

Concept for Continuation

Grant Agreement No.: 872550

Project Acronym: TETRRIS

Project Title: Territorial Responsible Research and Innovation and Smart Specialization

Work package 4

Deliverable D4.4

Due Date: 31 March 2023

Submission Date: 1 April 2023

Dissemination level: Public

Author(s): Nicholas Martin, Katariina Palomäki, Raúl Tabarés, Tamás Gyulai, Miklós, Lukovics, Ignacio Abaitua, Ezekiel Arrizabalaga, Sara Gómez, Petra Jung-Erceg, Anna Martikainen, Mika Nieminen, Juha Oksanen, Nina Rilla

DOCUMENT HISTORY

Version	Date	Author	Description
1.0	6/3/2023	Raúl Tabarés	Structure and first draft – Cantabria chapter
1.1	15/03/2023	Ignacio Abaitua and Sara Gomez	Contributions and comments, Cantabria chapter
1.2	21/03/2023	Ezekiel Arrizabalaga	Editing and revision, Cantabria chapter
1.3	21/03/2023	Emad Yaghmaei, Miklós Lukovics, Tamás Gyulai, Konstantina Varlami	Final draft, Szeged-Timisoara chapter
1.4	22/03/2023	Katarina Palomäki, Anna Martikainen, Juha Oksanen, Nina Rilla, Mika Nieminen	Final draft, Tampere chapter
1.5	23/03/2023	Raúl Tabarés	Final draft, Cantabria chapter
1.6	28/03/2023	Nicholas Martin	First draft, Karlsruhe chapter

1.7	30/03/2023	Petra Jung-Erceg	Editing and revision, Karlsruhe chapter
1.8	31/03/2023	Nicholas Martin	Final draft, Karlsruhe chapter
1.9	01/04/2024	Nicholas Martin	Compilation of chapters, production of final deliverable document

ACKNOWLEDGEMENT

The work described in this publication has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 872550.

LEGAL DISCLAIMER

The information and views set out in this deliverable are those of the author(s). Neither the European Commission nor any person acting on its behalf is not liable for any use that may be made of the information contained herein. The information in this document is provided “as is”, and no guarantee or warranty is given that the information is fit for any particular purpose. The TetRRIS Consortium Members shall have no liability for loss or damage suffered by any third party as a result of errors or inaccuracies in this material. The information in this document is subject to change without notice. Copyright belongs to the authors of this document. Use of any materials from this document should be referenced.



Table of contents

DOCUMENT HISTORY	1
ACKNOWLEDGEMENT	2
LEGAL DISCLAIMER	2
1 Introduction	6
2 Cantabria	6
2.1 What was done	6
2.2 Key Outcomes of the different Pilot Actions.....	8
2.2.1 Pilot action 1 - Collaborative/Cooperative Health Forum.....	8
2.2.2 Pilot action 2 – Sustainable consumption model based on technological alternatives	10
2.2.3 Pilot action 3- Digital Empowerment.....	11
2.2.4 Pilot action 4 – Sustainability Education	13
2.3 Continuity Actions for the different Pilot Actions	15
2.3.1 Pilot action 1 - Collaborative/Cooperative Health Forum....	15
2.3.2 Pilot action 2 – Sustainable consumption model based on technological alternatives	16
2.3.3 Pilot action 3 – Digital Empowerment	16
2.3.4 Pilot action 4 – Sustainability Education	17
2.4 Broader changes in local and partner organisations’ work.	17
3 Tampere	20
3.1 What was done	20
3.2 Key Outcomes of the different Pilot Actions.....	22
3.2.1 Pilot Actions: Regional programme and Regional Digital Compass.....	22
3.2.2 Pilot Actions: Collaboration with regional initiatives Ekothon2 and Sprint Innovation Festival	23



3.2.3	Pilot Action: ‘Strong, stronger, responsible’ seminar series on sustainability and responsibility	24
3.2.4	Pilot Action: The RRI Roundtable meeting series	24
3.2.5	Pilot Action: Corporate Responsibility Accelerator	25
3.2.6	Pilot Action: Regional exchange between Tampere and Karlsruhe technology regions	26
3.2.7	Pilot Action: Collaboration with High-Level Forum	27
3.2.8	Pilot Action: Regional exchange between Tampere and Szeged-Timisoara	27
3.3	Continuity Actions for the different Pilot Actions	28
3.3.1	Pilot Actions: Regional programme and Regional Digital Compass	28
3.3.2	Pilot Actions: Collaboration with regional initiatives Ekothon2 and Sprint Innovation Festival	30
3.3.3	Pilot Action: ‘Strong, stronger, responsible’ seminar series on sustainability and responsibility	30
3.3.4	Pilot Action: The RRI Roundtable meeting series	30
3.3.5	Pilot Action: Corporate Responsibility Accelerator	31
3.3.6	Pilot Action: Regional exchange between Tampere and Karlsruhe technology regions	31
3.3.7	Pilot Action: Collaboration with High-Level Forum	32
3.3.8	Pilot Action: Regional exchange between Tampere and Szeged-Timisoara	32
3.4	Broader changes in local and partner organisations’ work	33
4	Karlsruhe	35
4.1	What was done	35
4.1.1	The Practitioner Network Citizen and Stakeholder Participation	35
4.1.2	The Karlsruhe-Tampere Exchange.....	36
4.2	Key Outcomes of the different Pilot Actions.....	37
4.2.1	Practitioner Network Citizen and Stakeholder Participation.....	37
4.2.2	The Karlsruhe-Tampere Exchange.....	39
4.3	Continuation of the Pilot Actions beyond TetRRIS.....	40
4.3.1	The Practitioner Network Citizen and Stakeholder Participation	40

4.3.2	The Karlsruhe-Tampere Exchange.....	41
4.4	Broader Changes in the Region and the Partner Organisations sparked by the TetRRIS Pilot Actions.....	41
5	Szeged-Timisoara.....	42
5.1	What was done	42
5.1.1	TalentMagnet:	43
5.1.2	DIH World:	45
5.2	Key Outcomes of the different Pilot Actions.....	45
5.2.1	Pilot Action 1: TalentMagnet.....	45
5.3	Continuity Actions for the different Pilot Actions	48
5.3.1	(Planned, future) Pilot Action 2 DIH World.....	50
5.4	Broader changes in local and partner organisations' work.	50

1 Introduction

The central aim of TetRRIS was to introduce actors and stakeholders within the regional innovation systems of the different territories – Tampere, Karlsruhe Technology Region, Cantabria, and Szeged-Timisoara – to the ideas and practice of RRI, and to work with them to alter regional practices in the direction of more systematically and durably integrating RRI into their work. The most important means by which TetRRIS sought to accomplish that was that of (local) “pilot actions”, time-limited activities designed by TetRRIS team members together with local actors in which different aspects of RRI were to be presented, discussed and made usable for the actors’ own work. The precise shape of the pilot actions was thus closely adjusted to local actors’ interests and needs. Accordingly, we see considerable variation across the different territories with regard to the content and format of the pilot actions pursued. Some territories concentrated on a small number of longer-running actions and sought to build up a durable community of local actors and stakeholders around this action, while others pursued a larger number of smaller and more diverse actions, seeking to bring as many different people into contact with RRI as possible.

These actions were necessarily time-limited, as TetRRIS is a time-limited project. However, this raises the challenge of how to durably integrate the new ideas and approaches developed in the pilot actions into the local actors’ and stakeholders’ repertoire of work practice, beyond the life of TetRRIS. This is necessarily a challenging process, as “doing” pilot actions and RRI tends to consume resources – time, money, labor, simple effort – that actors have hitherto generally devoted to other things, or simply used for their spare time. Nevertheless, as the Pilot Action Phase of the TetRRIS project drew to a close, the TetRRIS partners in the different territories put much effort into trying to develop ways of ensuring some form of pilot continuation. The overriding aim here was not necessarily for the pilot action in question to itself continue (whether in existing or in modified form), but to find ways that the work on RRI, and the gradual reorientation of local actors’ practices towards RRI, might continue.

This Deliverable describes the approaches the different territories and TetRRIS partners took to this. It includes a chapter for each territory. The chapters briefly summarise the main content of the pilot activities launched in the respective territory, and discuss their impacts, including both direct and more indirect, wider changes in the regions they may have helped stimulate. Then the chapters discuss how the regional and scientific partners in the territory are seeking to ensure pilot continuation beyond TetRRIS.

2 Cantabria

2.1 What was done

It is commonly assumed that RRI implementation should be linked to ongoing practices, business needs, and relevant socio-political conversations within organizations. The clear vision and objectives of RRI might help by emphasizing the importance of learning-by-doing in implementation. Under this premise, TECNALIA and

SODERCAN conducted a mapping in the territory to identify possible domains of action for developing RRI pilot actions. (See D3.2 of the TetRRIS project).

Under this exercise four domains of opportunity were identified gathering the major strengths of R&D of the regional ecosystem of innovation, but also significant socio-technical challenges where the role of RRI could be highly influential for its adoption and translation to the regional context. Cantabria, as other regions in the TetRRIS project, have different “RRI de facto” features such as ethics and gender equality that were widely present in several stakeholders. Other RRI aligned concepts such as sustainability and Corporate Social Responsibility (CSR) were also present in the region, and all of these were identified and presented to the regional ecosystem in an aggregated manner with these domains of opportunity. These four broad areas were entitled as: **“Bio-Health and post-Covid-19 society”**, **“Blue economy and energy transitions”**, **“Responsible Industry 4.0”** and **“Sustainability and Responsibility”**.

Under these four domains, four pilot actions were conceptualized, designed, and promoted by regional stakeholders in close collaboration with SODERCAN. These four pilot actions were co-designed and co-created in different participatory workshops facilitated by TECNALIA. After these workshops regional stakeholders continued working on these pilot actions with SODERCAN through different meetings, events and actions that followed up this co-design and co-creation stage (see D4.3 for more information). The four pilot actions developed during the experimentation were: **“Collaborative/Cooperative Health Forum”**, **“Sustainable consumption model based on technological alternatives”**, **“Digital Empowerment”** and **“Sustainability Education”**

These pilot actions were conceptualized and codesigned under the “TetRRIS Lab” which was a core component of the intervention into the regional innovation system. The setting up of the lab was oriented to gathering a significant number of stakeholders around the RRI paradigm for facilitating its uptaking through experimentation and co-creation. The lab aimed to be situated as a meeting point (see D4.1 of the TetRRIS project) into the regional innovation ecosystem to stimulate a forum dedicated to the need of strengthening science-society interactions in the four domains of opportunity identified and to explore societal challenges that the territory is facing and will face in coming years such as aging, rural depopulation, energy transition, post-industrialization and/or mobility.

In this regard, not all stakeholders had the same RRI level of knowledge. For instance, stakeholders in the health and biotechnology domain were quite active regarding RRI and they had in place several initiatives related with it. The idea behind the lab was also to try to congregate these “RRI champions” with other regional stakeholders for inspiring systemic changes and facilitating RRI diffusion and adoption due to the common presence of some RRI keys such as science education or gender equality.

It must be also clarified that the lab also was oriented to address the modest innovation culture and cooperation culture that was spotted in the diagnosis (see D.2.2). Different regional stakeholders during the mapping commonly argued that the lack of an official open innovation strategy and the absence of forums for cooperation between regional stakeholders were common challenges at regional level. TetRRIS lab also aimed to address this gap for promoting RRI into the territory.

With the help of pilot actions, different RRI keys and/or dimensions were addressed by regional stakeholders in collaboration with policy makers. These exercises of experimentation and co-creation helped to the whole regional innovation system to engage with the concept and developing a “hands-on” approach for its stakeholders that helped to the diffusion and adoption of the concept at regional level. In the

In the following sections we explained in detail the impacts, changes, and future paths of the actions triggered by the TetRRIS Lab.

