



Embedding RRI in regional R&I governance structures: the TRANSFORM experience

Report



TRANSFORM

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1. Introduction

This document constitutes the analysis of changes in the R&I governance structure of the three regions (Lombardy, Brussels-capital and Catalonia) that can be attributed to their participation in the TRANSFORM project. This exercise responds to a voluntary commitment made by the TRANSFORM partners to analyse at the end of the project the changes that have taken place in the regional R&I governance structures with respect to the first RRI mapping exercise (WP2, T2.2, D2.4: Regional Responsible Research and Innovation (RRI) Maps). Therefore, the present document is complementary to “D2.4: Regional Responsible Research and Innovation (RRI) Maps”. For a greater reflection on TRANSFORM impacts see “D7.4 Impact Pathways for RRI Initiatives in Regional R&I Ecosystems”.

The aim of the first document was mainly to draw a snapshot of the (pre-TRANSFORM) state of integration of the Responsible Research and Innovation (RRI) in the R&I governance structure of the three regions, with 2 purposes: 1) to serve as a baselining for subsequently (currently) showing the impact of TRANSFORM activities; 2) to bring to light possibilities for mutual learning between regions, taking into account the different methodological approaches used in each region. The present document therefore complements this previous analysis and shows the current picture of the R&I governance structure of each region in relation to the particular methodology each region has experimented with (and the particular element of the governance structure where each methodology applies).

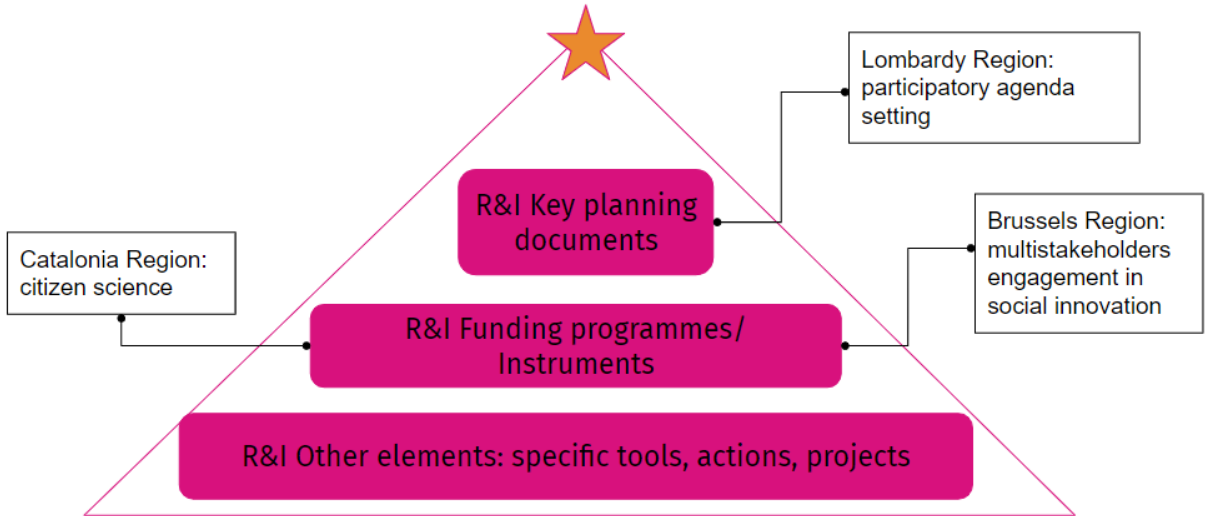


Figure 1. Relationship between the methodology used by each region and the element of the R&I governance structure in which it is applied (foreseen at the beginning of the project).

The aim of TRANSFORM is not to generate a global change in the entire governance structure or in the entire R&I ecosystem, but to experiment with specific citizen participation methodologies (which have or may have an impact on specific elements of the structure and the ecosystem itself). Therefore, given that the purpose of this document is to show these impacts, although in the first analysis all the different elements of the governance structure of each region (key planning documents, R&I instruments and programmes and other elements) were studied, in the present analysis only those elements of the governance structure in which the impacts of TRANSFORM in each region are expected to be seen will be studied.



2. Objectives

The objectives of this analysis are the following:

- Show the efforts which TRANSFORM regional clusters have performed towards including and improving public participation within R&I activities and funding.
- Show the different specific methodological approaches in the 3 regions and the different elements of the regional R&I governance structure where these methodologies have produced positive impacts.

3. Methodology of analysis

For the present analysis, a similar methodology has been used as in “D2.4: Regional Responsible Research and Innovation (RRI) Maps”, but with differential elements.

On the one hand, the present analysis is based, as in the previous case, on the study of the formal aspects cited in the planning and implementation documents of R&I policies in the three TRANSFORM regions; therefore, as in the previous analysis, the regional partners have been asked to fill in and send a policy inventory reflecting the new S3 key planning and implementation documents that could serve as a basis for the analysis. However, in cases where impacts have not (or not yet) been reflected in these official documents, alternative or complementary documents have been used. The documents analysed in each case will be noted in the chapter corresponding to each region.

In terms of the analysis itself, the previous exercise was based entirely on keyword research to show how and to what extent the public participation dimension was being captured in R&I planning and implementation documents in each region. In the present exercise, the elements of analysis are diverse and therefore not limited to keyword analysis. What has been looked for in the documents analysed is:

- References to the TRANSFORM project in official documents
- Results of participatory processes that have been incorporated into concrete policies or calls for proposals.
- Statements by stakeholders on commitments/actions to be developed in the future.

4. Lombardy region RRI map

4.1 Approach used for the second mapping exercise for the Lombardy region

As expressed in the “D2.4: Regional Responsible Research and Innovation (RRI) Maps”, within TRANSFORM, Lombardy region has been working on co-designing the “Strategic Three-Year Programme for Research, Innovation and Technology Transfer” (from now on PST) together with citizens. The specific regional approach used has been participatory research agenda-setting; thus, regarding the governance structure, the efforts have been focused on influencing the R&I governance structure in one particular aspect: the process of elaboration of the key planning documents (see picture below), mainly the PST.

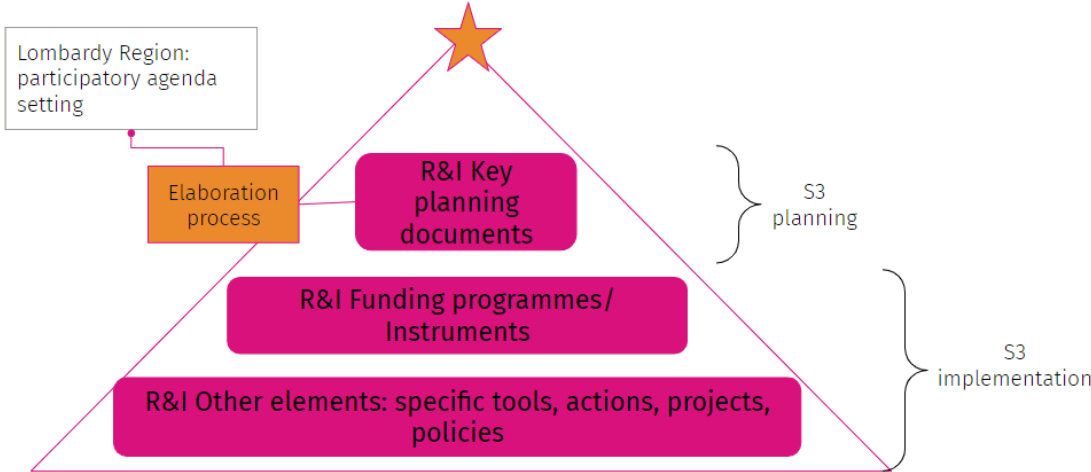


Figure 2. Participatory methodology implemented by the Lombardy cluster and expected impacted area

Furthermore, as the analysis will show, the effect of the Lombardy Region's activities within TRANSFORM has gone beyond what previously foreseen, also influencing the regional S3 itself and the S3 implementation process (specifically regarding policies on Regional Smart mobility and Artificial Intelligence).

The documents used to perform this second mapping exercise of the Lombardy cluster activities and impacts have been:

- The [Three Years' Strategic Plan for Research, Innovation, and Technological Transfer \(PST\) 2021-2023](#)
- The [Regional Smart Specialization Strategy 2021-2027 \(S3\)](#)
- The “D3.2 Strategic Roadmaps for the implementation and support of territorial RRI through Participatory Research Agenda Setting within S3 priorities”.

