually more developed as the project moved into the operational phase. For instance, with respect to the RRI mapping exercise, Task 2.2, the tension between methodological ideals and what is doable within the given time frame and resource budget came up. While all projects may experience negotiations between ideals and the constraints of reality, such negotiations play out in a specific way in RRI actions because RRI can be seen as an ideal itself. Hence, there have been discussions about how to find solutions that will be "meaningful", "real RRI", "real participation" etc. In order for a solution to be meaningful, it has to be meaningful to the actors by which and for which it is deployed, hence the need to adapt it to the local context. On the other hand, the project has the ambition of drawing lessons across the three geographic clusters. We observe that a dialectic between local, cluster-specific co-creation learning processes and the inter-cluster learning process. We interpret the unresolved tensions between the ideals and the realities not as a problem to be solved and eliminated, but rather as a source of energy for that dialectic.

- The tension between local and regional needs and the European policy agenda. Finally, that same dialectic that was described in the previous paragraph also applies

[2] https://super-morri.eu/3-policy-narratives-for-rri/

to the relationship between the local/regional contexts of TRANSFORM and the policy agenda from which the project was funded, with its contractual obligations to support the SwafS work programme. While some of these tensions have been discussed, we have not observed them to play a strong and direct role so far, perhaps also because the SwafS work programme runs towards its end and the policy discourses to which RRI originally made a contribution, are developing.

3.3 Possible instances of double-loop learning

In the D7.1 monitoring and evaluation guide it was decided to dedicate attention to possible instances of double-loop learning as expressions of RRI advancement.

When analysing the materials for assessment (see section 2.4) we found little evidence of such instances. On the other hand, such evidence has been narrated in particular in intra-cluster WP2/WP7 meetings, as informal progress reports from cluster meetings, think tanks and other interactions in the cluster. They have been informally called "aha moments", where participants utter statements such as "Finally I understand what you mean by RRI", "Now I get your point", et cetera. Also, in individual research interviews and informal conversations we have been presented with examples of how actors come to an understanding of how RRI is not just "business as usual" but presents principles, ideas and practices that run counter to normal institutional logics in the R&I ecosystems.

Our hypothesis is that the relative scarcity of evidence of double-loop learning in the materials for assessment mainly is due to a bias, namely that the materials are focusing on agreements, decisions, achievements and plans, and were not prepared for our analytical purpose. The hypothesis is somewhat supported by indirect evidence, for instance oral emphasis on "real participation" (as opposed to perfunctory participation, in conversation with participants from the Lombardy cluster), "extreme citizen science" (as opposed to conventional and hence less-RRI citizen science, in materials from the Catalan cluster) and "what really works" (as opposed to what is claimed to work in research calls and proposals, in conversations with participants from the Brussels cluster). On the other hand, a first impression from research interviews with the central actors in TRANSFORM, also highlights the long-standing lines of action and interests into which TRANSFORM inscribes itself. While there may be double-loop learning related to RRI, at the same time, the core practices of for example citizen science or contributions to policy agenda-setting are not in any way new to the partners. We will continue to pursue this line of interest in the final project year.

Due to the travel restrictions imposed, the consortium has had no physical meetings across clusters. Moreover, the monitoring and evaluation partner (Uni Bergen) has not been able to participate physically in cluster meetings. Accordingly, the main source for data is "second hand" in the form of minutes from cluster meetings. By definition, the minutes involve a certain level of interpretation and adjustment for the purpose of clarity and consistency and conformity to the genre. They represent what has been discussed in the meetings and may show evidence of double-loop learning, but do not necessarily contain explicitly examples of such. To the extent, however, that the minutes documents have been used actively in planning and preparing for meetings as well as for developing ideas and tools (capacity building workshops, incubators, indicators etc.) in interim periods, the minutes themselves have been used by the clusters both as instruments of and sources for double-loop learning. When read across meetings, discussion on core ideas in the project, such as measurement of RRI by indicators, questions about the difference between more linear understandings of innovation (Godin, 2006; Pfotenhauer, Juhl and Aarden, 2019) as exemplified for example in the notion "incubator" and RRI, as well as the importance of a quadruple helix approach, and design thinking (among other things) seem to have led to a focus on upstream public engagement as the central RRI element in the planned activities.