2.2 Key Outcomes of the different Pilot Actions

As has been previously explained, four pilot actions were deployed under the TetRRIS Lab set up in Cantabria. These four pilot actions were conceptualized and co-designed by different regional stakeholders into two participatory workshops facilitated by TECNALIA and held at Santander and Torrelavega. Later on, dedicated work between regional stakeholders and SODERCAN to further developing them took place till the end of the experimentation stage in March 2023 (See D 4.3 of the TetRRIS project for more information). These four pilot actions were framed into the four domains of opportunity identified during the mapping into the regional innovation system for diffusing and adopting RRI into S3. The pilot actions addressed different RRI keys and/or dimensions into different sectors and fields of expertise with the help of regional stakeholders that actively promoted their development during the co-creation sessions and afterwards. These four pilot actions were: **“Collaborative/Cooperative Health Forum”**, **“Sustainable consumption model based on technological alternatives”**, **“Digital Empowerment”** and **“Sustainability Education”**

2.2.1 Pilot action 1 - Collaborative/Cooperative Health Forum

The first pilot action aimed to establish a forum oriented towards cooperation in the health sector, with the aim of becoming a meeting point for information and training, for the generation of synergies and collaborative projects in response to various societal and regional challenges in the health sector. The forum also aspired to receive the support of various partners in its development, such as regional, national and European governments, as well as involving various agents such as universities, technology centres and companies. It also aimed to involve social organisations such as patient associations. The forum aspired to create a meeting point for different experts and working groups of the stakeholders involved, but also to have a broader interaction with CSOs and citizens for detecting and knowing at first hand their needs, problems and particularities. The idea also wanted to explore international connections of the stakeholders involved for exploring potential synergies

#ONEHEALTH CANTABRIA FORUM

Bioeconomía, Health and
Post Covid-19 society



To create a forum that is a **meeting, information and training point**, which aims to integrate different actors working on health issues, whether environmental, animal or human health in Cantabria.



This project is part of the European Union's Horizon 2020 research and innovation programme under grant agreement no. 872558

TERRITORIAL RESPONSIBLE RESEARCH AND INNOVATION AND SMART SPECIALIZATION

tetRRIS

Figure 1: Cooperative/Collaborative Health Forum pilot idea

Different RRI keys were addressed by this pilot action such as stakeholder engagement, gender equality, ethics and governance. These RRI keys are also commonly addressed in their daily routines by several of the stakeholders engaged in this pilot action such as IDIVAL or IBBTEC. These particular two were quite active in the RRI domain with different strategies, plans and actions (see D2.2 of the TetRRIS project), but also other stakeholders in sectors related such as CIFA or CIMA (Agri-food) are also including these “de facto RRI” practices. RRI dimensions addressed were related principally with anticipation (anticipating societal needs), inclusivity (gender research needs) and reflexivity (room for debate).

As it has been explained in D4.3 of the TetRRIS project, despite the different interactions of SODERCAN and the General Directorate of Innovation of Cantabria with this group of stakeholders and the regional ministries of Industry and Health, the pilot action did not evolve as planned due to different political barriers for collaboration. In this sense, it is not easy to assess what have been the potential benefits of this pilot action for their stakeholders. While it is true that the two workshops and the different meetings and events that followed this initiative were worthy for the stakeholders, the truth is that all this work has not been materialized at the end. We can expect that this experience has served to the stakeholders engaged for continuing working on these issues and exploring other project ideas at regional, national and EU level that can support the setting up of something similar.

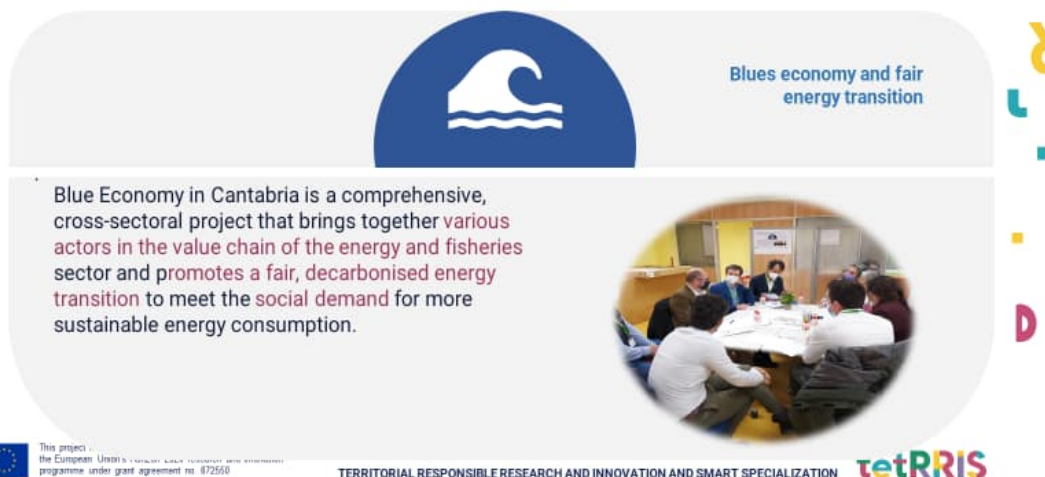
The implications of this failed pilot action are also important for the regional innovation system of Cantabria as it has been stressed how these kinds of bottom-up initiatives demand of agile instruments and mechanisms. In this sense, it seems that some of the stakeholders with great innovation potential, and that are part of the public health sector, have difficulties to be addressed by the current configuration of the regional innovation system. This is a very important lesson for the regional innovation strategy, but also for the S3 and the regional government. Specially from a RRI perspective as stakeholders such as IDIVAL showed a very high level of RRI institutionalization that can be a role model for other regional stakeholders.

After these political barriers were spotted, SODERCAN has also been in contact with IBBTEC for launching an informal forum as a way of putting together the health industry and the Regional Hospital together with the incubation services for startups managed by the IBBTEC. Lack of coordination amongst the relevant players of this specific and important value chain makes it necessary to create a space for discussion in order to enhance coordination and making this sector stronger in terms of summing up capabilities. It could be a first step for creating a kind of stable forum which might address, for instance the possibility of applying for European partnerships, a future possibility of creating a cluster on Health issues in the region, etc.

2.2.2 Pilot action 2 – Sustainable consumption model based on technological alternatives

Under the “Blue economy and fair energy transition” different stakeholders of the regional innovation system tried to change consumption patterns towards more sustainable processes. This idea tried to encourage organisations to take into account aspects related to sustainability at a structural level. For example, the incorporation of hydrogen and aquaculture technologies to transform consumption patterns based on extractive fishing to aquaculture-based extraction. This initiative aimed to collaborate with various actors in civil society and with various actors in the regional innovation ecosystem involving different clusters and companies.

Sustainable consumption model based on technological alternatives



Blues economy and fair energy transition

Blue Economy in Cantabria is a comprehensive, cross-sectoral project that brings together **various actors in the value chain of the energy and fisheries sector** and **promotes a fair, decarbonised energy transition** to meet the **social demand** for more sustainable energy consumption.

This project is funded by the European Union's Horizon 2020 research and innovation programme under grant agreement no. 872550

TERRITORIAL RESPONSIBLE RESEARCH AND INNOVATION AND SMART SPECIALIZATION

tetRRIS

Different RRI keys were addressed by this pilot action such as stakeholder engagement, ethics and governance. The regional stakeholders engaged in this pilot action have a very strong technological expertise in engineering, ship technologies and renewable energies. They represented different clusters such as MARCA or Sea of Innovation and different companies. These stakeholders were not familiar with the concept of RRI, but they started to recognize the importance of RRI with its participation into the TetRRIS Lab. In particular, they confer significant importance to the stakeholder engagement and governance keys as the pilot idea that promoted demanded a significant involvement of citizens into it. RRI dimensions involved in the pilot action were also related with inclusivity (involving different stakeholders),

responsibility (addressing other issues not initially planned) and reflexivity (need for public debate).

The majority of these stakeholders are quite active in different funding research programs, and they are aware about environmental impacts and assessments, but they were not completely aware about societal impacts and assessments and the need of incorporating into their routines. In this sense, the lab gave them the opportunity to become aware about RRI and it can be a useful tool for them. As it has been exposed, due to the ambitious character of this pilot action, no significant advances were made on it and the pilot action was abandoned by its participants. However, and at the same time, during this period of time, clusters such as MARCA and the Sea of Innovation in conjunction with 21 companies and other regional institutions were also able to promote a new platform called "Blue Economy Cantabria"¹ intimately associated with these issues (see D4.3).

We can argue that the learnings from this pilot action are closely related to the rapid evolution of these emergent sectors in the territorial economy. The blue economy is a domain that encompasses several fields of expertise related with engineering, biology, environmental studies, and others, but also demands of meaningful societal engagement. Interventions in the coast and near the coast have a tremendous impact in the landscape, but also from a societal perspective. This is something closely related to the history of the region, that has suffered from a significant overbuilding in the coastal zone due to the explosion of tourism during the '90s. This expansion of tourism has also been problematic and forcing constructions to be demolished or facing legal enforcements for their impacts into landscape. The adoption and use of new technologies for producing energy near the cost such as offshore wind energy and other technologies that will be using the land coast also demand from a significant societal engagement to be deployed. This is something that many of the regional stakeholders were aware and they started to grasp on these issues thanks to their participation at TetRRIS lab.

Stakeholders taking part in this pilot action have been revealed as not well equipped regarding RRI. This first contact with the concept has also shown its weaknesses and the need to promote capacity building around it. For instance, a recent project funded at national level where the Sea of Innovation Cluster is involved, is posing significant challenges around societal engagement in the first phase and prior to the project implementation. This is also another lesson for them that RRI is something to learn with for engaging different societal expectations and needs from different groups such as tourism stakeholders, municipalities, fishermen, etc.

2.2.3 Pilot action 3- Digital Empowerment

The third pilot action also engaged different regional stakeholders during the two particular workshops. Several regional stakeholders such as clusters and companies were interested in promoting digital training at regional level through training programmes in digital competences. The aim of this initiative was to provide employment with added value, leading to greater competitiveness, improving the retention of talent in the region and thus avoiding the brain drain. To this end, the initiative called for the involvement of companies in the ICT sector in particular, but also other types of companies, training centres, universities, trade unions, business

¹https://www.elespanol.com/invertia/disruptores-innovadores/autonomias/cantabria/20220527/economia-economia-impacto-social-innovacion-cantabra-futuro/675432611_0.html

schools, financial institutions and education, employment and innovation departments (for more details see D4.3 of the TetRRIS project)

Digital skills training

To enhance digital empowerment at regional level through training programmes in digital skills that add value to the employment, making it more competitive, improving talent retention and avoiding brain drain. Enhances **digital skills** at regional level as well as **employability** and is focused on industrial needs.



Industria Responsable 4.0



 This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 872550

TERRITORIAL RESPONSIBLE RESEARCH AND INNOVATION AND SMART SPECIALIZATION 

Figure 2: Digital empowerment pilot idea

This pilot action aimed to address different RRI keys such as stakeholder engagement, ethics and governance, involving different companies, but also dedicated clusters in digitalization such as TERA. Some of the stakeholders engaged such as the company Textil Santanderina were not aware about RRI, but they have an extensive track in related concepts such as CSR or sustainability. In this regard, the concept was familiar to them, and they were eager to operationalize it into a particular challenge faced by many industrial and small companies in the region.

At the same time, the lack of digital skills was also perceived not only in terms of competitiveness, but also in relation to values such as inclusivity or solidarity. Dedicated trainings are always complex for SMEs as they have different constraints for being engaged on them. The pilot action also aimed to address the gap detected around “retention and attraction of talent” that in the last years have been revealed as increasingly challenging. In this sense, the pilot action also embraced anticipation and inclusivity dimensions.