4.2 Second RRI mapping exercise for the Lombardy region

4.2.1 Coming from the past: the elaboration processes of the key R&I planning documents in Lombardy Region before TRANSFORM

The Lombardy Regional government sets the strategic research and innovation policy priorities mainly through two planning documents: the Smart Specialisation Strategy (S3) and the Three Years Strategic Programme for Research, Innovation and Technological Transfer.

In “D2.4: Regional Responsible Research and Innovation (RRI) Maps” the elaboration processes of the key R&I planning documents that had been approved to date were analysed (the S3 2014-2020, The S3 2021-2027 and the 2018-2020 Strategic Programme for R&I).

The main conclusion of this analysis was that, although all key R&I planning documents had gone through a public consultation process (as is mandatory in this type of procedure), there was room for improvement when it came to integrating the public in the process. As usual, this type of public consultation draws the attention of very specific sectors, specifically actors directly (professionally) linked to the R&I ecosystem (companies, universities, technology centres, etc.). However, these procedures do not usually integrate the general public in a comprehensive and effective way. In fact, in the results of one of these public consultation procedures, 78% of the respondents expressed that citizens should be involved in the co-design of R&I priorities. In this sense, the research agenda-setting methodology aimed to contribute to alleviate this situation by offering an innovative methodology for citizen participation that can be incorporated by the region and applied in future procedures.

4.2.2 Methodology & Activities carried out within TRANSFORM

As stated above, the methodology used has been agenda-setting research and the activities finally carried out have gone beyond influencing the process of elaboration of the new TSP. The activities carried out using this methodology can be divided into 2: 1) activities aimed at informing the elaboration of the new TSP (S3 planning); 2) activities aimed at informing specific policies (S3 implementation).

4.2.2.1 Activities devoted to inform the PST 2021-2023 (S3 planning)

- **Survey (From Fall 2020 to Spring 2021): influencing PST as a whole**

The objective of the survey was the identification of citizens' needs, to which research and innovation should try to provide answers with technological and knowledge solutions and options. The questionnaire, designed by Giannino Bassetti Foundation in dialogue with Lombardy Region and Finlombarda, was administered to a sample of 1002 people. The sample, representative of Lombardy population, was composed of adults (more than 18 years old) living in Lombardy and calibrated by age, gender and province of residence. The goal was to broaden the participation to different segments of the population, guaranteeing that the sample was truly representative of citizens in Lombardy.

All the results have been published and can be retrievable on the section devoted to TRANSFORM in the Lombardy regions' Open Innovation portal.

- **Online deliberative workshop (From Fall 2020 to Spring 2021): influencing a specific section (Sustainability Ecosystem) of the PST**

Based on the results of the survey, it was evident that the topics regarding the broader field of sustainability were priorities for Lombardy's citizens. For this reason, in selecting the focus of the deliberative workshop, it was decided to focus on this domain, specifically in the topic of "Fair energy transition for all": the objective was to combine technical and scientific aspects with social implications unavoidable in this context, to embrace the sustainability theme in a comprehensive way (also including its social dimension) and not only in a merely environmental meaning.

A sample of 18 citizens residing in Lombardy participated in the workshop, selected randomly but stratified by gender, province of residence and age. Even if the small number of participants cannot obviously be representative of the entire reference population involved in the deliberative exercise, the search for a diversity of voices, according to the parameters

presented above, ensures heterogeneity of experiences and personal and professional paths, as well as geographical contexts, necessary for the success of these interventions of citizen engagement.

4.2.2.2 Activities devoted to inform specific policies (S3 Implementation)

- **Citizens' Jury (from October 2021 to June 2022): Data-driven Smart Mobility policies.**

In order to foster a development of mobility that is aligned with the needs and characteristics of the region, Lombardy Region drew up the 'Smart Mobility and Artificial Intelligence' strategy in 2020. To build a shared vision and plan activities, the Lombardy government consulted regional players active in the sector - such as research institutions, companies, and civil society organisations - and identified four priority action areas, including 'connectivity and data'.

The Citizens' Jury, organised in Lombardy as the final part of the TRANSFORM project, was thus meant to identify the responsibility-related issues linked to smart (data-driven) mobility directly from the voice of citizens. The final aim of the Citizens' Jury was to provide Lombardy Region with recommendations for developing services in this area that are as close as possible to citizens' expectations, needs and values.

In the Lombardy Citizens' Jury the jurors met for two full days, on 11 and 25 June 2022. The Jury was attended by 24 citizens on the first day and by 22 citizens on the second day, all of them were over 18 and resided in Lombardy. The 22 citizens who gathered for the second day had also taken part in the first one. The sample was balanced by gender, age and province of residence. The selected group was mixed also in terms of other socio-demographic factors, such as income and educational qualification, to ensure a diversity of voices and a heterogeneity of experiences and points of view, which are needed to guarantee a proper implementation of the initiative.

4.2.3 The impacts of TRANSFORM on the R&I governance structure of the Lombardy Region

As can be seen in the following figure (and will be explained below) the impact of TRANSFORM activities has not been limited to the process of elaboration of the new PST (as originally

planned) but impacts can also be observed on the S3 itself and on a specific policy that corresponds to the implementation of the S3.

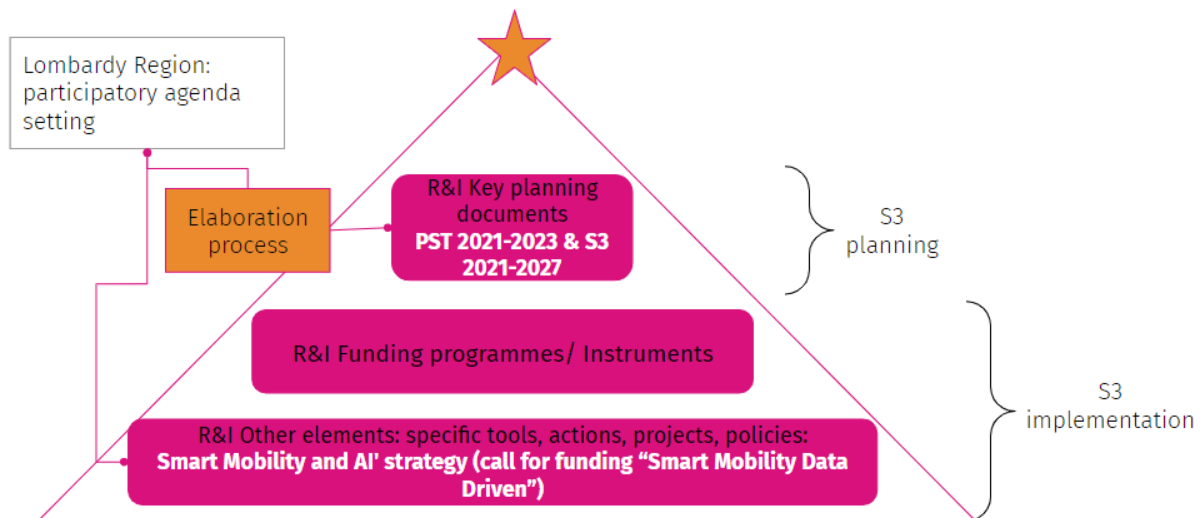


Figure 3. Impacts of TRANSFORM on different elements of the R&I governance structure in the Lombardy region

4.2.3.1 Impact of TRANSFORM on the Three Years' Strategic Program for Research, Innovation, and Technology Transfer (PST) (2021-2023) and connected documents

As extensively described in “D3.2 Strategic Roadmaps for the implementation and support of territorial RRI through Participatory Research Agenda Setting within S3 priorities”, thanks to TRANSFORM, Lombardy Region has reinforced its commitment towards RRI by adopting more solid citizens engagement models, to include public views, needs and expectations in the design of the Program. The importance of TRANSFORM in the design of PST is revealed from the first chapter of the Program, in which the project is presented in a specific box devoted to RRI and public participation and the participatory process is described into details (paragraph 1.1 Percorso partecipativo strutturato).

The participatory activities conducted by TRANSFORM from April to May 2021 were intended to identify directly from the voice of citizens' the public and territorial needs that are at the basis of the regional R&I ecosystems described in the PST¹.

¹ “I bisogni dei cittadini attorno ai quali si formano gli ecosistemi, rilevati in precedenza da studi ed esperienze degli stakeholder e dei policymaker regionali, sono stati confermati dagli esiti del coinvolgimento diretto di un campione rappresentativo dei cittadini lombardi, grazie al progetto TRANSFORM. Questo conferma in maniera chiara che questi bisogni sono effettivamente presenti e fortemente percepiti prioritari per il territorio lombardo, così da tracciare un percorso di continuità con la consapevolezza di corrispondenza con le reali opinioni dei cittadini.”