One important learning point in the Brussels minutes is that the arguments for a more inclusive RRI-related public policy on the super-regional level do not necessarily convince on the regional level. There are clear signs of development in terms of double-loop learning in the way the idea of the Brussels cluster pilot project SPHERES is viewed as a tool for boosting the vision of service to society in innovation. This is tied to a corresponding development of the idea of design thinking as a tool for communication and integration of the different actors, and the idea that the methodology will be co-created drawing on the collective intelligence of concerned parties (actors). SPHERES is seen as a "quadruple-helix incubator" based in design thinking and at the service of regional "critical innovations" with a high potential to benefit from transdisciplinarity and a better understanding of their potential (societal) impacts.

Finally, while the COVID-19 pandemic posed and poses significant challenges to the project worked as we described above, we also observe instances of double-loop learning that can be ascribed to the altered conditions under which TRANSFORM has to operate. In various cross-cluster meetings the very notion of the project itself has been discussed and reflected. In these discussions the project members articulated and problematized implicit assumptions of how a project is supposed to work under "normal conditions". In that sense they make us re-think our routinized ways of doing things or as one project participant asked:

"What is worth keeping [from this altered way of working] and what not so much?" This happened on at least two levels:

- First, the temporalities of what is understood as a project were discussed. In the literature this is often referred to as an ongoing process of "projectification" (Torka, 2006) and describes ideas about the normal duration of projects and about what has to happen at what point with whom (Garforth and Cervinková, 2009). Such ideas, so the argument goes, tacitly govern how researchers plan and conduct projects and thus scientific knowledge production (including engagement processes) get increasingly framed and often narrowed down through such implicit assumptions. In one project meeting, a researcher mentioned that the COVID-19 pandemic led to a situation in which there is actually more "time to think" (Ylijoki and Mäntylä, 2003; Menzies and Newson, 2007) and engage in adaptive action.

- Secondly, the COVID situation brings to the forefront the politics of engagement and participation or what one cluster member referred to as "the problem of inclusion". Engagement processes are time-consuming and as such costly for many citizens. Procedures that in theory aim to "give voice" to certain actors, may thus lead to self-selection processes that can have the latent function of marginalization (Felt and Fochler, 2008). A very concrete example encountered is that it is possible to provide a babysitter for a group of parents when they all are in the same physical place for an engagement exercise. It becomes impossible when the exercise is performed as a zoom meeting. As a consequence, parents will be less inclined to sign up for such exercises.

4. Preliminary RRI assessment of activities and outcomes

This section reports on Task TRANSFORM 7.4, namely the assessment of project activities, outcomes and impacts. Any assessment of outcomes and impacts during a 3-year project is preliminary, uncertain and not particularly robust. This is even more so because of the previously explained impacts of COVID-19 restrictions. Accordingly, there is little reason to place too much emphasis on the reporting from Task 7.4 in this report. Still, we believe some insights are beginning to mature. We will report our assessment cluster by cluster before making some general observations.

4.1 Lombardy cluster

The aim of the Lombardy cluster is as described in TRANSFORM Deliverable 2.4 is

> co-designing the "Strategic Three-Year Programme for Research, Innovation and Technology Transfer" (from now on Strategic Programme for R&I) together with citizens and local stakeholders. The specific regional approach is participatory research agenda setting; thus, regarding governance structure, the specific focus is at the elaboration process of the key planning documents (see picture below), specifically the Three Years' Strategic Plan for research, innovation and technology transfer. (D2.4: 14)

Pilot activities

Regione Lombardia and Finlombarda together with FGB conducted a participatory agenda setting process. The objective was to engage the population in Lombardy in the definition of needs that are intended to provide the basis for the new Three Years Strategic Program for Research, Innovation and Technological Transfer (PST) 2021-2023.