This pilot action has created several benefits for the stakeholders involved, but also for others that were not involved in this pilot action. The deployment of the pilot action has involved a significant number of organizations (more than 30) that will be benefited from this training. At the same time, this pilot actions have showed how bottom-up actions can be co-designed and co-created for its upscaling at regional level. SODERCAN has also been benefitted from a deeper knowledge about what are the main challenges and requirements that digitalization is imposing into the regional landscape and how these actions can help to improve the governance of the regional innovation system.



Figure 3 Presentation of the digital empowerment training by SODERCAN

One of the particular learning of these pilot actions is that companies and clusters should be able to work together for identifying and deploying these kinds of dedicated actions hand in hand for promoting bottom-up actions that could be upscaled. Specially, around digitalization and its socio-ethical implications, which are more and more intertwined with the development of digital technologies. In this regard, there is room at policy level for establishing new programmes or policies that would pay attention to the socio-ethical implications of digital technologies and promoting a responsible digitalization of industry.

In this regard, SODERCAN could be the responsible for developing digital empowerment of companies through future programs more adapted to RRI aspects (currently SODERCAN manages a call for digitalization projects by regional companies) with a permanent dialogue with companies in order to detect and address real and specific needs and demands which might be incorporated into different and tailor-made programs and actions aligned with the Smart Specialization Strategy.

2.2.4 Pilot action 4 – Sustainability Education

Last, the fourth pilot action consisted in providing active coordination to the different activities already existing in the region around sustainability. This idea aimed to promote education and training in sustainability to increase the impact and engaging citizens and the regional ecosystem around this idea. This idea aimed to involve a large number of actors of the Cantabrian society as it is a cross-cutting issue of general interest for the public of the region. Increasing impact and engaging citizens at regional level were also important objectives to be addressed. (for more details see D4.3 of the TetRRIS project)

Sustainability education and training

Promote education and training in sustainability in order to have an impact and promote change.
Sustainability Education: To coordinate the already existing activities in the region that promote education and training in sustainability. This activity will increase the impact and engages citizens and regional ecosystem.



Territorial Sustainability
and Reponsability



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 872560

TERRITORIAL RESPONSIBLE RESEARCH AND INNOVATION AND SMART SPECIALIZATION **tetRRIS**

Figure 4 Sustainability education pilot idea

This pilot idea was oriented to sustainability as an RRI-aligned value. The pilot action addressed several RRI keys such as stakeholder engagement or governance and several dimensions such as inclusivity or responsibility, but it primarily sought to take stock of different initiatives around sustainability. In this regard, stakeholders such as the Chamber of Commerce of Cantabria that has a very good relationship with Sodercan, the University of Cantabria, Santander City Council, CIMA (Center for environmental research) or the regional business association (CEOE-CEPYME Cantabria) were part of this strategic initiative. Many of these stakeholders were also involved at different initiatives developed by them or in coalition and they were aware about RRI dimensions such as anticipation, inclusivity or reflexivity, despite not being aware of the concept and terminology of RRI as such.

The pilot action made that these regional stakeholders could have a dedicated forum for discussing the pitfalls and drivers of these past and current interventions and to take stock of these. The aim of this pilot action was to create a more systematic interventions and initiatives that can be upscaled or institutionalized across the regional innovation system. Some learnings of this pilot action have also feed the new strategy of environmental education develop by CIMA that took part in the lab and that now it has promoted and open and participatory consultation for its development². The pilot action has helped to establish synergies between companies, public institutions and educational institutions (secondary schools) that can help towards making visible how regional industry needs to work in more sustainable ways.

In addition, SODERCAN also benefitted from close conversations with these stakeholders for developing new approaches and programmes related with circular economy, sustainability, and environmental impact. These issues will have a greater

² See <https://www.cantabria.es/web/comunicados/w/se-abre-el-plazo-de-consulta-p%C3%BAblica-previa-de-la-nueva-estrategia-c%C3%A1ntabra-de-educaci%C3%B3n-ambiental>

importance in coming years, and we can envisage a closer collaboration in this field that this pilot action has helped to build.

2.3 Continuity Actions for the different Pilot Actions

At the time of this report is being written (March 2023) the four pilot actions have gained a different status of development during the TetRRIS project. Some of the actions were not able to be materialized in a tangible manner, due to different issues and problems, whilst others have been developed to a greater extent. In different ways, the four pilot actions are expected to be continued, not only by SODERCAN and Cantabria Government, but also by different regional stakeholders engaged on them. In this section we provide some directions for their continuity based on the work that has been done in the project, but also around identified actions, plans and strategies that have been developed during this time or are currently being designed.

2.3.1 Pilot action 1 - Collaborative/Cooperative Health Forum

The continuation of this first pilot action is probably a question mark right now because of the joint efforts between Regional Ministries of Industry and Health of Cantabria Government did not result into proper advances at the end of the experimentation. As it has been explained in D4.3, collaboration between regional public bodies was needed for developing this pilot action that involved collaboration between different stakeholders that are also part of the public health regional system. This proved to be a significant political barrier for collaboration.

It is also important to stress that many stakeholders involved in this pilot action are quite active regarding RRI and they have a significant number of initiatives to promote public engagement, science education, gender equality or ethics. In this regard, the potential of this pilot action is quite high and flagship initiatives in place such as Cohorte Cantabria³ or The Open Lab⁴ are also aligned with this pilot action.

Although achieving significant advances during the experimentation stage proved difficult, SODERCAN will be continue working with relevant stakeholders that actively took part in the TetRRIS Lab, such as IDIVAL and IBBTEC, to work towards developing this participatory health forum. It is important to remind that health and welfare is one of the fifth ecosystems present in the new S3 for the period 2021-27 and there are a significant number of regional stakeholders working on these issues such research institutes, companies and public administrations. In this sense, a need for establishing mechanisms for collaboration and participation between different stakeholders is needed, working in a more horizontal way and involving different expertise's, skills and sectors. This was stressed by different participants in the lab and that spurred the creation for the participatory forum pilot action. Dedicated measures are also now being considered by the two regional ministries involved (health and industry) and it is expected that dedicated actions such as mentoring, diagnosis of training needs, associated funding and compulsory cooperation for potential R&D projects will be pushed forward in next months.

³ <https://cohortecantabria.com/>

⁴ <https://web.unican.es/ibbttec/es-es/transferencia/openlab/convocatoria-innova>

2.3.2 Pilot action 2 – Sustainable consumption model based on technological alternatives

The second pilot action was probably the most challenging pilot action to be developed under the TetRRIS lab. It also changed significantly between workshops due to the fact that several of the stakeholders engaged during WS1 were not present in WS2. The pilot action was conceived as R&D project with an ambitious scope that went beyond the possibilities that were offered the TetRRIS Lab. At the same time, the participation of clusters such as Marca and The Sea of Innovation in collaboration with other companies helped to these stakeholders to reflect on their work and R&I practices for adopting and embedding RRI keys and dimensions.

After the development of the TetRRIS Lab and the failure of this pilot action, there are no actions planned around this pilot action. However, and during the same time, an interesting platform that congregates 21 companies, different research institutes and public administrations was set up with the name of “Blue Economy Cantabria”. This platform will be able to accomplish large R&I projects and it is also envisioned to host different events related with the societal impact of these interventions and projects in the territory. In this sense, we think that it could offer room for next initiatives related with stakeholder engagement, governance and scientific education around the blue economy and other related RRI issues.

2.3.3 Pilot action 3 – Digital Empowerment

SODERCAN and the three clusters involved in this pilot action (TERA, MARCA and Sea of Innovation) have a long and stable relationship, due to the participation of SODERCAN in the managing board of these clusters. Digital skills are a common need in many regional innovation systems nowadays and we envision that this could be a starting point for collaboration and working together in these matters. At the same time socio-ethical implications of digitalization and potential impacts of digital disruptive technologies such as AI is a matter of increasing concern. This pilot action aimed to provide a first contact with these issues to these regional stakeholders and the challenges that present in present and future projects for them.

In this regard, we can envision that ongoing initiatives could be followed in the next future by the development of this pilot action. AI is a disruptive technology that will shape different sectors and business, but it will also create significant socio-ethical implications. The new wave of digitalization is associated with significant powerful technologies, but also with formidable requirements around socio-ethical issues. In this regard, the development of a diagnosis in terms of digitalization delivered by the TERA cluster fixed a common ground to understand regional needs in this matter. After this diagnosis the training started in March trying to promote a comprehensive vision of technical possibilities, but also socio-ethical issues associated with the use of these technologies.

This pilot action is suitable to be continued by following programmes and/or trainings that can be offered to other sectors that have similar needs. In this sense, SODERCAN, that is also a member of the board of all clusters in the region will work together with other clusters to explore how this action could be replicated for other sectors. This action is going to be presented to the different clusters and, taking into account that SODERCAN has grants financing actions which includes the development of training, should be considered as an incentive for enhancing digitalisation needs and/or other ethical and social aspects which might be put into consideration to develop R+D projects (either regional and European).

2.3.4 Pilot action 4 – Sustainability Education

SODERCAN and the Chamber of Commerce of Cantabria have a significant relationship of trust between them. They have been collaborating since a while and they have a dedicated collaboration agreement between them to promote similar topics to sustainability in SMEs such as CSR issues and others. In this way, this pilot action is envisioned to continue after the TetRRIS project under this frame of collaboration and to embark other kind of stakeholders that can be interested on this. We have to remind that business associations such as CEOE, research centres such as CIMA and other companies in the region such as Textil Santanderina were quite active in this domain of sustainability education (See D2.2.) and the new policy requirements of S3 probably will provide room for empowering these kinds of efforts. All of these stakeholders will be increasing their cooperation in regard with the new policy requirements that puts more emphasis into sustainability.


In this regard the continuation of this pilot action after the TetRRIS Lab has already been settled around a dedicated workshop that will take place in a regional high school during April. The objective of this event is to share specific issues related to sustainability not only from the environmental point of view but also from a social perspective. The aim is to analyze in more detail social behaviors and how young people could contribute and adopt a more active attitude to be involved on ongoing initiatives for promoting a sustainable society. This event is planned to be follow by others as the idea is to upscale this initiative at regional level and establishing a more ambitious program that can be institutionalized at regional level, involving different public institutions, private companies and CSOs.

2.4 Broader changes in local and partner organisations' work

TetRRIS project has had a significant impact into the Autonomous Community of Cantabria and its regional innovation system. It is difficult to quantitatively address this impact due to the narrow scope of existing RRI indicators (see MORRI and Super MoRRI projects for more information) and the relatively limited lifespan of the intervention that has not allowed organizing long-term strategies on the complexity of the region and its stakeholders. It is also complicate to capture this impact on a qualitative way, as narratives, perceived, changes and personal experiences are more difficult to grasp than filling numbers and indicators into a template.⁵ In this section, we try to reflect about how the TetRRIS project has contributed to promote institutional changes into the region of Cantabria and how RRI has been diffused and adopted into the regional innovation system.