TRANSFORM actions are described in chapter 3 of the Program and the outcomes of the dialogue with citizens have been included in the description of the needs at the basis of each ecosystem (the project results were particularly significant for the “Sustainability Ecosystem”, being the TRANSFORM deliberative workshop focused on just energy transition for all).

Furthermore, TRANSFORM is explicitly mentioned in the ecosystems as described in the following table.

Ecosystem	Needs identified/confirmed thanks to TRANSFORM
Nutrition	More people who regularly eat enough More people accessing quality food
Health and life-science	More people living in health and well-being (in terms of health)
Culture and knowledge	More children with high-quality school education
Smart mobility e architecture	Improved mobility infrastructure (railways, roads, etc.)
Social Development	More people with decent job More and better services to support marginalized or disadvantaged categories Equality between men and women

Table 1 – Ecosystems and needs explicitly identified thanks to TRANSFORM

As required by the Law 29/2016 “Lombardy is Research and Innovation”, the regional Government provides the Regional Parliament with a report on the implementation and the results obtained in promoting and supporting the regional R&I ecosystem on an annual basis, which is called (in Italian) “*Clausola Valutativa*”. With this process, the Regional Parliament assesses the regional Government’s actions on R&I.

In 2021, in the section “SPS1 – Experimentation and Strategic Projects”, TRANSFORM has been described as an initiative promoting RRI to foster transparency and societal participation into strategic policy making (and therefore contributing to the implementation of the Law 29/2016

“Lombardy is Research and Innovation”²). The report extensively describes TRANSFORM also in the introduction (art. 2.2)³.

4.2.3.2 Impact of TRANSFORM on the Regional Smart Specialization Strategy 2021-2027 (S3)

As described in “D3.2 Strategic Roadmaps for the implementation and support of territorial RRI through Participatory Research Agenda Setting within S3 priorities” The Lombardy [Regional Smart Specialization Strategy \(S3\) 2021-2027](#) was approved in 2020 (DGR n. XI/4155) and updated in 2021 (DGR XI/5688). The strategy enables the Region to identify and develop its own competitive advantages and is strongly connected to PST actions.

While representatives from Lombardy Region (General Directorate Education, Research, Innovation and Simplification) and Finlombarda Spa were working on S3, they were also experimenting capacity building and mutual learning activities on RRI and public deliberation for policy making as partners of TRANSFORM Lombardy Cluster (together with Giannino Bassetti Foundation). These activities resulted in an increased awareness on the importance of engaging citizens in the design of R&I policies and thanks to the TRANSFORM journey, the Strategy identifies participatory governance as one of the main challenges for Lombardy Region (together with the digital transition, the sustainable development, and the resilience of the economic system).

The TRANSFORM experience is explicitly mentioned in the strategy (pag. 10) in a specific box on the project and also Chapters 2 of S3 is built on TRANSFORM principles: “RRI principles, applied in the former S3 will be applied with an increased awareness and variety – direct

² La Direzione Generale IURIS ha aderito al progetto europeo TRANSFORM -Territories as Responsive and Accountable Networks of S3 through new Forms of Open and Responsible Decision-Making, approvato nell’ambito della call Horizon 2020 - Supporting the development of territorial Responsible Research and Innovation. Il tema del progetto, la promozione della RRI, si inserisce tra quei “fattori abilitanti” finalizzati alla valorizzazione delle iniziative di R&I che incentivano, non solo la trasparenza della PA, ma anche la partecipazione della società nelle scelte programmatiche.”

³ “La promozione della Ricerca e Innovazione responsabile è il tema del progetto europeo a cui Regione Lombardia ha aderito nel 2020: TRANSFORM - Territories as Responsive and Accountable Networks of S3 through new Forms of Open and Responsible Decision-Making, approvato nell’ambito della call Horizon 2020 - Supporting the development of territorial Responsible Research and Innovation. Il partenariato è formato da regioni, università e realtà appartenenti a 4 aree: Lombardia, Bruxelles, Catalogna, Boston. La sperimentazione avviata con il PST 2021-2023 rappresenta un passo importante verso l’affermazione di un paradigma che potrà essere incorporato in progetti futuri per una ricerca e innovazione che siano sempre più in linea con le esigenze del territorio e dei suoi abitanti. I principi dell’RRI sono stati integrati stabilmente nella pianificazione regionale e in particolare nei due documenti strategici principali: oltre al Programma Strategico Triennale per la Ricerca, l’Innovazione e il Trasferimento Tecnologico (PST), anche nella Strategia di Specializzazione Intelligente (S3). Alla consultazione aperta, utilizzata in precedenza per la predisposizione del PST 2018-2020 e pubblicata sulla piattaforma regionale Open Innovation, a cui potevano partecipare tutti i cittadini, si è aggiunto un percorso strutturato dove il campione è selezionato a garanzia della rappresentatività di tutto il territorio per età, sesso, provenienza ecc. La missione di TRANSFORM è infatti quella di mettere a punto e testare nuovi strumenti per permettere che il processo di elaborazione e attuazione dei documenti strategici e delle politiche regionali avvenga in modo aperto e inclusivo”.

engagement, public consultation, citizens engagement exercises – also in the new Strategy. The direct engagement of territorial stakeholders [...] and citizens in the process to define the technological development priorities and the frequent use of public consultation and other citizens’ engagement exercises that will be used and experimented during the seven years respond to the need to identify research priorities able to respond to social needs in a participatory way”⁴.

4.2.3.3 Impact of TRANSFORM on S3 implementation

As described in “D3.2 Strategic Roadmaps for the implementation and support of territorial RRI through Participatory Research Agenda Setting within S3 priorities”, in line with the 'Smart Mobility and AI' strategy (2020), in 2022 the General Directorate of Education, Research, Innovation and Simplification developed a funding initiative (approved by Regional Government on the 30th of June 2022) to foster the development of mobility services based on data.

The initiative was developed in the form of a dual call for funding, named “Smart Mobility Data Driven”, composed by 1) a [call for interest](#) (launched in 2022) and 2) a call for funding, which will be launched in 2023.

Scope of the initiative is to develop innovative services for accessible, secure and sustainable mobility thanks to the implementation of digital infrastructures and digital data sharing.

The design of the first stage of the call was informed by the outcomes of TRANSFORM Citizens’ Jury on Responsible Smart Mobility, which collected citizens’ views and ideas on the responsibility aspects of data-driven smart mobility.

The responsibility elements (e.g., accessibility to digital tools, privacy and cybersecurity) have been inserted in the call for interest as key features on which applicants need to reflect and provide information when submitting their proposals.

⁴ La legge regionale 29/2016 “Lombardia è Ricerca e innovazione” introduce inoltre il concetto di Ricerca e Innovazione Responsabili (RRI). La RRI implica che tutti gli attori sociali (ricercatori, policy maker, imprenditori, rappresentanti del terziario, cittadini etc.) collaborino durante tutto il processo di ricerca e innovazione, fin dall’inizio al fine di allineare al meglio il processo stesso e i suoi risultati ai valori, ai bisogni e alle aspettative della società. I principi alla base della RRI utilizzati in più occasioni nell’ambito della precedente S3, saranno applicati con maggiore consapevolezza e varietà – coinvolgimento diretto, consultazioni pubbliche, esercizi di citizen engagement – anche nella nuova Strategia. Il coinvolgimento diretto degli stakeholder territoriali (imprese, università e centri di ricerca, associazioni) e dei cittadini nel processo di definizione delle priorità di Sviluppo tecnologico e il ricorso frequente a consultazioni pubbliche e ulteriori esercizi di citizen engagement che verranno utilizzati e sperimentati nel corso del settennio, rispondono alla necessità di identificare, con modalità partecipative, priorità di ricerca in grado di rispondere ai bisogni sociali.

Lombardy Region committed to take into account the outcomes of the Citizens' Jury also in the second stage of the call for funding, which will be launched in 2023, as well as in its strategic documents and actions on smart mobility in the near future.

5. Brussels-Capital region RRI Map

5.1 Approach used for the second mapping exercise for the Brussels-capital region

As expressed in the “D2.4: Regional Responsible Research and Innovation (RRI) Maps”, within TRANSFORM, Brussels-capital region focuses on one key priority of the Brussels Region’s territorial development: green economy, and more particularly, social innovations in Circular Economy. More particularly, the pilot activities developed in Brussels are focussing on one of the societal challenges identified by the S3 of the region ‘access to healthy and sustainable food’ and the S3 Strategic Innovation Domain ‘Social Innovation, Public Innovation and Social Inclusion’. The objective of Brussels cluster in TRANSFORM has been 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 (and not just in dedicated silos).