This process involved a telephone and online survey among Lombardian citizens as well as an online workshop on just energy transition in Lombardy. The rationale behind this structure was to have a quantitative approach to collect data representing the Lombardy population and then to focus on a single topic through a qualitative process. The topic was selected

since the survey highlighted, that citizens are really sensitive to the issue of environmental sustainability and because of its relevance to EU, national and regional policies policymaking.

The survey was designed by FGB in dialogue with Regione Lombardia and Finlombarda and administered by an external agency to a representative sample of people living in Lombardy (approximately 1.000 people). Furthermore, the sample was calibrated by age, gender, and province of residence. This survey was followed up by deliberative workshop with the title "Just Energy Transition in Lombardy". Citizen recruitment and support in facilitation was again provided by an external agency. The workshop was organized online and brought together 18 participants that were divided into 3 groups for break-out sessions. It was a 1-day 8-hour workshop on a Saturday and was divided into an informative phase (consisting of an intro, info video, expert presentation, and a Q&A session), a discussion and time for the elaboration of recommendations. Participants were also asked to fill out an evaluation form before leaving.

Currently, the regional cluster partners are in preparation for a potential citizen assembly on AI.

The Lombardy R&I Ecosystem

Overall, there is a close and well-established culture of collaboration between the partners in this cluster. There is a clear understanding of the roles of the different organizational actors and the overall objectives of their collaboration both in terms of the separate organizations' interests but also regarding the overall objective of stabilizing a nascent culture of responsible research and innovation. In this particular region this takes the shape of an R&I governance that increasingly relies on novel forms of deliberative democracy such as participatory agenda setting and citizen assemblies.

The successful collaboration in part can be attributed to FGB's place in the regional R&I ecosystem. FGB was established in 1994 and became a so-called "Fondazione di Partecipazione in 2016. Already the initial mission statement of FGB mentions a version of responsible innovation and states as its aim to "create a new and renewed awareness around the memory of a precedent, a modern and widespread sense of social, civil and political responsibility amongst those who innovate".[3]

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[3] https://www.fondazionebassetti.org/it/pagine/2016/05/la_fondazione_giannino_bassetti.html, accessed January 14, 2022.

From the beginning there was a close connection between FGB and the regional administration as its founder Piero Bassetti was also the first President of the Lombardy Region from 1970 to 1974 and continued to be an important political figure in Italy.

More recently, FGB played a consulting role when the region wanted to give RRI a better legal foundation within regional governance. This led to RRI being part of the so called "Legge Regionale 23 novembre 2016, n. 29", stating that in order to strengthen regional innovation and the competitiveness of the system a culture of responsible research and innovation needs to be established through the dissemination of and experimentation with innovative methods and processes. This law also provides the legal basis for the "Forum for Research and Innovation" which has an advising function. FGB is formally recognized as a supporting body to this forum.

Preliminary Assessment after the 2nd year

Entering the third year of TRANSFORM the activities of the Lombardy cluster are proceeding according to plan. The participatory agenda setting process was conducted in collaboration between FGB, Regione Lombardia and Finlombarda and involved Lombardian citizens in different ways.

In terms of RRI, the major contribution and success of the Lombardy cluster, however, is the ongoing work on institutionalizing elements of deliberative governance of innovation in how the regional administration is thinking and working. Through the longstanding collaboration between the different cluster partners there is a continuous development of participatory and deliberative activities in the region, the next step being plans for establishing a citizen assembly on AI. As Stilgoe wrote in a policy brief for the European Commission: "Responsible Research and Innovation means changing the cultures and practices of science, business and policy." (Stilgoe, 2018) Long-term sustainable collaborations like the one seen in the Lombardy cluster are necessary to achieve these kinds of cultural shifts in R&I governance.