First of all, we have to clarify that one of the quick wins of the project has been to provide a meeting point (see D4.1) of the regional innovation ecosystem and to stimulate a particular participatory forum for engaging regional stakeholders into science-society interactions and the need of broadening this ecosystem for engaging other stakeholders that are not usually taken into account. The setting up of the lab, just after the initial recovering of the pandemic (fall 2021), was a significant effort, but well appreciated by many of the regional stakeholders. Many of them stressed the

⁵ See also Völker T, Mazzonetto M, Slaattelid R, Strand R (2023) Translating tools and indicators in territorial. *Front. Res. Metr. Anal.* 7: <https://doi.org/10.3389/frma.2022.1038970>

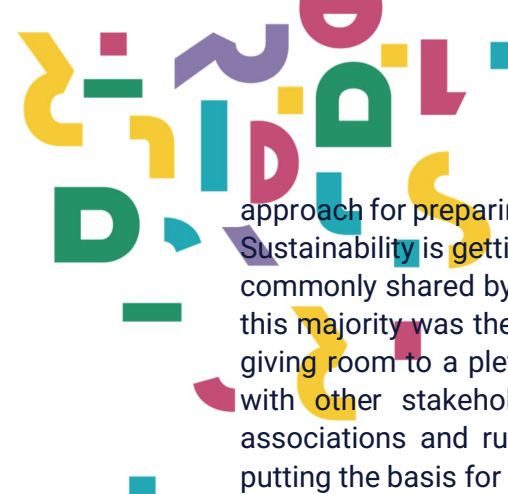


facilitation skills and participatory approaches of the dynamics that helped to conceptualize much better the challenges faced by the region. This lab also helped different stakeholders to be gathered into a dedicated forum where they were able to discuss collective endeavours and joint ventures in a more informal and relaxed space. We have to remind that just short before the pandemic an innovation forum was set up and promoted by the Cantabria Government to address the lack of cooperation between stakeholders (see D2.2 for more info). Due to its formal and highly politicized profile, the forum was not popular, and it did not provide an adequate space for ideas exchange and information sharing. The TetRRIS Lab, in this sense, provided a momentum for restoring cooperation dynamics between regional stakeholders, but it also provided a natural continuation to the EDP sessions held under the revision of the new S3 strategy of the region known as “ICANN”. These sessions were organized and facilitated by CISE, but TECNALIA and SODERCAN took part on them, influencing in a great manner the new S3 for the period 2021-2027.

Second, the impact of the TetRRIS project into the development of the new S3 has been significant. As it was stated by the General Director of Innovation of Cantabria in the TetRRIS Policy Lab at Santander (9th and 10th of February of 2023), the project has influenced in a significant manner the new S3 for the period 2012-2027 and the RRI concept has been incorporated into the strategy, but it also has permeated different pillars of it. The S3 strategy is not public yet, but several of the dimensions and values that are promoted by RRI are also visible in this policy document. In addition, there are explicit mentions to RRI in the evaluation documents of the S3 strategy as a way for improving the regional innovation ecosystem, its governance and its social responsibility to the territory. In this way, we can argue that the policy impact of the project has been significant, and it has contributed to the development of the new policy strategy of the territory.

Third, the pilot actions that have been developed under the umbrella of the TetRRIS lab have helped to make visible the interests and motivations of different regional stakeholders, but also the different barriers and challenges that difficult these ambitions. Pilot actions have helped to clarify what are the priorities from a bottom-up perspective and how these priorities could be framed under RRI lenses, engaging other stakeholders that are not usually considered into the regional innovation system and that represent citizens expectations and needs. Barriers and challenges for cooperation have also been illustrated through pilot actions such as in the case of the first pilot action (Collaborative/Cooperative Health Forum) and the need of introducing another agile and flexible mechanisms for coordination between different regional ministries. This also has helped to make visible the economic implications of these shortcomings as this lack of coordination between different departments also enable barriers for collaboration that can hinder initiatives that can lead to innovation-driven economic development.

Fourth, TetRRIS project has acted also as an outlook for coming policy requirements (societal impact, societal engagement, directionality, transformative innovation, place-based sustainability, mission-driven innovation) that will be in place around R&I in coming years and that regional stakeholders will have to deal with. In this regard, most of the regional stakeholders were aware about these issues, but most of the times they confessed that they were not well equipped to deal with them. The TetRRIS project has provided the opportunity to grasp on these issues with a bottom-up and collaborative



approach for preparing them to the new realities that will have to face in coming years. Sustainability is getting a more prominent role in policy agendas and this opinion was commonly shared by the majority of stakeholders engaged. What was not shared by this majority was the kind of actions, plans and strategies to deal with. In this sense, giving room to a plethora of stakeholders and engaging them on these discussions with other stakeholders not usually present in these forums such as citizen associations and rural platforms is something that TetRRIS project has achieved putting the basis for next actions in this regard.

For all of these reasons the project has been a driver for spreading the RRI “message” amongst the most important players of regional innovation, including the Regional Government, with the DG Innovation leading the path, the university, SMEs, local municipalities, etc. and to gather them in an informal way. This has caused that RRI has been included as a key element to be taken into consideration for the updated Smart Specialisation Strategy for the new financing period, which has been officially approved by the European Commission in December 2022. This inclusion was due mainly because of the active involvement of the DG Innovation of the Regional Government which has been the key driver supporting the regional implementation of the project.

Stakeholders, in general, have been very positive towards the RRI aspects and concept which has been developed during the different workshops/labs we have organized in our region. One aspect which has been highlighted is that some of the most active players in regional innovation (as some SMEs) have been taken concepts of RRI into consideration when drafting, designing and implementing innovation since without even knowing that they were addressing RRI as such. Thus, the project has been a way of making them aware of it and all topics related. The real challenge is the involvement of the civil society through associations, federations, in order to complete the quadruple helix. In this sense, the involvement of innovation stakeholders in the region has been a very positive aspect which might be useful in order to establish a permanent space for discussion and cooperation which is something that was discussed during the different workshops held in the Region under the TetRRIS project. A general sense of lack of coordination, different actors developing similar actions on Innovation was shared by most stakeholders who were eager to start cooperation and coordination to develop innovation actions which are not duplicated, with the aim of being efficient in economic resources.

SODERCAN as RDA is part of the Regional Ministry of Industry and for this specific purpose has been cooperating closely with the DG Innovation which has participated in most of the organized labs in the region. It has been updated on every stage of the project. The commitment of DG Innovation has been an important change in the region since its political and institutional support has been formally included the document on Smart Specialization sent to the European Commission so that it means that the Regional Government and more specifically DG Innovation will consider the RRI as an essential element and a cross-cut element in Innovation policies. The role of the regional government, most notably the DG Innovation, was highlighted as being the leading institution in order to coordinate the different fields of regional innovation. SODERCAN could be the executional body in charge of day-to-day work. A tight coordination, for instance between private innovation actors and institutions as SODERCAN, which is responsible for launching Innovation calls (regional R&D

projects), is something essential in order to promote and fund socially responsible projects and to spread the message amongst private companies (most notably SMEs) about the importance and relevance of RRI aspects to be included and valued in projects submitted to regional calls. SODERCAN might include amongst criteria for granting funds on R&D projects RRI aspects -such as ethics in European calls.

New political scenario is supposed to happen after Regional and municipal elections which are held next 28th May so that it could mean that political involvement might decrease. SODERCAN might take the lead as regional Development Agency which has the responsibility, amongst other public services aimed at companies, of launching calls for R+D projects and being a part of clusters which might reinforce the aspects of RRI as drivers for change since they involve the three pillars of Triple Helix - SODERCAN being the representative of Regional Government in the different regional clusters- SODERCAN could play a role in the development of RRI amongst companies, University research centres and other regional institutions such as the Regional Chamber of Commerce.

3 Tampere

3.1 What was done

The vision of the pilot in the region of Tampere was based on the actions promoting sustainability and integrating RRI themes in the regional innovation ecosystem, especially in the regional strategical processes including the Regional Development Programme and Smart Specialisation Strategy. The Tampere pilot also recognised that the traditional innovation ecosystem cannot drive the responsible sustainability transition alone without including the region's biggest economical actors, namely, the manufacturing industry. Thus, the pilot was divided into two spearheads, one focusing more on the regional development processes and one more on the manufacturing industry's ecosystem and processes. The overall vision of the pilot was "to create a cohesive, responsible and sustainable regional innovation system that works in a cooperation towards building a better future for the region". To answer the two targets of the pilot, the Tampere pilot organized the following actions, here presented under thematic topics:

- Regional strategies and programmes
 - o Regional programme and Regional Digital Compass: Intertwining with the ongoing regional development program process by enhancing RRI dimensions, and building a roadmap of the regional digital compass in the Council of Tampere Region. Especially engagement, open access and inclusivity were promoted.
- Awareness raising
 - o Collaboration with regional initiatives Ekothon2 and Sprint Innovation Festival: Ekothon2 was a co-creation online event that enhanced public engagement with the civil society and the grass-root-level actors of the region. In Sprint Innovation Festival, the pilot prepared challenges to innovation competition for students, on the first year on the challenge of manufacturing industry to attract young people, and on the second year, on envisioning a sustainable digital future of the region. The

- prepared challenges promoted widely different responsibility and sustainability topics, especially inclusion and engagement.
- 'Strong, stronger, responsible' seminar series on sustainability and responsibility targeted especially at SMEs. The seminar addressed especially corporate social responsibility (CSR) and within that social and environmental sustainability including various themes from the need of foresight (anticipation) to ethical solutions (e.g., inclusion and diversity) to environmental ones (e.g., technological solutions).
- The RRI Roundtable meeting series brought together the regional RRI-related projects to discuss topical issues and the future development of RRI. Wide array of RRI elements were discussed in each event. For example, gender equality, citizen science, and engagement have received attention although none of the meetings has concentrated on only one specific RRI topic. Rather the action has on purpose addressed the RRI concept broadly.
- Training and intervention
 - Corporate Responsibility Accelerator: A series of workshops targeted at manufacturing industry SMEs, to support their sustainable business development efforts. The accelerator did not address specific RRI elements but had general sustainability and responsibility focus. For example, social, economic, and environmental sustainability were discussed throughout the pilot action. The focus was to improve skills and knowledge in CSR, in particular of small businesses. Reflexivity was also one of the key RRI elements.
- International collaboration
 - Regional exchange between Tampere and Karlsruhe technology regions: The pilot action facilitated collaboration among representatives of regional partners and stakeholders. The exchange program addressed a range of topics, including the challenges of scarcity of qualified personnel, the transition towards sustainable mobility and energy systems, and the development of neighbourhoods. Under RRI themes, the process placed particular emphasis on exploring and examining the various aspects and dimensions of participation, citizen engagement, corporate responsibility, and relating to talent attraction also diversity and inclusiveness.
 - Collaboration with High-Level Forum: The workshop organized by the project promoted responsible innovation and stronger stakeholder engagement
 - Regional exchange between Tampere and Szeged-Timisoara: Exchange was organised to share knowledge, regional learnings and good practices. VTT and YAGHMA ran a foresight workshop, and discussions were started on replicating Responsibility Accelerator in Szeged. The key RRI elements that were discussed during the action related to overarching topics of sustainability and responsibility. A particular focus was on improving corporate responsibility knowledge in small ICT businesses, and regional expertise in anticipatory aspects of responsibility.

3.2 Key Outcomes of the different Pilot Actions

Regional strategies and programmes

3.2.1 Pilot Actions: Regional programme and Regional Digital Compass

The pilot enhanced RRI dimensions within the dialogue between the regional actors, and promoted engagement, open access and inclusivity between different ecosystems. The discussions and activities allowed the participants to share knowledge and insights on how to develop a regional strategy that promotes sustainability, responsibility, and innovation.

The Council of Tampere Region launched a preparation of new regional programme in the early 2021, which provided a good opportunity for the Tampere pilot to first introduce, and, second, enhance sustainability and responsibility views in an institutional setting of a regional development. It was the first time such an intervention was made locally that aimed to integrate responsibility among sustainability in the strategic decision-making. In line with this aim, responsibility and sustainability are cross cutting the new regional development program and the included smart specialization strategy published in the end of 2021.

The objectives of the building a roadmap of the regional digital compass in the Tampere Region are mainly to increase investments in digitalization in the region and improve the synergies of digital (and green) policies and investments, sharpen the profile of Tampere Region related to the European and national digital targets, policy instruments and funding programmes, attract businesses, partners, digital talent and investments, increase regional contribution to the European digital policies and contribute to the national digital compass. The process of developing digital compass emphasized the importance of engaging different stakeholders in the digital strategy development process, including industry, civil society, academia, and government. This inclusive approach helps to ensure that the strategy reflects the diverse needs and interests of the ecosystem and contributes to the overall sustainability and responsibility of the region.