The specific regional approach was expected to be Design Thinking but the project has evolved by integrating other stakeholder engagement methodologies. Thus, regarding the governance structure, the efforts have been focused on influencing the R&I governance structure in one particular aspect: the R&I funding instruments/programmes, which are the R&I support actions that are typical of a RFO (Research Funding Organisation) as Innoviris.

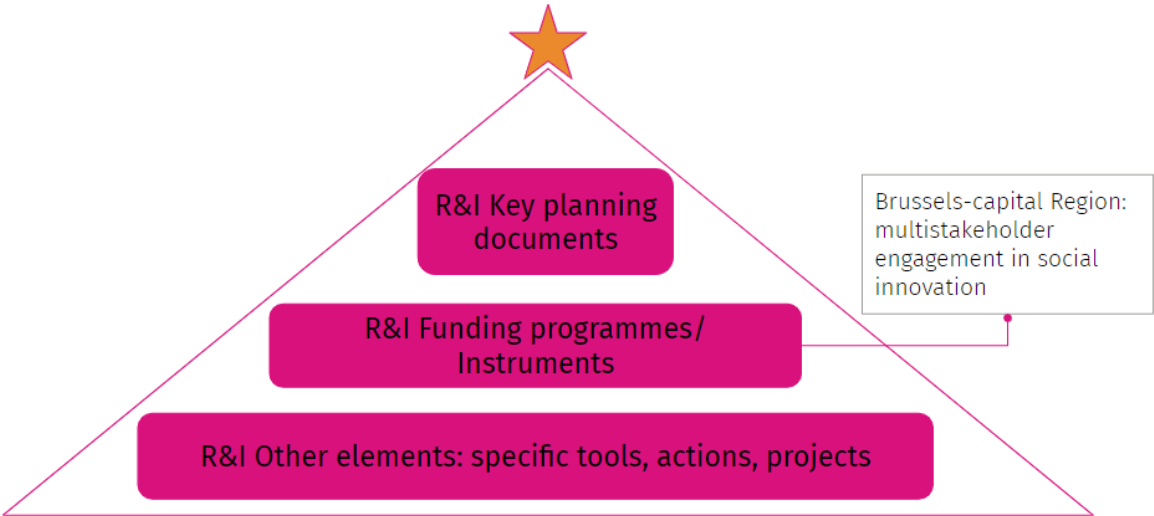


Figure 4. Participatory methodology implemented by the Brussels-capital region and expected impacted area

The document used to perform this second mapping exercise of the Brussels cluster activities and impacts has been:

- D5.2 Strategic Roadmaps for the implementation and support of territorial RRI through multi-stakeholder engagement within S3 priorities

5.2 Second RRI mapping exercise for the Brussels-Capital region

5.2.1 Coming from the past: public participation elements in R&I funding programmes until 2021

For Innoviris, the process is partly based on the Smart Specialisation Strategy (S3) of the region, which frames part of their activities. The Brussels RIS3 (Research and Innovation Smart Specialisation Strategy) is embedded within the guidelines of the regional innovation plan that gives them a thematic framework for part of their activities. Thanks to this RIS3, they have a framework for developing calls for projects in the strategic innovation areas of the RIS3.

The mapping exercise shown in “D2.4: Regional Responsible Research and Innovation (RRI) Maps” highlighted the fact that a number of RRI dimensions like citizen engagement, the ethics considerations, gender equality and the link with STEM education were present in programmes integrated in the previous PRI 2016-2020, but were not widely integrated across all programmes. From the 23 main funding programmes of INNOVIRIS active in 2021, there were 5 clearly integrating RRI elements: [Cocreate](#), [Coopcity](#), [Prospective research programmes](#), [Experimental Platforms](#) and [Prove your social innovation](#).

5.2.2 Methodology & Activities carried out within TRANSFORM

As stated above, the methodology used has been multi-stakeholder engagement (4H) applied in contexts and processes related to R&I where no similar processes had ever been conducted so far. Several of these innovations benefit from, or could potentially benefit from R&I public funding mechanisms, and are in line with local S3 objectives.

The activities carried out in the Brussels-capital region have been 3 pilots: 1) the pre-pilot “AquaSens”; 2) the “Unsold food” pilot and 3) the “Algorella” pilot. All pilots have focused on

introducing typical RRI processes within already existing innovations taking shape inside and outside academic contexts, through 4H multi-stakeholder engagement.

5.2.2.1 The pilots' pilot: AquaSens

This pilot was conducted from March to September 2021. It consisted of carrying out a multi-stakeholder engagement process (4 participatory sessions) around a technological innovation in the field of bio sensors, called AquaSens.

AquaSens is a technological innovation in the field of bio sensors aiming at improving access to water quality information. The pilot aimed at showcasing how the responsible development of an innovation (i.e. making sure it addresses societal needs) can be fostered through quick and agile multistakeholder engagement processes, which ideally bring an added value to all actors involved.

The two workshops involved 12 participants, with the aim to have a broad representation of the various municipalities of Brussels-Capital region, different types of living conditions, household size, age, gender and education level.

The AquaSens pilot represented a “pilot of the pilots”, in the sense that it allowed Brussels cluster partners to test the pilots’ approach ahead of scaling it up to bigger pilots, while already addressing key identified needs.

5.2.2.2 The “Unsold food” pilot

[This pilot](#) (November 2021-October 2022) has focused on a key issue for the Brussels region, that of the large quantity of unsold food that is wasted each day. Several social innovations responding to the problem of unsold food have emerged from citizens' initiatives in Brussels, often supported by regional public agencies. However, structures responding to precariousness and poverty through the distribution of unsold food are now faced with new players in the field, mostly represented by technological innovations such as "digital applications" that allow unsold "producers" to sell and dispose of their unsold food. The emergence of these new digital innovations promoting the commercialisation of unsold food has led to a multidimensional tension in the ecosystem..

Within the pilot, diverse workshops and interviews with different stakeholders involved in the distribution chain of unsold food were conducted: these stakeholders were citizens (users of

private apps), customers of a “social grocery”, representatives of associations providing food aid, private actors, public authorities and retailers.

The pilot had the objective of highlighting the usefulness of involving several key players around the definition of regional policies of research and innovation, especially when they touch upon complex ecosystems where multiple stakeholders are involved and support Innoviris in the long-term uptake of this approach by suggesting tools to be used in the future so that economic transition and scientific research are better oriented towards societal needs and benefit the local actors.

In total, the pilot involved more than 75 people.

5.2.2.3 The Algorella pilot

This pilot focused on introducing a “citizen consultation” process (in the style of a consumer study) at a very early stage in the life-cycle of a product innovation called Algorella. Algorella is a pesto-like condiment that was originally conceived in a yearlong multidisciplinary project for the Master of Bioscience Engineering at UCLouvain. The pilot was designed so that citizens could interact with research and innovation being developed at university, using Design Thinking methodologies, trying to go beyond purely “customer assessment” methodologies and explore the social and/or environmental externalities of an innovation with citizens.

In the pilot, 3 simultaneous workshops were conducted (each involving 8 citizens), following a plenary session to reflect on results. The activities were conducted in 1 full day.

5.2.3 The impacts of TRANSFORM on the R&I governance structure of the Lombardy Region

As can be seen in the “D5.2 Strategic Roadmaps for the implementation and support of territorial RRI through multi-stakeholder engagement within S3 priorities” (section 5) these pilots have served the regional partner of the Brussels-Capital cluster to observe and reflect on the potential inclusion of citizen participation in different R&I processes, calls and projects within S3.