4.2 The Catalan cluster

TRANSFORM Deliverable 2.4 offered a succinct description of the activities of the Catalan cluster of this project:

The aim of the Catalonia Region in TRANSFORM is to incorporate citizen science as a means of integrating RRI into Catalonia's RIS3CAT 2021-2027, its instruments and the actors of the Catalan R&I ecosystem. TRANSFORM offers an experimentation space that allows the Catalan Government to explore how citizen science could be integrated in RIS3CAT.

For this purpose, Catalonia Region is developing two citizen science pilot projects in the fields of waste and health. In addition to the pilot projects, the Catalan cluster is developing participatory webinars with the members of the Think Tank with the aim of increasing knowledge about RRI and citizen science and boost the generation of future new projects based on a collaborative framework between stakeholders.

Pilot activities

The Pilot on Improved Waste Collection in Mollet del Vallès

One of the Catalan pilots consists of a citizen science approach in which young citizens (secondary school pupils) in Mollet del Vallès collaborate with several departments of the municipality with the aim to improve local waste collection practices. In terms of RRI, the pilot aims to align the technical waste collection system better with the values, needs and demands of the local population. The role of the young participants is above all to serve as ambassadors and gate openers to the wider population of the town. The data collection phase of the pilot, in which citizens' values and needs will be documented, is to come in 2022. However, in our assessment, the pilot has already achieved RRI outcomes very much in the line of the Catalan approach to TRANSFORM, in the sense of improved transversal communication and collaboration in the municipality of Mollet del Vallès, between the technical, financial and educational services. This is a valuable and promising example of RRI implemented at the level of knowledge production at the community level and not necessarily hi-tech academe (while still profiting from innovative use of ICTs, in the development of an interactive "waste game").

The Pilot on Endometriosis

Based on the interactions and ideas that emerged in the Think Tank (see below), an additional pilot was defined on citizen science on endometriosis, with patients, medical staff at Hospital Sant Pau in Barcelona, and the Catalan Agency for Health Quality and Assessment. The projected material outcome of the pilot is a set of recommendations to inform a new

protocol for endometriosis care in Catalonia. This outcome is expected to be achieved in 2022. However, as in the case of the waste pilot, also this pilot is achieving RRI outcomes already in the sense of capacity-building and improved transversal communication and collaboration, in this case, between public administration, health personnel and patients.

The Catalan R&I Ecosystem

The R&I ecosystem in Catalonia is – as in Lombardy and the BCR – vast. Indeed, a feature of TRANSFORM is that it works within European regions with well-developed R&I sectors. TRANSFORM does not engage with this ecosystem in its entirety. To stay with the ecological metaphor, TRANSFORM engages with a part of an *ecological network* within this ecosystem that centres around, on one hand, the Catalan General Directorate of Economic Promotion and Regulation and its transformative innovation policy work, and on the other, the Catalan research and practice environment for citizen science, represented in TRANSFORM by the enterprise Science for Change and the Open Systems research group at the University of Barcelona. TRANSFORM works through this ecological network and at the same time a project through which actors in the network can work. We will return to this point below.

The Think Tank

A main element of the TRANSFORM project in Catalonia is the establishment of a Catalan RRI Think Tank with more than 50 representatives from regional and local policy-making organisations, companies and academic organisations belonging to the Catalan R&I ecosystem. It has had extensive activities with (online-based) meetings and webinars, with an initial focus on build capacity and interest in RRI and gradually to map and develop common interests for RRI activities. Indeed, the definition of the content of the pilots can also in part be seen as an outcome from the Think Tank activities. It is our assessment that the Think Tank has led to increased awareness and knowledge of RRI and participatory methodologies among its members. This is corroborated by documentation from the webinars and meetings in the Think Tank. It is likely that this outcome has a further impact on the level of RRI awareness and knowledge in the wider ecosystem, since these representatives can be expected to inform colleagues and other actors.