Because the action is still in its early stages, it is not yet possible to identify concrete results of the strategy. However, it provides stakeholders with the opportunity to participate in the development of a strategy and shape its goals and roadmap. Stakeholder participation can have a significant impact on the strategy's outcomes, ensuring that it is relevant and effective. The early stage of the Pilot Action does not allow to indicate any anticipated benefits that did not materialize.

The regional programme is in force until 2025. Until that, it has an impact on the policy decisions and other decision-making in the region. However, the nature of the impact of the programme and the role of it in the region can be assessed only after the end of the programme period. It is crucial how the learnings are taken forward and how the RRI thinking is implemented in the next programme period. Similarly, the learnings of the digital compass process can be fully assessed only after the action has proceeded to its end.

Awareness raising

3.2.2 Pilot Actions: Collaboration with regional initiatives Ekothon2 and Sprint Innovation Festival

Both the actions that we here handle together, were collaborative actions with existing, established platform events. The main target of the pilot for taking part in the events was to integrate RRI, sustainability and responsibility thinking in the event topics, and thus to share knowledge and increase awareness of the topics among a greater audience.

Ekothon2: TetRRIS collaborating with Ekothon2 enhanced public engagement with the civil society and the grass-root-level actors of the Tampere region. The RRI themed questionnaire and responsibility guidelines developed by the pilot team introduced the topics and the way of thinking to the participants of the event. The questionnaire and the guidelines developed for the Ekothon2 event can be used also for other purposes, for e.g. events or projects that need to be evaluated in terms of their ability to take responsibility issues into consideration, and thus for the needs of further development.

Sprint Innovation Festival: Collaboration with Sprint Innovation Festival took place twice. The event is organised annually by the Tampere University community, and it involves hundreds of students. Working with students opened the possibility for the pilot to introduce system-level responsibility and sustainability thinking, with versatile perspectives, to students, and thus to give them new perspectives and learnings, which they may adopt and consider in their later studies and working life. Also, for the pilot, the Sprint event offered a platform to collaborate with various other stakeholders: the university community, other organisations taking part in the event, the SIX Initiative and Business Tampere, thus developing the dialogue and collaboration with the actors. Moreover, the VTT team got the chance to discuss with the Sprint organisers on the idea of broadening the Sprint guidance for students from focusing mainly on the customer to considering a wider set of stakeholders (i.e., introducing broader stakeholder engagement). In practice, the students' solutions to the tetRRIS challenges were taken into consideration in the organising organisations: e.g., an on-going project "Konepajakoulu 2.0" got good input from the students' ideas in the first round of Sprint collaboration. The first collaboration in 2021 concentrated especially on the RRI topics of inclusiveness and diversity, in the context of the manufacturing industry and industrial renewal. The second collaboration in 2022 concentrated especially on sustainability, responsibility, ethics, inclusion, and engagement.

Participation to existing platform events is seen as an efficient way to receive visibility to RRI-related themes and accelerate RRI because launching events from scratch is ineffective in relatively short project time span. It is important to identify the best platforms and on-going institutional processes early on, but at the same time be flexible for evident changes. Another advantage is that engaging to different types of events and audiences forces you to formulate your messages carefully, and you need to adapt your terminology to address your audience. It challenges your own thinking of RRI. On the one hand, preparation of the events takes a lot of effort given that building a mutual understanding of RRI takes times. It is important that parties involved in the event understand the concepts in a similar manner, so that the implementation of activity is fruitful for all parties.



3.2.3 Pilot Action: 'Strong, stronger, responsible' seminar series on sustainability and responsibility

A major challenge in the region detected in the beginning of the TetRRIS project was the lack of resources and competencies of SMEs to develop their responsibility related operations. The seminar aimed to address this gap and bring SMEs information on major sustainability and responsibility challenges in business and technology development as well as potential solutions. The seminar was a collaborative effort among various projects and research areas within VTT. TetRRIS team participated actively in the planning and organization of the seminar from the very beginning. The seminar addressed especially corporate social responsibility (CSR) and within that social and environmental sustainability including various themes from the need of foresight (anticipation) to ethical solutions (e.g., inclusion and diversity) to environmental ones (e.g., technological solutions).

The seminar offered a suitable place to introduce sustainability and responsibility related thinking and projects, their results, and the VTT expertise and experts. A campaign was started after the seminar to identify and open discussions with companies on development needs. This has led to new projects and discussions on responsibility and sustainability related themes with companies. One concrete example is the "hub for sustainable development" which is a discussion platform for companies and VTT researchers on sustainability related challenges and viable solutions.

On the basis of the positive feedback given by the participants, the event was decided to be reorganized in autumn 2023 by VTT. This is foreseen to continue as an annual event with more specific sustainability-related topics each year. Tentative key topics for the year 2023 are diversity and inclusion.

Key learning of the pilot action is that organizing such a big event requires lots of effort. For a single project, taking on the event organizing is a too big task. Therefore, it is reasonable to collaborate e.g. with other projects and teams, and to utilize organizational resources and expertise that are already available. This also supports the institutionalization of the event. Organizing the event in close collaboration with the VTT marketing and also under the VTT brand helped the event to reach greater number of people.

3.2.4 Pilot Action: The RRI Roundtable meeting series

The RRI Roundtable meeting series has by far included three meetings. For the purposes of this deliverable, these actions are handled together given their common objective.

The RRI Roundtable brings different actors and their projects together, which means that wide array of RRI elements were discussed in each event. For example, gender equality, citizen science, and engagement have received attention although none of the meetings have concentrated on only one specific RRI topic. Rather the action has on purpose addressed the RRI concept broadly.

The key benefit of the RRI Round table meeting series has been the transfer of information and knowledge between RRI related projects inside or between organisations, and the identification of common interests of projects. The meetings

have had also more focused topics, relating to e.g. other TetRRIS actions and their planning (e.g. designing contents to HLF workshop and the Ecothon2 event) and the prospects of RRI. Especially the Council of Tampere Region, VTT and Tampere University were actively involved in the meetings, but the meetings also involved organisations from outside the region, also international guests thus serving the internationalisation goals of the Tampere pilot.

■ The third RRI roundtable meeting was intended to be larger event in Helsinki. However, it turned out that hybrid or on-line events are preferred by RRI community, and the in-person meeting was transferred as hybrid meeting. It also failed to attract wider international participation.

It is seen that sharing information on responsibility related projects regionally is highly important and useful, for example for:

- Information and knowledge sharing on projects and their results;
- Providing benchmarks on useful and best practices;
- Providing a platform for discussing on regional responsibility and sustainability related challenges and policies;
- Co-creating solutions to challenges;
- Giving local actors peer support on their actions; and
- Creating collective implementation power.

Training and intervention

3.2.5 Pilot Action: Corporate Responsibility Accelerator

The action supported the participating SMEs that had acknowledged the need to develop their corporate sustainability measures and that wanted to investigate the possibilities of sustainable business and develop their corporate sustainability measures. In more detail, the workshops offered companies information on the key concepts of sustainable development and corporate sustainability, the trends around the development, and tools that support their development, and through bringing companies together in a workshop setting, giving the companies possibility to share and learn from another. The accelerator focused on the following themes: changes in regulation, trends of the operational environment, key areas of corporate responsibility, and opportunities for business development, such as circular business models.

For companies, the most important take-aways of the accelerator are tools to evaluate the strategic direction of participating companies, analyze the needs of main stakeholders, conduct materiality assessment, map central risks and opportunities in business development, and draft responsibility goals and roadmaps. The key output of the action was the workshop material, including presentations on the topics of sustainable and responsible business development, and the multiple work templates for the use of companies.

The Corporate Responsibility Accelerator did not address specific RRI elements but had general sustainability and responsibility focus. For example, social, economic, and environmental sustainability were discussed throughout the pilot action. The focus was to improve skills and knowledge in Corporate Social Responsibility, in particular

of small businesses. Given that the format was based on mutual learning, reflexivity was also one of the key RRI elements.

The Accelerator concept was developed and piloted together by VTT and 4Front consultancy company, and it was also a cross-organisational learning and co-creation process. As the Accelerator concept is now ready and piloted, it can quite easily be developed further and modified to the needs of different sets of organisations. The material has already served in the use of other projects and company cases at VTT, and the collaboration with companies has given valuable insights on how companies perceive and understand sustainability and responsibility. Thus the action was not only “top-down”, but co-creational, enabling mutual learning, reflexivity and responsiveness between the organisers and the company representatives.

A key learning of the action was the benefit of concepting: the set of workshop was concepted and offered under the label of accelerator, which arouses the interest of companies. The concept note of the Accelerator was also shared with the partners and stakeholders in Szeged-Timisoara as part of a pilot action.

International collaboration

3.2.6 Pilot Action: Regional exchange between Tampere and Karlsruhe technology regions

The two pilot regions have many similarities, which became apparent during the early months of the TetRRIS project. The willingness to benchmark sustainable and responsible industry practices and digitalization was a crucial aspect of starting the cooperation.

The pilot action facilitated collaboration among representatives of regional partners and stakeholders, including those who were actively involved in the project and those who were not part of the core TetRRIS project teams. This allowed for a more diverse range of perspectives and expertise to be included in the project's development. The exchange program provided a valuable opportunity for participants to gain insights into the structures, political and policy processes, missions, and objectives of other organizations. Through these discussions, the participants were able to identify similar issues and discover new benchmarks and areas of interest for future international and cross-regional collaboration. The exchange program successfully addressed a range of topics, including the challenges of scarcity of qualified personnel, the transition towards sustainable mobility and energy systems, and the development of neighbourhoods. Under RRI themes, the process placed particular emphasis on exploring and examining the various aspects and dimensions of participation, citizen engagement, corporate responsibility, and relating to talent attraction also diversity and inclusiveness.

Currently the action is still in its early stages, and therefore, it is expected that additional benefits will be identified as the project progresses. As more information is gathered and analysed, it is likely that new opportunities will emerge, and the full extent of the action's potential benefits will become more evident. Therefore, it is important to keep monitoring the progress of the project and stay open to new possibilities that may arise in the future.

The pilot action demonstrated the value of bringing together representatives from diverse organizations and countries to share knowledge and expertise, identify common challenges, and establish potential areas for collaboration. Additionally, involving relevant stakeholders, such as those within Sustainable Industry X, was shown to be crucial for ensuring the relevance and impact of collaborative activities. Going forward, it is recommended to identify and involve additional stakeholders from industry, government, civil society, and academia in collaborative activities. Emphasizing mutual learning and collaboration as key outcomes and exploring ways to sustain and expand these outcomes over time, will also be prioritized.

3.2.7 Pilot Action: Collaboration with High-Level Forum

The action was a collaborative action with an existing, established international platform event, High-Level Forum. The event brought together international leaders and decision-makers from innovation ecosystems to promote global and local innovation in different areas of society.

The main target for the collaboration with the HLF was to integrate RRI, sustainability and responsibility thinking in the event topics, and thus to share knowledge and increase awareness of the topics among a greater audience. In the HLF, the session designed by Tampere and Karlsruhe promoted RRI and concentrated on arguments why stronger stakeholder engagement is needed to reach sustainability goals and get involved in responsible innovation. The benefit of the TetRRIS session, was that the participants shared stories of the innovation ecosystems' practices for stakeholder engagement. In addition to sharing practices and knowledge, the participants got to know each other and build new connections, building opportunities for new collaboration in the future. The key elements of RRI addressed by the event were inclusion, engagement and responsibility. Participation to the HLF was an efficient way to get visibility to RRI-related themes and accelerate RRI.

3.2.8 Pilot Action: Regional exchange between Tampere and Szeged-Timisoara

Given that Szeged-Timisoara region is a learning partner of TetRRIS, the key benefit of the exchange is Szeged-Timisoara region's learning from the regional experiences and good practices in the Tampere region. The key RRI elements that were discussed during the action related to overarching topics of sustainability and responsibility. A particular focus was on improving corporate responsibility knowledge in small ICT businesses, and regional expertise in anticipatory aspects of responsibility.