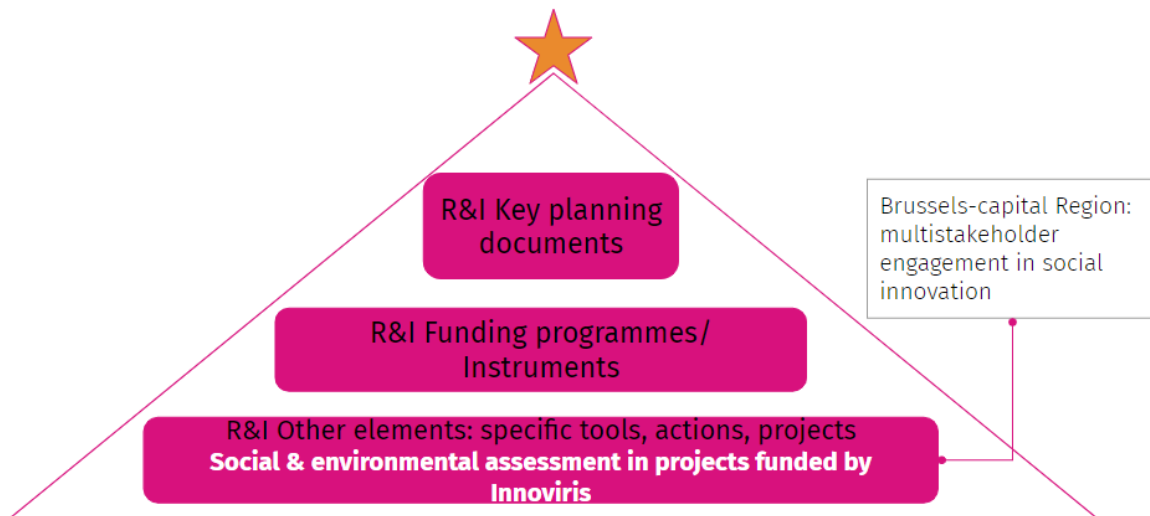


Figure 6. Impacts of TRANSFORM on different elements of the R&I governance structure in the Brussels-capital region

As the following figure shows (and will be explained below) the pilots may have some potential impacts, which is are at the level (as it was foreseen) of R&I funding instruments/programmes but finally at the level of specific calls and projects that are supported by Innoviris as RPO.

The most important concern of the regional partner (Innoviris) of the Brussels-Capital cluster was to experiment with new methodologies to assess the social and environmental impacts (positive or negative) of the projects it finances, integrating different stakeholders, specially citizens, in this process. In this sense, according to Innoviris the two pilots (Unsold food and Algorella) aimed to bring these impacts to the surface, albeit using different methodologies and applying them at different points in the innovation cycle.

As stated in “D5.2 Strategic Roadmaps for the implementation and support of territorial RRI through multi-stakeholder engagement within S3 priorities”, according to Innoviris the “Unsold food pilot” helped to structure its thinking, which was already underway internally, around measuring the social and environmental impacts of its projects. The tension between the different impacts is not new, but it was often based on the difficulty of having an economic impact versus social and environmental impacts. Trying to assess the different impacts in Innoviris’ programmes today remains still complex. The use of a participatory process to do a 360° scan of the impacts of a project is very powerful. In particular, according to Innoviris this is a very powerful methodology to make a mapping of an ecosystem and to determine the – types of - relations between actors. According to BE participation (cluster leader), this approach is still too innovative for an institution like Innoviris, which finds it

interesting and sees its added value but still follow long, traditional processes in the way it supports R&I through grants. Other more agile institutions, such as local and national foundations, and more modern public agencies supporting innovation, have shown interest towards the approach and committed to implement it in the future, therefore embracing RRI at its core.

With the “Algorella” pilot, UCLouvain was able to obtain feedback on the impact of an innovation and on ways of improving the innovation in terms of its social and environmental impacts . This is, according to Innoviris, a demand-driven (re)-orientation of a research process, which is also promoted by the new orientation of Innoviris innovation regional plan, and by extension by its S3.

This tool, even though it represents a classic marketing/consumer studies approach, seemed interesting to Innoviris, especially for innovation processes within the academic world, for which the project leaders do not necessarily have the necessary experience to take these impacts into account. As the main impact of this process, Innoviris has communicated that it is assessing the possibility to accept expenses related to consumer studies processes in subsidies that concern the valorisation of academic research results.

Innoviris is currently busy with the rewriting of its legal constitutive texts with the objective that all the subsidised projects should be environmentally and socially exemplary. And TRANSFORM helped Innoviris to choose between the different scenarios it had in mind. It means that Innoviris will have to evaluate the social, environmental, eco-systemic impacts of each project. Therefore, Innoviris affirms that at short to medium terms all the subsidised projects will fit in a RRI approach. Moreover, the design of its future call of proposal will be constructed with the same idea of impacts and a “Do not significantly Harm” strategy that was highlighted by TRANSFORM.

6. Catalonia region RRI Map

6.1 Approach used for the second mapping exercise for Catalonia region

As expressed in the “D2.4: Regional Responsible Research and Innovation (RRI) Maps”, within TRANSFORM, the aim of the Catalonia Region has been to incorporate citizen science as a means of integrating RRI into Catalonia’s RIS3CAT 2030, its instruments and the actors of the Catalan R&I ecosystem. TRANSFORM offered an experimentation space that allowed the Catalan Government to explore how citizen science could be integrated in RIS3CAT planning and implementation.

Regarding the governance structure, the efforts at the beginning were focused mainly on influencing the R&I governance structure in one particular aspect: the R&I instruments (declared in the Action Plan of RIS3CAT 2015-2020 that constituted the main implementation of RIS3CAT strategy through European funds).

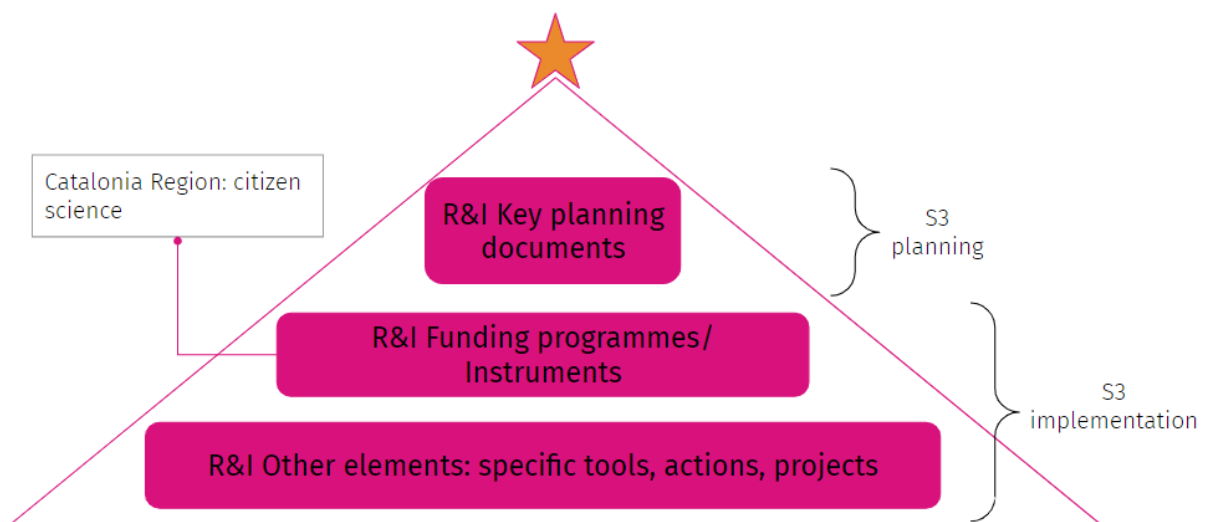


Figure 7. Participatory methodology implemented by the Catalan Cluster and expected impacted area

However, as the analysis will show, the effects of the Catalan Region's activities within TRANSFORM has gone beyond what previously foreseen, also influencing specific R&I policies and the regional S3 itself.

The documents used to perform this second mapping exercise of the Catalan Cluster activities and impacts have been:

- The Smart Specialization Strategy ([RIS3CAT 2030](#))
- The “D4.2 Strategic Roadmaps for the implementation and support of territorial RRI through Citizen Science strategies within S3 priorities”
- The [Agreement GOV/185/2022, of September 20, by which the Program for the Development of the Strategic Project of Knowledge Regions is created](#)
- The first edition of the [RIS3CAT 2030 Public Procurement of Innovation Programme](#)
- The document “[Technical specifications for the award of the mixed contract for the collection and transport of municipal waste and street cleaning services, supply of vehicles and other equipment and works to facilities in Mollet del Vallès](#)”.

The Action Plan of the new RIS3CAT (which will specify the specific funding instruments that implement the priorities defined in the strategy) could not be analysed as it does not yet exist.

6.2 Second RRI mapping exercise for Catalonia region

6.2.1 Coming from the past: RRI elements in R&I funding programmes before TRANSFORM

In “D2.4: Regional Responsible Research and Innovation (RRI) Maps” the funding programmes/instruments defined in the Action Plan of the previous RIS3CAT (2015-2020), were analysed in search of RRI and citizen participation elements.

The RIS3CAT 2014-2020 did not mention citizen science in its main documents. The analysis identified 5 instruments that could be re related to the integration of public participation in R&I: [PECT](#) (Territorial Specialisation and Competitiveness Projects); The [Catlabs program](#); [Collaborative projects](#) in the field of advanced digital technologies; [Public Administration innovation projects](#) framed in the open innovation and science paradigm; and the [Public procurement of innovation](#) program (PPI).