Importantly, though, the Think Tank is also an initiative to promote RRI more directly by connecting representatives of institutional actors across the R&I ecosystem. This approach is true to the Catalan S3 strategy, the so-called RIS3CAT. This approach, developed within the

Catalan General Directorate of Economic Promotion and Regulation, has its theoretical foundation in transformative innovation policy, and it employs S3 instruments with the aim of unleashing innovation potential by improved connectivity and new patterns of collaboration within the quadruple helix. From the perspective of RIS3CAT, the TRANSFORM Think Tank has been a valuable initiative in that very sense. To employ the ecological metaphors above, the Think Tank has served to extend the relevant ecological network and fortify its transformative character.

Preliminary Assessment after the 2ⁿᵈ year

Overall, at the entry of the third and final year of the official project life of TRANSFORM, we can conclude that the pilots and the Think Tank activities are progressing well. Ambitions and achievements are in fact surpassing what was foreseen in the TRANSFORM DoA. The Think Tank has become a larger activity than originally foreseen and two pilots were launched rather than one, which was the original plan.

The major RRI achievements can be described with two categories. First, there is the more immediate one, which is capacity-building and deployment of citizen science methodologies within the Catalan R&I ecosystem. Secondly, TRANSFORM contributes to richer transversal communication and collaborations within the ecosystem, in particular by new involvements of public administration services in innovation activities and networks. As such, TRANSFORM contributes to the realization of the RIS3CAT transformative innovation strategy. In terms of the increasingly obsolete MoRRI indicators, the contributions can be classified as pertaining to RRI aspects addressed by GOV2 and PE-indicators such as PE2, 5, 7 and 10. As often is the case with regional RRI work, however, none of the contributions could have been detected with the standard deployment of these indicators.

4.2 Brussels-Capital Region cluster

The Brussels-Capital Region (BCR) cluster works through three distinct pilot projects. The main objective of the cluster activities is laid out in D2.4.:

> *The objective of Brussels cluster in TRANSFORM is to experiment with participatory methodologies and demonstrate their potential, so that they can be presented as case studies for other R&I programmes and tools in a cross-cutting manner. (D2.4: 25)*

Pilot activities

There are several pilot projects in the BCR. BE Participation is leading pilots on water sensors and food re-use, while UC Louvain works on a pilot concerned with food processing in a circular economy.

The Pilot "Spheres"

The pilots in this cluster address different issues yet are connected through the overarching approach of providing RRI support to projects via the so-called "Spheres – Collective Intelligence in Innovation" process. This process was developed collaboratively by the Brussels cluster partners and provides a framework to "implement open and inclusive processes to better connect local research and innovation (R&I) to societal needs while involving 4-helix stakeholders." (D5.1: 23) The main objective of the Spheres process is "to provide concrete examples of RRI and its benefits, which can be useful to the BCR to replicate and embed in the future." (ibid.) In conversations with the cluster partners, Spheres was talked about in terms of a "vehicle", "dispositive", "tool" or a "service" with the aim to select a number of research and innovation projects, analyse them through the lens of RRI and to support these projects based on the needs identified in the analysis. This is done by applying a set of protocols developed in this pilot. In addition, the pilots are intended to demonstrate an "added value" of RRI to the innovators involved. The longer-term objective to institutionalize this pilot as a mechanism to support a "360-degree view of innovation" clearly speaks to the MoRRI performance indicators GOV2 and PE-indicators such as PE5 and 7.

The Pilot on Water Sensors

One of the pilots in the Brussels cluster is collaborating with a research and innovation PhD project situated at UC Louvain, which focuses on the management of the water cycle through a tool for the measurement of water quality. This innovation is framed as a response to the need for water quality security. The aim is to create a tool that is accessible, cheap, easy to use and adaptable to a number of potential use cases (for more detail see D5.1). The overall aim in terms of TRANSFORM project goals is to produce a case example of how to apply RRI principles and methodologies to a particular case of applied research or innovation.

The cluster partners collaborate with developers in order to address the RRI dimensions of developers' work. This was done mainly through workshops to discuss the design and

potential uses of these sensors. These workshops were at the same time designed to test and further developed the Spheres approach.