The foresight workshop organized in Szeged supported the region by opening the discussion of the roadmap and strategies to responsible and sustainable R&I in 2030. As the workshop brought together various stakeholders in the region, it also was a place for sharing knowledge on responsibility, sustainability and RRI, and build common understanding of the regional vision. Besides the workshop, VTT team presented the Responsibility Accelerator Concept and prepared a concept note for it supporting the interested stakeholders in the Szeged-Timisoara region in taking the first steps in developing similar approach for their needs.

This pilot action was just initiated within the tetRRIS project and did not yet mature as strong collaboration between the regions. Some of the activities, such as replicating the Responsibility accelerator to Szeged is foreseen to be one of the activities that will

strengthen collaboration between the regions, namely between VTT and Demola Szeged.

One of the major learnings of the activity was that to start regional collaboration often demands concrete action(s). It is important to identify these concrete actions in the beginning of the project which can then mature during the project. Another important aspect in regional exchange is to gain strong contextual understanding of the formal and informal regional structures.

3.3 Continuity Actions for the different Pilot Actions

Regional strategies and programmes

3.3.1 Pilot Actions: Regional programme and Regional Digital Compass

The action has the potential to make the regional strategies more engaging, accessible, and transparent to civil society and the wider regional innovation ecosystem from an RRI perspective. The action has been designed to create institutional change and promote responsible digital transition within the region and stakeholder organizations.

The goals established during the initial phase of developing the regional digital compass address various RRI aspects. For instance, there is a focus on openness by promoting the use of open standards and open source-based procurements. Another RRI key addressed is gender equality, with the goal of increasing the proportion of women in ICT professions to 30%. Moreover, there is a goal to enhance science education by increasing ICT education at higher and secondary levels and enabling widespread use of digital services.

As the strategy develops over time, it is important to continue engaging stakeholders in the process in an inclusive manner and seeking their input and feedback. This can help ensure that the strategy is adapted to changing circumstances and remains responsive to stakeholder needs and priorities. The process of monitoring the implementation of the strategy will require critical reflection on its development, as well as consideration of the implications it may have for society and the environment.

The action proceeds in phases as planned. During Phase 2 of the project the work on developing roadmaps to achieve the objectives agreed upon in Phase 1 is being conducted, starting from the beginning of 2023. To support this process, hired consultant assists in the development of roadmaps. At this stage, desk research is being conducted to gather materials and analyse other relevant action plans and strategies in Finland and the EU. A series of workshops will be held in spring 2023 to discuss action plans with stakeholders. Based on these discussions, actions will be validated, prioritized, and classified, and responsible organizations will be identified. Phase 3 of the project will focus on the development of indicators and measurement systems to support the work on the roadmaps.

A crucial factor for a successful creation of the strategy in a participatory process is the high level of stakeholder involvement. Insufficient dedication from stakeholders could potentially hinder the process. However, so far, we have experienced a sufficiently high level of commitment from stakeholders.

There are also possible constraints. It is uncertain what funds will be available for the implementation of the strategy, which creates a risk that insufficient financial support

may hinder the achievement of the goals of the regional digital compass. Improving the availability of regional data and indicators, as well as the lack of regional peers working with regional compasses, are other challenges to be addressed in the implementation of regional compasses. Moreover, policy instruments related to digital transformation are still partly fuzzy and in continuous flux. Therefore, open communication and coordination between EU institutions, national governments, and regional governments are essential to ensure a coherent and effective implementation of regional digital compass.

The regional digital compass strategy of the Tampere region provides an excellent opportunity to collaborate with stakeholders and decision-makers at both regional and national levels. This is because Finland's digital vision for 2030 and targets for the national digital compass have already been established by the Ministerial Working Group on Developing the Digital Transformation, the Data Economy, and Public Administration. Although the Tampere region is the first region in Finland to adopt a digital compass, the possibility of cross-regional collaboration and benchmarking good practices will emerge once other regions in Finland and other EU countries start to develop their own digital compass strategies. The participatory approach to the process of creation the regional digital compass increases chances for more regional cooperation between regional actors due to being well-fitted for broad range of stakeholders.

Some areas of collaboration opportunities have been identified within inter-regional investments, RDI collaboration, and Mission-Driven European Partnerships (MCPs), for example Chips for Europe: IC design, manufacturing, and packaging, as well as SIX Digital Innovation Hub. They offer a platform for collaboration between different actors. Future connectivity, data spaces, and AI in industry are emerging collaboration opportunities, with potential for fostering innovation and competitiveness in various sectors, including manufacturing and services. Data-driven and interoperable smart cities and communities offer another potential area for collaboration. Such initiatives require cooperation between various stakeholders, including industry, government, and civil society, to develop and implement effective solutions that leverage the power of data and digital technologies to create sustainable and inclusive urban environments.

The next step of the process is to prepare a regional digitalization roadmap. The measures of the road map will allow to implement the strategic digitization goals set in Tampere region's digital compass by 2030. Participatory, open, and interactive methods are crucial in the preparation process of the digital compass, hence the roadmap development will involve eight stakeholder groups, each comprising 5-12 members, totalling around 60 participants. Furthermore, a workshop with representatives from municipalities, including decision-makers and officers, was held in March 2023, where they had the opportunity to discuss the priorities for the regional digital compass. The roadmap development work is scheduled to take place from February 1st to June 30th, 2023. The third phase of the project, which will focus on creating indicators and measurement systems to aid in the roadmapping process, is planned to be conducted in the autumn of 2023.

Awareness raising

3.3.2 Pilot Actions: Collaboration with regional initiatives Ekothon2 and Sprint Innovation Festival

Both pilot actions were stand-alone events, organised by another actor with which the Tampere pilot collaborated without targets for broader collaboration. Continuing the collaboration would need new funding and resourcing, e.g., another regional development project. However, Sprint Innovation Festival and Ekothon are already established events with own organisations and funding mechanisms, and once the collaboration has now been started, the pilot organisations have contacts and expertise to continue the collaboration, but as the TetRRIS project is now reaching its end, no specific plans for this have been made. In terms of the impact of the pilot-event collaboration, it is now up to the organisers of the events to what extent RRI matters are considered in the events in the future.

3.3.3 Pilot Action: 'Strong, stronger, responsible' seminar series on sustainability and responsibility

The seminar offers VTT a platform through which to reach a great number of companies at once, and through which present on-going projects and the solutions and expertise that could help companies struggling with sustainability- or responsibility-related business challenges. Linking VTT, its projects and experts together with a company, and finding solutions to companies' needs is the key benefit that is pursued for. Preparations have been started at VTT to organise the seminar also in the fall 2023, and to build a continuous annual seminar event.

Organising such a big event requires a lot of resources. It is a big investment from VTT's side and there is a need for devoted experts and shared understanding of the targets and the benefits that are looked for. Sustainability and supporting Finnish businesses to become more sustainable is in the core of VTT's strategy, so sustainability-focused seminar series has potential.

3.3.4 Pilot Action: The RRI Roundtable meeting series

The 4th RRI Roundtable meeting is planned to be organised in May 2023, so it will take place within the TetRRIS project. The Council of Tampere Region oversees the preparations. Organisational and cross-organisational collaboration and knowledge transfer is a continuous need, so continuing the good collaboration especially between VTT and the Council of Tampere Region on organising the roundtable meetings is anticipated to continue after tetRRIS. However, as many of the RRI-related projects are now ending, the common interest for the roundtable series should be discussed and fine-tuned if agreed so. There definitely is a possibility for institutionalisation, and the roundtable could continue as a forum for cross-organisational discussions on sustainability- and responsibility-related projects especially with regional (public) R&D&I actors. Room for such platform that facilitates formal and informal discussion, exchanging of experiences and peer-learning is seen among the actors.

The Round table concept could be developed so that it allows more thorough thematic discussions related to sustainability and responsibility and extend the invitation to additional regional partners. In addition, it would be beneficial to extend the roundtable to international, mainly European, collaborators.

Training and intervention

3.3.5 Pilot Action: Corporate Responsibility Accelerator

The pressing need of SMEs to get more resources and support for their sustainable business development and corporate sustainability measures has not disappeared. Because of e.g. the pressure coming from stakeholders such as partners and customers and the changing legislation (e.g. Due Diligence Directive and Sustainability Reporting Directive) companies, even the smallest SMEs, have to start preparing for and developing their processes and practices. The action continues to support these companies, to give them information on the concepts as a whole, and insights and tools on the more specific development topics most relevant for them, so that are more capable to continue their development work. The action continues by focusing on “enhanced CSR” in which remarkable role is on wide responsibility thinking from anticipatory aspects to social responsibility and ethics as well as environmental sustainability. The next round of Accelerator could take place in the autumn 2023.

The challenge for the next steps of the Accelerator is funding. SMEs seldom have the possibility to buy consultative development services. The VTT pilot team has already started discussions with few regional development agencies that have in their interest to support the SMEs in their region, and could purchase the Accelerator service, and that could act also in a coordinator role, contacting potential companies and organising the workshop practicalities. A third party acting between VTT and SMEs would make the organising more efficient, thus also lowering the price of the workshop series.

In terms of organising and offering the Accelerator efficiently in the future, a critical point is ensuring the availability of the resources at VTT’s end, i.e., ensuring the right experts with appropriate prior knowhow on the topic have resources to develop and run the workshop series.

International collaboration

3.3.6 Pilot Action: Regional exchange between Tampere and Karlsruhe technology regions

Karlsruhe and Tampere have agreed to collaborate also in the future, and thus to promote further the collaboration between the regions. Several important stakeholders, including organizations within Sustainable Industry X (SIX), a Finnish industry-driven initiative that shapes and implements the next-generation green and digital industry agenda, have expressed a keen interest in continuing their cooperation with the Karlsruhe Technologie Region. They anticipate many benefits from continued mutual learning and possible joint activities and projects. This interest and anticipation reflect the value that the stakeholders place on the collaboration and the potential for further positive outcomes in the future. With such strong interest from key stakeholders, there is ample opportunity for the collaboration to continue to thrive and deliver significant benefits in the coming years. In terms of responsibility, especially stakeholder engagement and inclusion were identified as important topics for further discussions. This highlights the need for involving stakeholders in the early stages of collaborative activities to ensure that their perspectives and needs are taken into account. This can also contribute to building trust and legitimacy among stakeholders, which can ultimately lead to more successful and impactful collaborative activities.

The outcomes of the cooperation will be incorporated in the respective regional development strategies. The regions aim to establish a sustainable foundation for ongoing dialogue and knowledge exchange beyond the scope of the TetRRIS project. After the collaboration in TetRRIS, collaboration between the two regions will be taken forward especially by Business Tampere and Karlsruhe Technologie Region. The potential themes for collaboration include e.g. matchmaking companies, scouting for corporate innovation, benchmarking, joint EU projects, and event collaboration in exploring new technologies and processes. In terms of responsibility, especially stakeholder engagement and inclusion were identified as important topics for further discussions.

There are numerous collaboration opportunities available, including those provided by programs of the European Union, which can facilitate cooperation both at the regional level and among industrial stakeholders. However, due to the early stage of the action, it is difficult to pinpoint specific opportunities that may be most relevant. Further exploration and analysis will be needed to identify and assess potential collaboration options.

The collaboration established through the TetRRIS project is intended to continue beyond the project's timeline, as it is planned to be a long-lasting partnership. Consequently, no end date has been set for this collaboration at this point.

Regional collaboration, as any mode of collaboration, is strongly dependent on the active individuals. Thus, a key challenge is that the persons active in the collaboration between the regions and having the contacts leave their job, thus leaving also the collaboration behind.