The same analysis also described that thanks to these experiences and the SeeRRI project, the Catalan Government had begun experimenting with pilots on RRI-driven shared agendas (that promote coalitions of quadruple helix stakeholders to align their efforts towards a shared vision of innovative transformation to address territorial challenges). The shared

agendas pilots were the “[B-30 shared agenda on zero waste](#)”, the “[Terres de Lleida shared agenda](#)” and the “[Bages shared agenda](#)”.

6.2.2 Methodology & Activities carried out within TRANSFORM

As stated above, the methodology used has been citizen science and the activities finally carried out have gone beyond influencing the R&I instruments derived from RIS3CAT. The activities carried out by the Catalan cluster using this methodology can be explained as 3: 1) setting-up of a Think Tank on RRI and citizen science; 2) development of a citizen science pilot in the field of waste; 3) development of a citizen science pilot in the field of women’s health.

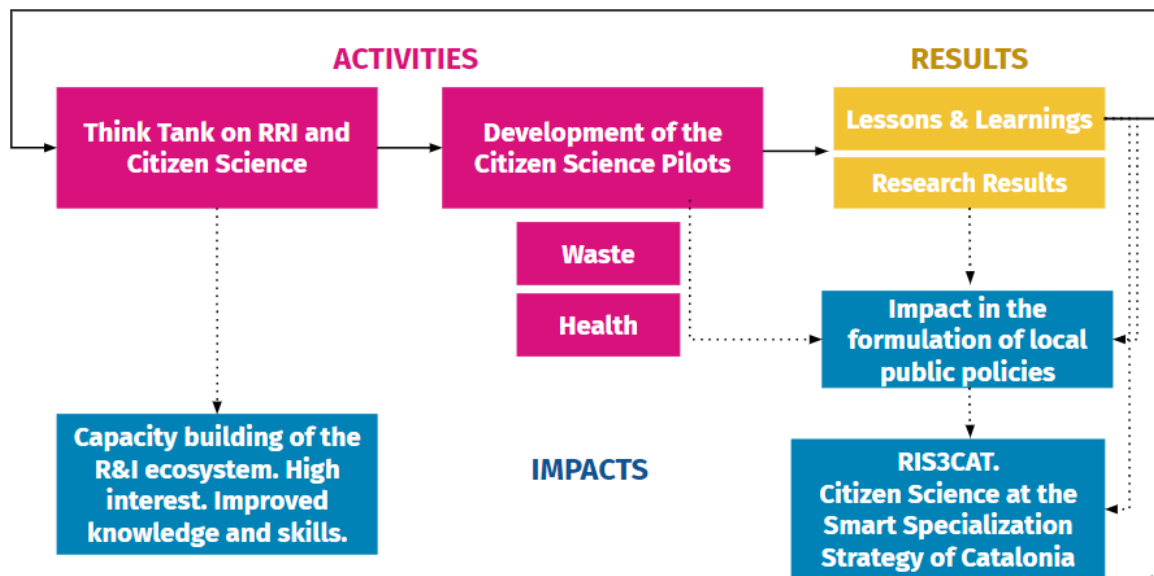


Figure 8. Relationship between the activities carried out by the Catalan Cluster, their results and their impacts

6.2.2.1 The Catalan Think Tank on RRI & citizen science

With the objective of mainstreaming citizen science within the catalan R&I ecosystem and boosting the generation of future new citizen science projects beyond TRANSFORM, the Catalan Cluster set up a Think Tank composed by 46 members from 27 different organisations of the triple helix (local and regional public administrations, companies, research and technological centres and universities) related to R&I. Along its development, 74 people have participated in the different activities of the Think Tank.

From June to December 2020, the Catalan Cluster organised 4 participatory capacity building sessions on RRI and citizen science with the aim of increasing knowledge and skills in the field among the R&I ecosystem and co-designing citizen science pilots to address real territorial challenges. The two pilots that were finally carried within TRANSFORM were the result of this process.

During 2021, 2 more webinars were carried out with the objective of sharing the development process and the lessons and learnings of the pilots, and collectively reflecting on the potentialities of citizen science to transform public policies through shared agendas.

During the final local event, to which Think Tank members and other R&I stakeholders were invited to attend (70 attendees), the final results and lessons and learnings were shared.

6.2.2.2 Pilot 1: Citizen science for the improvement of the selective waste collection system in Mollet del Vallès

The [citizen pilot on waste](#) was devoted to help the municipality of Mollet del Vallès (Barcelona) designing a new waste collection system integrating citizens into the process. The pilot was framed in one of the funding instruments of the RIS3CAT (Territorial Specialisation project "PECT HubB30 Beyond circularity"). To achieve the objective, the pilot was defined consisting of two activities: 1) the co-design of a digital game on waste, called "Dilemma R", together with citizens and students from the Autonomous University of Barcelona and 2) the use of the game as a tool within a citizen science programme, involving 60 secondary school students from Mollet del Vallès and students of the Autonomous university of Barcelona.

The game had two main objectives: 1) to increase the public's knowledge of innovative waste collection systems, opening up public debate; 2) to collect citizens' assessments of and preferences for innovative selective collection systems, allowing the identification of barriers and needs in the implementation of new waste collection systems.

The 60 secondary students had an active role in collecting data, in the interpretation of results and in the formulation of recommendations for the city council. In addition to the 60 students, 400 inhabitants of Mollet del vallès shared their assessments through the game.

The pilot involved 2 external stakeholders: the [Mollet del Vallès City Council](#) and the [Autonomous University of Barcelona](#).

6.2.2.3 Pilot 2: Endometriosis in the first person: participatory research on experiences and recommendations of women with endometriosis for the improvement of health services

The [citizen pilot on women's health](#) was devoted to improving diagnostic and care services for endometriosis, specifically helping the Sant Pau Hospital to develop an innovative clinical approach to the disease but with a view in influencing regional health policies.

For that purpose, a group of 20 women diagnosed with endometriosis were engaged in the pilot to act as co-researchers, having an active role in the data collection phases, in the formulation of recommendations and in the dissemination of the results. The objective of the research was to delve into their personal experiences with the disease, identify needs and assess services and resources for the diagnosis, care and support for patients with endometriosis (3 sessions). The co-researchers also co-created 28 recommendations to improve the situation, devoted to health professionals and policy-makers (2 sessions).

The pilot involved 2 external stakeholders: the [Sant Pau Hospital](#) and The [Catalan Health Quality and Assessment Agency](#) (AQuAS).

6.2.3 The impacts of TRANSFORM on the R&I governance structure of the Catalan Region

As can be seen in the following figure (and will be explained below) the impact of TRANSFORM activities has not been limited to the R&I instruments of RIS3CAT (as originally foreseen) but impacts can also be observed on the S3 itself and on other policies, strategies and projects carried out by different R&I stakeholders and that that can be considered as part of the S3 implementation.

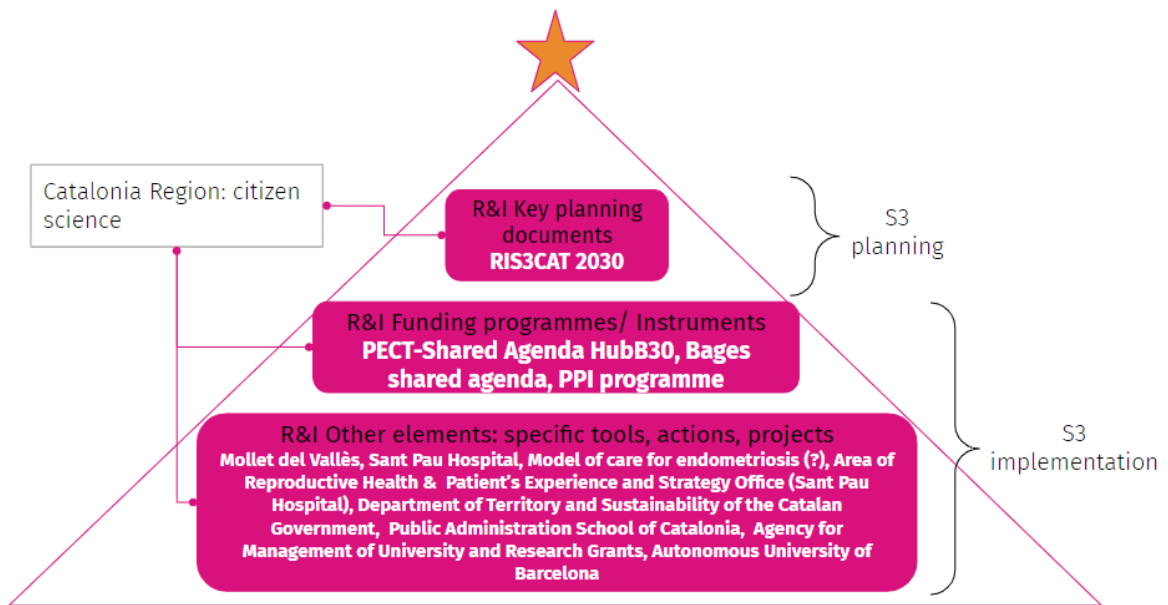


Figure 9. Impacts of TRANSFORM on different elements of the R&I governance structure in the Catalan region

6.2.3.1 Impact of TRANSFORM on the RIS3CAT 2030 (S3 planning)

Finally in RIS3CAT 2030, shared agendas are the main drivers guiding Catalonia towards a greener, more digital, more resilient and fairer socioeconomic model: in this sense, they constitute the key element that structures the RIS3CAT. The actions defined in the shared agendas will be implemented with the support of different funding instruments. The new RIS3CAT promotes and supports RRI and citizen science integrating the learnings from the TRANSFORM project.