In a first step, BE Participation organized a workshop with actors from the private sector, the academic sector, from civil society, and from public organisations. This is referred to as a "quadruple helix workshop". These workshops consisted of a presentation of the Spheres approach, an introduction to the water sensors by the developers, and a subsequent discussion of the potentials and ethical implications. The developers were there to explain their work and to illustrate how this could work in conjunction with the Spheres approach.

The feedback in the workshop pointed to issues such as data validation and interpretation, data use and privacy, imagined users and citizen trust, and issues of transparency

In addition, a workshop with citizens was organized, which followed a different methodology in that it focused on people's perceptions of water and their lived experience with water. This was done in two 2-hour online sessions with citizens. In these sessions citizen's perceptions of citizens of water in Brussels was discussed and potential tools for measuring water quality were sketched. The objective of this collaboration between BE Participation and the water sensor developers was to showcase

- how to do quadruple helix involvement and citizen involvement

- the added value for developers and their project.

The Pilot on Circular Food

UC Louvain is working on food processing and food re-use within a circular economy framing. The pilot is connected to a PhD project at UC Louvain that works on the re-use of high-quality CO_2 to grow food. It uses the Spheres protocols to provide an RRI-informed analysis of the innovation and offer support in its further development.

Currently this pilot is in the planning phase for a citizen workshop in March or April in which citizens will discuss (1) the needs of the population regarding food re-use, (2) co-design a prototype dealing with the issue, and (3) co-create solutions for the identified problems and needs.

The Pilot on Food Re-use in the No Javel! Initiative

At the time of writing this report, Be Participation is in the process of setting up a third pilot project, which will be carried out between January and July 2022. This project will tackle the issue of food waste and food re-use through an initiative called "No Javel!" This initiative is created and managed completely by citizens. The plan is to support the initiative through the organization of a quadruple-helix stakeholder engagement process with the aim to make the initiative sustainable in the long-term.

The Brussels R&I Ecosystem

Innoviris is the cluster partner representing the regional administration and government. This is a government agency responsible for the implementation of the regional R&I strategy and connected to that also for the "renovation of its [the Brussels-Capital Region; TV] S3 planning for the period 2021-2027." (D5.1: 7). At the same time Innoviris is also a research funding organization focusing on applied research. It describes itself as

> the public organisation that funds and supports research and innovation in the Brussels-Capital Region.[4]

RRI is present mainly in one of Innoviris' funding programs called Co-Creation, which focuses of co-creation research in the area of urban development.[5] Deliverable D2.4 describes this funding program as follows: "since 2015 Innoviris has supported, through the Co-Creation action, the exploration, experimentation and production of co-created knowledge for urban resilience. It hosts over 24 small projects ranging from urban agriculture to fight for equality to energy management practices and presents a platform to connect, search for resources or present ideas." (D2.4: 27). This program also includes a participatory evaluation of research proposals. The contribution of TRANSFORM is framed in terms of its potential assessment of projects in this line of funding and in supporting Innoviris to show the added value of RRI approaches for research and innovation projects.

The BCR R&I system during the duration of TRANSFORM so far is characterized by several changes regarding the individual, organizational and political actors partnering BE Participation and UC Louvain. In the beginning of the project, there was a phase of negotiation

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[4] https://innoviris.brussels/mission-vision; accessed January 13, 2022

[5] https://innoviris.brussels/program/co-creation, accessed January 13, 2022

regarding the government agency that would be the local partner in this cluster. A number of options were with discussed with Innoviris finally deciding that they would be the most fitting partner in this case. Shifts in the regional government together with the Covid-19 pandemic additionally led to some changes of personnel, unforeseen delays in hiring processes, and subsequently to a situation that made it difficult for Innoviris to provide consistent support.

Preliminary Assessment after the 2nd year

At this point in the project, we can assess that there have been some shifts in the activities that can be ascribed to both a highly dynamic R&I ecosystem and the lingering effects of the COVID-19 pandemic. Nonetheless, the activities of the Brussels cluster are moving forward and promise to yield some interesting outcomes.