3.3.7 Pilot Action: Collaboration with High-Level Forum

The pilot action was collaborative by its nature as the HLF is organised by another actors. The collaboration was one-off, and no targets for broader collaboration between the project and the event were made. However, Tampere region is part of the HLF Community, and it is probable that VTT will take part in the preparations of the HLF events also in the future, perhaps with other participants and changing topics. Such collaboration needs new funding instruments and resourcing. In 2022 the HLF summit was organised in Tampere which also made the deeper collaboration possible.

3.3.8 Pilot Action: Regional exchange between Tampere and Szeged-Timisoara

A main target for the future collaboration is to support the Szeged-Timisoara region in developing sustainable business. This process has already been started with VTT, Demola Szeged and DarInno in developing a concept note of the Responsibility Accelerator workshop series, with which the actors in the Szeged-Timisoara can start planning for a similar kind of activity, targeted especially at ICT SMEs. The concept note will be finalised in March-April 2023, giving room to pilot the accelerator in Szeged during the TetRRIS project. Moreover, discussions have also started on organising a company visit from Hungary to Finland and exchange of smart city knowledge between Tampere and Szeged.

Replicating the Corporate Responsibility Accelerator requires that there is an active actor in the region ready to take the lead in the preparations: in finding the right experts

to develop the accelerator concept and its contents according to the local needs; actors that are also ready to commit adequate amount of resources to the workshop series, contacting companies and taking care of the practicalities. Funding is also a key question: SMEs rarely have possibility to pay for such services, and therefore another funding mechanism is needed; e.g., regional development organizations might be a party that would not only have interest for funding this kind of SME training and support, but also have contacts to SMEs that would be potential for taking part in the Accelerator.

Discussions were started with the representative of the local university and Demola in Szeged who had interest in the Accelerator concept, and the concept note was shared with them too. Demola Szeged works with local start-up community. Demola is a university-industry innovation platform alliance originating from Tampere and spread to other countries, including Hungary.

Developing of the Accelerator concept to Szeged is an on-going process in spring 2023. Potential company visit is foreseen attached to final conference of tetRRIS taking place in Tampere in the early July 2023.

3.4 Broader changes in local and partner organisations' work

The Tampere pilot focused especially on promoting sustainability and responsibility thinking in the region, in both industrial RDI ecosystems, networks and practices and in the regional development work and processes. RRI as a concept was not underlined specifically, but its elements were integrated and introduced through the concept of responsibility. The following elements of RRI were particularly important to the region: anticipation, openness, diversity (incl. gender questions), stakeholder inclusion and public engagement, transparency, communication of RDI activities, as well as reflexivity and responsiveness.

Responsibility and sustainability were the key perspectives in many of the pilot actions, and through these actions, the pilot reached regional decision-makers forming the regional strategies, SME representatives, industrial network representatives, project initiatives and research actors, students and general public, and introduced and opened for discussion the questions of how to take the green transition into consideration in organisations, and how to develop more responsible and sustainable business. Sustainability and responsibility are topics with growing importance on all levels, from individuals to companies and other organizations and wider societies. They are also topics around which there is lot of debate and growing need for information. Even though the direct impact of the pilot actions is difficult to assess at this point, Tampere pilot being able to share information and support these various stakeholder groups to grasp the phenomena and interpret it, strengthens the region. In all, considerable progress in the sustainability and responsibility thinking in the region has taken place both due to the change of operational environment and initiatives of the project.

The pilot had a significant impact on both the development process (by increasing engagement and openness) and the content of Regional Smart Specialization Strategy (S3), where responsible and sustainable industry transition is one of the main focus areas. RRI is also present in the process of creating regional digital compass, which is being developed in a co-creation manner, and emphasizes the importance of RRI. For

instance, the call for tender for consulting services on the roadmap process specifically highlighted the need for including RRI in the process. By incorporating RRI elements into these strategies, there is potential for long-term impact on other stakeholders in the region.

The RRI concept as such was focused on especially in the RRI Roundtable meeting series that with three organized meetings and one under preparation managed to create tighter connections between the organizing organisations in terms of RRI related projects and the development and the future of the concept itself. Now, as the project reaches its end, it can be noted that the RRI as a concept is not strongly present in the regional level, but many of its elements have become widely acknowledged and integrated in both policies and business.

During the pilot, the pilot group worked closely with regional networks and actors. Especially in the beginning of the project, the project team closely collaborated with regional industrial networks, Smart Manufacturing Hub project and the national SIX Smart Manufacturing initiative. Although the connections have been built, the collaboration did not institutionalize but is more project-focused. However, also new connections were built (e.g., with the Tampere City Region and Business Tampere), and many of the TetRRIS actions contributed to the deepening of the collaboration between the Council of Tampere Region and VTT.

For VTT the learnings include the way the actions enabled refining and applying research expertise and discussions to more practical contexts and to the needs of different kinds of stakeholder groups. In the pilot, VTT has operated especially in the role of an intermediary and orchestrator which is also quite natural for VTT as in the projects of VTT system-level approach studying phenomena in complex environments is quite typical.

Also for the Council of Tampere Region the learnings are manifold: The TetRRIS project has had an influence on regional policy through successfully participating in the local strategy process, namely in the establishment of a Regional Smart Specialisation Strategy (S3), to better include responsibility and sustainability themes. That was the first time a local intervention aimed at integrating responsibility and sustainability into strategic decision-making. In line with this aim, responsibility and sustainability are cross cutting the new regional development program published in the end of 2021. During the process, the Council has learned how to take care of responsibility at a strategic level. Responsibility approach is foreseen to firmer institutionalize in regional governance, which is already observable during the process of creating Regional digital compass. Our approach can potentially serve as a model for other regions in Finland and abroad. The TetRRIS project brought also connections with the Karlsruhe Technologie Region and its' stakeholders which are expected to be developed in the upcoming months and turned into long-term cooperation. The cooperation focuses on developing responsible and sustainable industry transition, which is one of the main focus areas of Tampere Region S3.

4 Karlsruhe

4.1 What was done

In TetRRIS, the Karlsruhe Technology Region focused on two main pilot actions: the creation of a “Practitioner Network on Public and Stakeholder Participation”, and the development of an inter-regional exchange with the Tampere region in Finland.

4.1.1 The Practitioner Network Citizen and Stakeholder Participation

The “Practitioner Network” was designed on the basis of the feedback gathered during the “mapping” of the Karlsruhe Technology Region in WP 2 (Deliverable 2.2) and the subsequent “scoping” work in WP 3 (Deliverables 3.1 and 3.2) of TetRRIS. The main RRI “Key” it addressed was *public engagement*, understood to encompass both *communication* (informing stakeholders and the general public about given innovation activities) and *participation* (involving them in some fashion in the design, implementation and/or decision-making about the innovation activities in question). Further RRI “Keys” and “Dimensions” it addressed were *science education* (as engagement in the innovation context generally requires transmitting relevant knowledge), *inclusion/diversity (gender)* (as the group-appropriate inclusion of all affected parties is a key concern for engagement processes), and *responsiveness* (since a cardinal requirement for working with participatory processes is actually responding to the information and demands thus surfaced).

Public engagement, communication and participation were chosen as a focus for the pilot activity for several reasons. For one, they are increasingly seen as crucial to allow innovation to flourish, as effective engagement can help with public acceptance, surface relevant information and ensure that innovations actually address real needs. For another, effective public engagement is seen as crucial to managing successful climate-change mitigation and adaption, as well-run engagement can help defuse the social and political tensions around this transition (e.g. over renewable energy and new mobility infrastructure). Finally, the results of the mapping and scoping activities indicated that there was both a need and interest among local stakeholders for a participation/communication-focused pilot activity, and that this would be able to build on and directly contribute to ongoing innovation activities in the Karlsruhe Technology Region (KTR).

The “Practitioner Network” was aimed at local actors involved in designing and managing innovation and development activities (usually in the form of “projects”) in the KTR – officials from public administration, (generally midlevel) business managers, scientists from the numerous research institutes and universities in the area, and civil society organisations as well intermediary bodies and associations.

Originally, the intention on part of the TetRRIS team had been to develop the “Network” as a relatively small, close-knit affair involving maybe 10-12 local actors. The idea here was that keeping the network small would facilitate trusted exchanges among the participants in semi-private settings. This was seen as important as, during the scoping in WP 3, the local actors had stressed to the value of having a “safe space”

where they could “honestly” discuss and get feedback on not only successes, but in particular also failures – on what had *not* worked in their previous participation/communication-related activities. In practice, as discussed further below, this was not quite how the Network developed: due to interest from the broader community of innovation actors in the region, the Network activities were mostly public and widely advertised. Rather than a single closeknit group, the Network thus in effect developed into two groups – a small “core” group of actors, who also had a key role in shaping and running Network events together with the staff from the TetRRIS project partners Fraunhofer ISI and TechnologieRegion Karlsruhe GmbH (TRK GmbH), and a larger, more fluctuating group of Network event participants.

The concrete form that the Pilot Activity “Practitioner Network” then assumed, once it had been set up, was running a series of workshops on different aspects of public engagement *qua* communication and participation. The topics of the workshops were decided on together by the core group and the TetRRIS project staff, and each workshop was organised a team of core-group and project-staff members. The Workshops took place quarterly, generally ran for about 2,5 hours and were attended by about 20-25 people. A common format developed: after some brief welcome remarks, two or three short (~10 Minute) keynote talks were given by invited speakers on specific aspects of communication/participation, followed by Q&A. This was followed by more “hands-on” and interactive work in small-group breakout sessions. The workshops then concluded with a more informal networking opportunity. (For further details on the Practitioner Network workshops see the Karlsruhe Technology Region chapter of TetRRIS Deliverable 4.3).

4.1.2 The Karlsruhe-Tampere Exchange

The Karlsruhe-Tampere Exchange was conceptualised in the course of WP 3 and WP 4, as it became clear that numerous similarities exist between the two regions. Substantively, the exchange focused on three larger issues: Firstly, developing a deeper mutual understanding of each other’s regions, including the institutional and governance structures, innovation and development strategies and priorities, actor constellations, and economic and research and education structures. A particular concern was to understand the different roles the two TetRRIS regional partners, TRK GmbH and Council of Tampere, play in their region’s development. Secondly, how the two regions are addressing the RRI-aligned goal of the sustainability transition (especially energy and mobility, and neighbourhood development, and the associated challenges (e.g. access to skilled labour). Thirdly, the role that the RRI Keys of public engagement, citizen participation and inclusion as well as the RRI-aligned concept of corporate social responsibility play in the sustainability transition.

In practical terms, the exchange process began towards the end of 2021, with a series of online meetings between members of the TetRRIS team and other (non-TetRRIS) staff members from the regional partners (TechnologieRegion Karlsruhe GmbH and Tampere Council). This was then stepped up in the course of 2022, including increased involvement of outside actors from the local innovation systems of the two regions; viz. FZI Research Center, KIT MobiMa Lab and Fraunhofer ISI besides TRK GmbH on the Karlsruhe side, and VTT, Business Tampere, Tampere University, Tampere City

Region, the SIX Initiative as well as the Council of Tampere Region on the Finnish side. It culminated in an in-person visit by TRK GmbH staff and actors from the Karlsruhe Technology Region innovation system to Tampere in November 2022. This was used for in-depth meetings and exchange, and TRK GmbH, Council of Tampere and VTT also ran a workshop together at the High Level Forum in Tampere in November 2022.

The results, especially from the in-person meetings and conversations, were very promising, and the two sides have used the months since to continue exploring options for continued exchange and deeper cooperation. (For further details see also the Karlsruhe Technology Region chapter of TetRRIS Deliverable 4.3).

4.2 Key Outcomes of the different Pilot Actions

When designing the pilot actions, a key objective of the TetRRIS team was to ensure that they would deliver concrete benefits to the innovation actors in the Karlsruhe Technology Region. This section summarises what benefits were produced, and which had been anticipated but materialised to a lesser than expected degree.