Thanks to the contribution of TRANSFORM, RRI and citizen science are integrated in the RIS3CAT 2030. RIS3CAT 2030 is firmly committed to transformative and responsible research and innovation and RRI and citizen science appear in the new RIS3CAT 2030.

On the one hand, the term "responsible"⁵ referring to R&I appears 8 times in the strategy: specifically important is the inclusion of the 4 dimensions of the RRI (inclusion, anticipation, reflection, and responsiveness) as one of the priority actions to be promoted by the strategy⁶.

⁵ "The RIS3CAT 2030 is committed to transformative and responsible research and innovation and shared agendas as the main drivers to guide Catalonia towards a greener, more digital, resilient and fairer socio-economic model.[...] We describe them with the responsible adjective when all agents (researchers, citizens, public administrations, companies and associations of civil society) collaborate in research and innovation with the aim of aligning their processes and results with society's values, needs and expectations."

⁶ A reflective, anticipatory, inclusive and responsive education and knowledge generation system

On the other hand, the term "citizen science" appears 3 times, specifically linked to the "Regions of Knowledge" programme, which will be detailed in section 6.2.3.2. Citizen science will also play a role as a provider of qualitative information within the RIS3CAT 2030 monitoring system (page 25).

6.2.3.2 Impact of TRANSFORM on the R&I funding instruments (S3 implementation)

The Catalan Government approved the RIS3CAT 2030 the 29th November. The action plan has not yet been defined.

TRANSFORM's activities have had an impact on S3 funding instruments/programmes, specifically in 3 ways: 1) through the inclusion of citizen science in the PECT "HubB30 Beyond circularity" of Mollet del Vallès (shared agenda B30 on zero waste); 2) through the inclusion of citizen science in the "Regions of Knowledge" programme; 3) through the definition of 1 specific citizen science project within the first edition of the RIS3CAT 2030 Public Procurement of Innovation Programme (PPI).

Regarding the PECT HubB30 "Beyond circularity" of Mollet del Vallès, not only can we say that the waste pilot has meant the effective inclusion of citizen science in the process but also that the municipality is defining a new citizen science project for 2023 within this same funding instrument (in this case to reduce the generation of plastic in the municipal market), which constitutes an impact beyond TRANSFORM.

Through the **Regions of Knowledge Programme**, promoted by the regional Ministry of Research and Universities in the frame of the RIS3CAT 2030, Generalitat de Catalunya will support citizen science projects supporting more effective public policies and actions to address the SDGs and the related problems and opportunities. The aim is for knowledge to become the main driving force for the transition towards a greener, more resilient and fairer socioeconomic model. In this respect, knowledge actors (universities, research centres and technology centres) will encourage and support transformative shared agendas led by the local stakeholders, to collectively address complex social and environmental problems. . The Programme will support a network of Laboratories for Transformative Social Innovation to support transformative collective action to address the most pressing social, economic and environmental challenges, through shared agendas. As explained on page 14 of RIS3CAT 2030, citizen science will play a fundamental role in engaging citizens in the transformative

processes leaded by shared agendas⁷. In fact, in 2023 the partners from the Catalan cluster will continue working together in designing and implementing a capacity building project on citizen science, based on the learnings from TRANSFORM, involving universities, schools, public administrations, and organisations from the third sector.

Finally, regarding the RIS3CAT 2030 **Innovation Public Procurement Programme** it also integrates citizen science as a means to improve public services. The first edition within RIS3CAT 2030 includes a specific project focused on monitoring noise and mapping quiet areas in cities through citizen science.

6.2.3.3 Impact of TRANSFORM on specific R&I policies, strategies and projects (S3 implementation)

- **Specific R&I policies**

As a first impact, the citizen science pilots have had an influence on two specific local policies: 1) the new selective waste collection contract (municipality of Mollet del Vallès); 2) the new policy on the clinical approach to endometriosis (Hospital de Sant Pau), which is still in the definition phase.

In the case of the waste pilot, the establishment of the **new selective waste collection and street cleaning contract** has taken place within the timetable of the TRANSFORM project. For this reason, we can state today that the results of the pilot have not only been taken into account but have actually been incorporated into the new waste collection contract. The contract includes the replacement of all organic and residual waste bins with smart bins, as well as an increase in street cleaning, which were two of the recommendations made in the pilot. From discussions with the council's technical team, we can also say that other recommendations are being taken into account in the future implementation of the new smart bin system, namely the specific actions to be taken to facilitate the changeover for the elderly and the definition of a system of economic incentives including individual and collective incentives.

⁷ "Within the framework of the RIS3CAT 2030, the Opportunities Discovery Mechanism and the Regions of Knowledge programme promote knowledge as a driver of territorial development. More specifically, they promote the development of the concept of citizen science, of science at the service of people and science made with people. To do so, they will involve social and cultural agents in the identification of the challenges of the territory and in the proposal and design of research and innovation projects that respond to the problems that concern people "

In the case of the health pilot, the recommendations co-created by the co-researchers are being taken into account by the Sant Pau Hospital in the process of **improving the approach and health services for care and support of patients** with endometriosis from the Gynaecology Area. The Hospital had already been implementing some changes aimed at facilitating patient access to the services of a team specialized in gynecology and fertility, but the recommendations of the patients have served to propose new actions to be implemented in the short, medium and long term. One of the recommendations (which will be carried out as a pilot thanks to the economic endowment of the CSC Impulsa Award) is the creation of a therapeutic and mutual support group to improve the quality of life of patients as well as the evaluation of the positive impact of the action both in the quality of life and in the care services themselves. Another recommendation that is currently being implemented is the provision of specific training on endometriosis for healthcare personnel.

It is proposed to implement other recommendations in the medium and long term; however, the hospital also highlights the difficulties they face in improving the quality of care and introducing changes in the approach to the disease, mainly due to lack of funding and increased pressure of care at hospital level. This means that the changes have to be done on a voluntary basis by the professionals, and not because of institutional support. For example, the hospital is reflecting on the creation of multidisciplinary teams to monitor patients and the offer of alternative therapies such as acupuncture as a complement to improve symptoms.

Another impact that is intended to be achieved in the future (beyond TRANSFORM) is to **influence the “Model of care for endometriosis in Catalonia” (GENCAT)**; if that were to happen, the impact would move from the local to the regional scale. Doctors participating in the health pilot are part of the group that is revising this protocol. The date by which this document will be revisited is unknown, but it can be expected that the results of the pilot will be taken into account on the new revised model thanks to all the experience and knowledge gained during the project in relation to the needs expressed by endometriosis patients and the innovative approach accompanying it. The team is already holding meetings to walk towards this direction. Also in the line of scaling-up the results of the pilot towards a regional impact, in this case reaching out to the political level, [meetings are being held](#) between the Catalan cluster and the president and deputies of the Parliament of Catalonia.

- **Specific R&I projects**

The pilot on endometriosis has also been presented to the **Head of Reproductive Health in Sant Pau Hospital** and the implementation of a citizen science project in this area in 2023 is being planned. It is also important to note that the hospital has recently created a **Patient's Experience and Strategy Office** within the Citizens Innovation and User's Area with the aim of continuing to work on incorporating the voice of patients into the evaluation of health quality and the process of improving the healthcare services for various diseases. The pilot has served as an example to demonstrate the potential of citizen science as a tool for this process and its incorporation into future projects carried out in this area is being strongly considered.