The development, experimenting with and testing of the Spheres pilot is ongoing and several workshops have been conducted in that regard. The ambition to further develop and institutionalize this pilot clearly resonates with the intent captured in the GOV2 indicator. The cluster activities (currently ongoing and planned for the final year of the project) cover a broad range of models, aims and objectives from regional development projects to the co-creation of innovations and discussions at the R&I governance level through the involvement of Innoviris and the (planned) involvement of projects funded by Innoviris in the Spheres pilot. This clearly speaks to the indicators PE2, 5, 7, 8 and 9.

4.4 Comparative perspective on cluster specific translations of RRI

Assessing the activities in TRANSFORM through the prism of translation directs our attention to the site-specific aspects of the project work. It makes us ask how the idea of responsible research and innovations travels between different scales from the transnational to the regional, but also between different regions and between different sectors of society. The important point here is that the focus is less on questions about the correct implementation of RRI and more on how RRI has been implemented and why it has been implemented in a particular way. It is in that sense that the notion of translation highlights shifts in meaning but also the creation of new links and connections (Soneryd and Amelung, 2016). Such a

translational perspective corresponds to the themes addressed through the MoRRI indicator GOV2 and to a number of the PE-indicators.

At this point we can offer some preliminary assessments on the specificities of the different clusters and their respective R&I ecosystems. A more detailed analysis will be provided in future deliverables.

What is noteworthy at this stage of the project is that RRI indeed takes a number of different shapes in the TRANSFORM clusters. The interesting thing, however, is not simply the fact THAT the translations of RRI are different, but HOW they do so. The Lombardy cluster is built on a close collaboration with partners form the administrative sector. The transformative objective of this cluster correspondingly addresses the governance level and build towards testing and stabilizing methods like participatory agenda setting and citizen assemblies as more permanent tools of R&I governance in addition to the more traditional methods like consultations. This work is predicated upon a longstanding relation between FGB and the regional administration and promises to have some significant long-term impact as pertains to a shift in the regional research and innovation culture.

In the Catalan cluster the activities focus more on citizen science inspired approaches in their work on waste collection systems and endometriosis. At the same time, however, through the collaboration with the Catalan General Directorate of Economic Promotion and Regulation TRANSFORM contributes to the realization of the RIS3CAT transformative innovation strategy. Similar to the Lombardy pilot, this work towards more RRI oriented R&I cultures is at the same time based on pre-existing networks (with both the regional administration and the Catalan research and practice community for citizen science) while at the same time contributing to the creation of new transversal relations and links between administrative entities, certain issues, and governance approaches.

The activities of the Brussels cluster express several different translations of RRI which corresponds to the dynamic relation to the BCR R&I ecosystem. While the Spheres pilot, developed in collaboration between BE Participation, UC Louvain and Innoviris, aims at transformations in regional R&I governance system as well as in the academic sector, other pilots in this cluster translate RRI in terms or bottom-up citizen science or participatory urban development. The collaboration with Innoviris makes it possible for this cluster to aim for shifts in the ex-ante evaluation of R&I project which corresponds to the MoRRI PE indicators focusing on evaluation criteria.

4.5 Impacts and benefits – Preliminary assessment after the 2nd project year
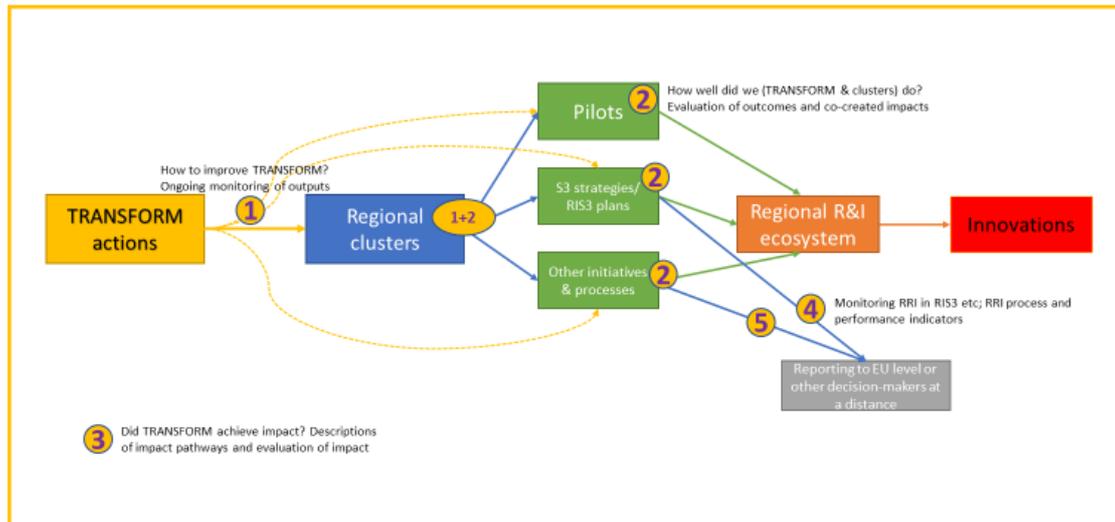
The figure above is taken from TRANSFORM deliverable D7.1, our monitoring and evaluation guide, and it attempts at positing a causal narrative for the impact pathways of TRANSFORM. A rigorous analysis will only be possible in the final evaluation reports, D7.4 and D7.5, of outcomes, impact pathways and "RRI benefits" of the TRANSFORM project. We believe, however, that we can state an important finding already now, with respect to the figure above. In that figure, we imagined (only) parallel impacts from TRANSFORM pilots and policy work onto the R&I ecosystem. We can already now state evidence of **synergetic interactions** between pilots and the development of S3/RIS3 strategic work. One way of describing the synergetic relationship, is to notice that it makes sense to describe work in both directions: TRANSFORM RRI pilots contribute to development of RIS3 at the level of public administration. But it also makes sense to say that public administrations develop RIS3 through the TRANSFORM pilots. We believe that the existence of such synergetic relationships might be an important condition for success and will return to this issue in the final report. As noted above, in terms of aspects of RRI, TRANSFORM casts light upon RRI achievements within the domains that MoRRI indicators GOV2 and PEx (including PE2, PE5, PE7 and PE10) were intended to measure.

As for the issue of "RRI benefits", this will be the subject of a dedicated deliverable (D7.5) at Month 36. There is so far no sound, peer-reviewed methodology published for assessment of RRI benefits. However, the Horizon 2020 RIA "SuperMoRRI" is at the time of writing (January

2022) in its final stages of publishing a report on RRI benefit methodology, and TRANSFORM is closely liaising with SuperMoRRI. In line with their ongoing work, we may define the ascription of "RRI benefit" as the act of giving an outcome or impact a positive assessment by applying a certain normative viewpoint. Accordingly, "RRI benefits" do not exist independently of the normative viewpoints from which they are identified. In D7.1, we described several frameworks for such normative viewpoints, including Boltanski's and Thevenot's descriptive typology of orders of worth, and the more explicitly normative typologies often encountered in the RRI literature, including the AREA framework and Arnstein's ladder of participation. What we may say at this stage, is that from an Arnstein-like perspective, that is, a perspective that highlights the shortcomings of current representative democracy and the affordances of cultures and practices of deliberative democracy, we can already identify **democratic RRI benefits** of TRANSFORM. These include the contribution of deliberative methodologies in Lombardy (specifically the plan for a citizen assembly on AI) and the contributions to transversal communication and collaboration in the quadruple helix in Catalonia, with the profound involvement of Catalan public administration. Social RRI benefits remain to be assessed, while we find it unlikely that economic or scientific benefits can be ascribed to TRANSFORM within its project lifetime. A timeline of three years is very short in this regard.

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