Furthermore, the pilot is generating a lot of interest in the hospital sector at regional level, especially among those actors working for the integration of the patient perspective in the evaluation and improvement of health services. This is demonstrated, for example, by the fact that Science for Change was invited to present the research in a clinical session on Patient Experience devoted to health professionals, organised by one of the leading hospitals in the field (Hospital Clínic de Barcelona). Science for Change was also invited to present the pilot in the X Patient Congress Barcelona 2022 and the project was selected amongst the 5 best projects meeting the patient's experience.

Other TRANSFORM impacts, that are more indirect, are related to the participation of various stakeholders in the Think Tank on RRI and citizen science. As expected, the activities to increase knowledge and capacities developed with the Think Tank have contributed to "spread the word" and that these institutions incorporate and promote citizen science in their own projects and strategies. While it cannot be said that this process is exclusively due to their participation in TRANSFORM, it can be assumed that this participation has contributed positively by providing ideas, methodologies and tools. This was shown in the evaluation survey carried out in 2020 after the first 4 Think Tank webinars: many attendees declared (see D4.2 Strategic Roadmaps for the implementation and support of territorial RRI through Citizen Science strategies within S3 priorities) that the webinar had inspired them to incorporate or promote RRI and citizen science in their own projects and strategies.

For example, in 2021, the **Department of Territory and Sustainability of the Catalan Government** created the "Commission for the Promotion of Citizen Science and Nature", a group made up of 14 organisations including local authorities, research groups and

environmental entities. The main objectives of the group are to coordinate citizen science and nature actions in Catalonia, creating synergies between the actors involved, and to boost citizen science and nature in Catalonia by agreeing on a framework for joint work, and developing promotion and consolidation actions.

Another example is the "EAPC research engine" programme of the **Public Administration School of Catalonia**. While this programme has existed as a pilot since 2018, the EAPC has renewed the approach to grants for research projects on public administration and public policy, based on the principles of RRI, to include the collaborative research approach and to emphasise knowledge transfer between academia, public management and civil society. This new approach has been implemented in the 2021 call, when Science for Change was also invited as a trainer for the grant winners.

Another indirect impact is that the **Agency for Management of University and Research Grants (AGAUR)**, which is also a member of the Think Tank and is also committed to promoting citizen science for some years, has now specifically integrated theoretical and practical training into its training offer for postdoctoral researchers hired under the [Beatriu de Pinós programme](#). The training was given by Science for Change on 30 November 2022 and focused on the advantages, challenges and opportunities offered by the application of RRI and citizen science processes in research projects.

7. Conclusions

This document constitutes the analysis of changes in the R&I governance structure of the three regions (Lombardy, Brussels-capital and Catalonia) that can be attributed to their participation in the TRANSFORM project. This document is complementary to the “D2.4: Regional Responsible Research and Innovation (RRI) Maps” submitted in month 22. For a greater reflection on TRANSFORM impacts see “D7.4 Impact Pathways for RRI Initiatives in Regional R&I Ecosystems”.

As explained throughout the document, the objective of TRANSFORM has not been to bring about changes in the entire R&I governance structure of each region; due to its complexity, no single European project can be expected to bring about such changes; However, what could be expected from TRANSFORM was that regional governments, as part of their efforts to foster a more responsible R&I, would have the opportunity to experiment with participatory methodologies to test in practice their results, potentials and barriers; thus, regional governments have been able to reflect on the best strategies to foster RRI and citizen participation in R&I, taking into account the mechanisms that regional governments have at their disposal. TRANSFORM represents, in this sense, an exercise of experimentation and reflection for the regions, which is often complemented by their participation in other European initiatives and projects.

As a way of simplifying the complexity of regional R&I ecosystems, in this analysis the governance structure has been divided into three parts or elements: 1) the key R&I planning documents (S3 and other documents derived from it), which define the objectives and general R&I guidelines; 2) specific funding instruments/programmes, which represent a possible way through which S3 can be implemented and 3) specific R&I initiatives or projects developed within (or outside) the S3 framework. Regarding this last point, it should be reminded (and this is just one example of the complexity of R&I ecosystems) that not all R&I initiatives and projects in a region have to depend or be linked (neither exclusively nor partially) to the S3 and its financing instruments: There is a diversity of actors that develop R&I projects and initiatives as well as ways of financing them, hence the borders are blurred.

That being said, each of the regions participating in TRANSFORM have experimented with different participatory methodologies that were expected to have an effect on different parts of the R&I governance structure. Furthermore, it should be taken into account that the global

crisis due to COVID has had a profound impact on the development of activities in some regions and has caused the need for resilience and the need to adapt to or even modify initial planning in line with the new circumstances. In connection with this, since R&I is a complex and constantly moving ecosystem, throughout the TRANSFORM project, new opportunities have been opened that had not been previously envisioned; likewise, some possibilities have ultimately had to be discarded. All this has produced changes in the original planning (the one that was expressed in the D2.4: Regional Responsible Research and Innovation (RRI) Maps) that in most cases, from the point of view of the R&I governance structure, have gone beyond what was expected.

In the Lombardy region, the original idea was to experiment with the participatory research agenda-setting methodology, with the aim of influencing the content of the “Strategic Three-Year Programme for Research, Innovation and Technology Transfer”, and thanks to that, encourage this methodology to be regularly integrated into the process of elaboration of the future plans. Finally, the impact has been greater, since the activities carried out have influenced 3 elements of the R&I governance structure. As it was expected, the results of the participatory activities have informed the content of the “Strategic Three-Year Programme for Research, Innovation and Technology Transfer” and the regional partner is committed to applying this methodology in future processes. On the other hand, the conversations held within the cluster and the collaboration of the regional partner in TRANSFORM have also influenced the fact that the RRI is currently present in the new S3 of the Lombardy region. Finally, the results of the TRANSFORM participatory activities have informed the design of a new specific call for projects (2022) derived from the 'Smart Mobility and Artificial Intelligence' strategy (2020).

In the Brussels-capital region, the original idea was to experiment with different stakeholder engagement methodologies with the aim of influencing other R&I programmes and tools in a cross-cutting manner. Finally, part of the impact of TRANSFORM's activities can be seen in the statements by the regional partner Innoviris, which is considering inserting in future calls the requirement to demonstrate the social and environmental impact of submitted projects, and therefore make expenses derived from a participatory assessment of those impacts eligible. The limited involvement of Innoviris in TRANSFORM activities has led cluster leader BE participation asbl to broaden the outreach of its pilot activities, resulting in a private foundation and other Brussels-Capital public agencies willing to adopt the suggested multi-stakeholder engagement approach in the future.

In the case of Catalonia, the original idea was to experiment with citizen science, with the aim of influencing the financing instruments/programs of S3. Finally, the impact of TRANSFORM has exceeded expectations. On the one hand, citizen science will have a fundamental role in the new Regions of Knowledge Program (included in the new RIS3CAT). On the other hand, citizen science is mentioned in RIS3CAT itself. Lastly, TRANSFORM has had an impact on many of the organisations involved in its activities, influencing the future development of their R&I projects. In some cases, participating in TRANSFORM has led organisations that were unfamiliar with citizen science to decide to incorporate it into current and future projects; in other cases, for organisations for which citizen science was familiar or even were already working in this line, TRANSFORM activities have allowed them to delve into and explore new ways to promote and incorporate citizen science into their present and future R&I projects.

Thanks to this analysis we can affirm that the development of TRANSFORM has been challenging but the activities and efforts carried out in TRANSFORM will have a long-lasting effect on the regional R&I governance structures. On the one hand, the fact that RRI and the participatory methodologies applied in TRANSFORM have been integrated into various planning documents, financing instruments and specific calls for R&I represents an important institutional change towards a more responsible R&I, since these are the main mechanisms available to regional governments to promote profound changes throughout the ecosystem. In this sense TRANSFORM has been successful. Without a doubt, the example of TRANSFORM (thanks to the dissemination efforts of its partners) will serve to encourage other European regions to undertake similar strategies. On the other hand, the transformation of the R&I ecosystem towards more open and responsible approaches also requires mobilising changes in the institutions and organisations that comprise it; The support and promotion by the institutions is a great step but profound changes must be produced in the mindset and in the usual internal practices of the organisations. In this sense, TRANSFORM has had a positive and lasting impact on the organisations that have directly participated in its activities, beyond regional governments (organisations participating in the pilot projects and, in the case of Catalonia, also in the Think Tank) and on citizens involved in the participatory exercises, who have been empowered by being at the very centre of the regional policymaking, seeing it as “the new normal”. The commitment of TRANSFORM's regional partners to continue exploring and promoting RRI in multiple ways

in the coming years will surely lead to the future consolidation of a more open and responsible R&I aligned with social needs.



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