4.2.1 Practitioner Network Citizen and Stakeholder Participation

The Practitioner Network provided its participants with three main benefits. The first was an opportunity to learn about public engagement, communication and participation from experts and experienced practitioners. While innovation projects run in the Karlsruhe Technology Region often already include some public-outreach measures, and the importance of public engagement is widely acknowledged at least on a conceptual level, practitioners often do not yet have deep expertise on the modalities and potentials, the “how-to” and the “how-to-use-to-the-full” of public engagement. The workshops that the Network ran, offered them an opportunity to deepen their understanding in this respect and give them new ideas. Through keynote talks, they were presented with expert insights on different facets and approaches to public engagement. These ranged from the objectives for which it can be used (e.g. to build community enthusiasm for a project, surface information from affected stakeholders and citizen scientists, manage and resolve conflicts, or generate legitimacy) to the multiplicity of formats through which engagement can take place, which formats are best suited for which purposes, and which good practices and “do’s and don’ts” exist. The keynotes were generally combined with more “hands-on”, interactive small-group work, in which the Network participants could develop ideas and discuss issues more directly related to their own specific work. Throughout, the focus was on practical, applied knowledge that practitioners would be able to directly use, rather than academic “theory”.

The second benefit the Network provided the participants with, derived directly from the first, namely an opportunity to critically reflect on their own usages and understanding of the potentials of public engagement, by confronting them with quite different understandings and usages. For example, in some discussions during the Network workshops it became evident that practitioners from the region were sometimes doubtful about the value of information inputs that citizens might contribute even to projects that were supposed to provide these same citizens with new services. When workshop leaders to the contrary highlighted the value and importance of utilising public engagement to “harvest” information from citizens and then use this information to critically re-think one’s own assumptions and project

objectives (rather than assuming that as an “expert” one would necessarily know best), this could lead to a rethinking on the part of the workshop participants.

The third benefit was networking and a greater awareness of the range of supporting resources within and beyond the region. As noted, while a good bit of public engagement/participation-related activity is carried out in the Karlsruhe Technology Region, there had previously only been limited awareness and visibility among practitioners into this and into who was doing what, which in turn hampered the opportunity to learn from and support each other. By placing practitioners into dialogue with each other, and giving them opportunities for informal networking, the Network helped change this somewhat. It also provided participants with more awareness of the range of support services available to help run public engagement activities.

Via these direct benefits, the Network also offered the region an important indirect benefit, namely support for the realisation of multiple Sustainable Development Goals (SDGs). With many of the SDGs, achieving them requires substantial technological innovation and infrastructural development. This is true in particular for SDGs 7 (Affordable and Clean Energy), 8 (Decent Work and Growth), 9 (Industry, Innovation and Infrastructure), 11 (Sustainable Cities and Communities), and 13 (Climate Action). In turn, this is liable to spark considerable social conflict and also always carries the potential to “go (badly) wrong” if important circumstantial information is overlooked or legitimate interests of affected parties are ignored. Well-run public engagement processes can ameliorate these challenges (albeit not completely eliminate them). By strengthening the local capability for running effective public engagement processes, the Practitioner Network thus indirectly supported the Karlsruhe Technology Region’s capacity to achieve the SDGs.

At the same time, there were also benefits that the Pilot Action had been expected to produce for the participants and the larger region, that were *not* realised. For one, the TetRRIS team had believed that it would be worth the Network members’ while to dedicate one or two workshops to the use and impact of digital technology on public engagement processes, and/or to particularly innovative public engagement formats used in other countries (especially the use of the Pol.is tool and process in Taiwan and Barcelona). However, both suggestions were politely declined by the Network’s core members from among the local innovation actors. They felt that these topics were somewhat advanced and of uncertain relevance to the region, and that the Network should, for the moment, focus on more basic topics. Because a central premise of the Pilot Activity was the importance of closely aligning activities with the local actors’ own perceived requirements, these objections from the core team members were obeyed.

A further benefit that did not materialise to the degree originally anticipated, was the use of the Network events as a “safe space” for Network members to discuss and critically reflect on own *failures*. During the scoping discussions in spring/summer 2021, when the Network was conceptualised as a pilot activity, this particular benefit had been repeatedly highlighted by the local actors involved in the discussions. They saw this as a particularly valuable contribution the Network could make. In practice however, Network event participants proved (perhaps unsurprisingly) rather more reluctant to publicly engage in that sort of self-criticism, and for obvious reasons the

TetRRIS team did not try to press this. One likely reason for why the “safe space” function of the Network did not materialise to the degree anticipated, is that Network events became larger – and the pool of participants more fluid – than initially expected. The original idea had been to keep events small and reserved to a stable group of ~10-12 participants, so that high levels of trust and openness would be able to develop. However, as it became clear that there was considerable interest in the Network events among the innovation actors in the region, the events were opened to a much larger group, and participant number ultimately ranged between ~20 and ~25, while the precise composition (who participated) fluctuated, so it was not always the same people attending the workshops. This in turn made the events more “public” and less “intimate” and “trusting” than originally expected.

4.2.2 The Karlsruhe-Tampere Exchange

The main immediate benefit of the Karlsruhe-Tampere Exchange has so far been for the two regional partners, TRK GmbH and Council of Tampere, as well as a selected group of actors from the two regions’ innovation systems,⁶ to get to know each other better and develop a deeper understanding of each others’ innovation and development-related activities, interests and priorities and policy strategies, as well as surrounding economic and education/research structures and relevant policy competencies and constraints. Developing this kind of understanding takes time and opportunities for intensified mutual interaction, ideally in offline, physically-present form. This is not a straightforward process, especially given the physical distance between Tampere and Karlsruhe. (In practice, given the distance, an in-presence meeting/exchange consumed three to four working days of the party that travels.) However, it is a necessary basis to carry out more enhanced cooperation, and to be able to identify opportunities for it.

The key benefit of the Karlsruhe-Tampere Exchange is to have laid the basis for such future cooperation, to have identified some possible opportunities for this, and to have begun acting on them. These are as follows: firstly, possible cooperation in diverse fields; from designing inter-regional innovation and development projects and applying for funding together, to smaller measures such as joint workshops or presentations at conferences. In a first instance of this, TetRRIS staff from TRK GmbH and Council of Tampere together ran a workshop on public engagement at the High Level Forum in November 2022 in Tampere. Secondly, enhanced mutual learning, both on the strategic level (e.g. the design of local innovation, development and transition policies; the use of public engagement to drive regional change; access to skilled labour), and on the working level of individual projects. (For example, the use of living labs in the development of public transport in Tampere was of considerable interest to TRK staff concerned with mobility.) Thirdly, the local business actors involved in the exchange began developing considerable interest in enhanced exchanges and contacts of their own between the two regions.

⁶ Specifically, Business Tampere, FZI Research Center, KIT MobiMa Lab, Tampere University, Tampere City Region, and the SIX Initiative.

4.3 Continuation of the Pilot Actions beyond TetRRIS

4.3.1 The Practitioner Network Citizen and Stakeholder Participation

In 2022, the Practitioner Network garnered considerable interest among the various actors from public administration, business, research and intermediaries in the Karlsruhe Technology Region in 2022. Network members moreover expressed a clear interest in seeing the Network continue into the future. This encouraged the TetRRIS project partners, Fraunhofer ISI and TRK GmbH, to look for a way of enabling the Practitioner Network to live on, also after the TetRRIS project. However, continuing the Network also faced real challenges. Network members had so far contributed to the network on a purely voluntary basis, and workshop attendants had participated in the network for free. Most of the work and the monetary cost of running the Network had been borne by the TetRRIS project staff and been financed through TetRRIS. Post-TetRRIS, this would no longer be available, but the work and costs would remain – e.g. developing and researching concepts for workshops and events, identifying and inviting speakers, preparing interactive sessions, moderating discussions, booking venues and catering, documentation, coordinating dates and communications...). Network members indicated limited enthusiasm for taking this burden on themselves, on an entirely voluntary basis.

The solution ultimately identified was to continue Practitioner Network activities within the framework of several other projects that are currently active or starting within the region. Managers from these projects (who were often participants in Network events) saw value in creating a dedicated inter-project structure with regular meetings for continued exchange, mutual learning and coordination about communication, public engagement and participation activities. This is now being pursued. The broad focus of these activities remains on public engagement, including both communication and citizen and stakeholder participation. However, it is likely that some changes in the precise focus and topics, compared to the Network of the 2022/TetRRIS Pilot Period, will occur. Specifically, going forward, activities are likely, at least in the shortterm, to focus more directly on the immediate needs and concerns of the projects involved, rather than on the kind of more generalist questions that the Network activities in 2022 focused on. This need not, however, be a bad thing: on the contrary, by taking a more direct focus on the immediate needs and interests of the projects involved in running the activities, greater and more longer-term buy-in and support from the local actors can be created.

A further change is that going forward post-TetRRIS, events and activities are likely to be smaller and somewhat less public than the Network events during the TetRRIS period were. The participants are likely to come from a smaller group of projects, with greater continuity and stability among the participants. This in fact would bring the future activities closer to the original Network idea, which as discussed above, had foreseen a relatively smaller and more intimate grouping. As noted, this has the advantage of facilitating the growth of trust among the members, which in turn enables more open discussion and feedback.

Besides these activities on the project level, the Network activities of 2022 have helped to establish public engagement as an important issue area for the TRK GmbH. Inspired by the Network activities, the TRK leadership has decided that the topic of stakeholder

and citizen engagement should continue to be actively pursued within the context of the regional development strategy.

4.3.2 The Karlsruhe-Tampere Exchange

The exchange, dialogue and mutual understanding and contact-formation between Karlsruhe and Tampere that was achieved in 2022 has created a strong basis for further activities, and a clear interest exists on both sides to continue this and further exploit the opportunities thus created. Issue areas of common interest include inclusion, public and stakeholder engagement practices, innovation scouting, matchmaking between companies, and opportunities for future joint projects. To identify specific ways of doing so, and to find ways of continuing the exchange beyond the life of the TetRRIS project, further exchange of ideas and communication between TRK GmbH and staff from Tampere took place in the winter of 2022/23. Ideas considered include a return visit to Karlsruhe by representatives of the Tampere region, developing further (digital) exchange formats, or on-site visits of business representatives to companies in the two regions.

At the same time, challenges to continuing to deepen the relationship and exchange have also become evident. As noted above, the distance between the two regions means that in-presence exchanges consume rather large amounts of time and money. Accordingly, they can only be justified when there are clear benefits to be derived from the visit. Language also presents a barrier, in that participation in larger German- or Finnish-language events (e.g. conferences) is likely to be mostly of limited value to the other side without translators. Nevertheless, despite these obstacles, the two sides are interested in continuing to deepen their relationship and are exploring possibilities.

4.4 Broader Changes in the Region and the Partner Organisations sparked by the TetRRIS Pilot Actions

The Pilot in the Karlsruhe Technology Region chose public engagement (understood as encompassing both communication *with* the public and participation *by* the public) as the RRI Key to focus on. As discussed, this focus was chosen because, on the one hand, it aligned with pre-existing interests, needs and pre-occupations of the diverse actors that make up the Karlsruhe Technology Region innovation system, and on the other hand, it also automatically led to the consideration of further Keys and Dimensions of RRI such as science education, inclusion, diversity and representativeness (including gender aspects), and responsiveness. “RRI” as a concept and nomenclature conversely was little emphasised in the framing of the pilot action and the communication with the local actors. This was a conscious choice, borne of concerns that this rather abstract and “academic” could discourage the local actors from engaging with the pilot. “Public engagement”, conversely, was felt to be a more easily understandable concept for the mostly quite practically-minded actors of the region. This decision clearly worked: actors readily understood the meaning and significance of public engagement, and related positively to the pilot. This was evidence in, for example, the steady attendance numbers at the pilot action workshops and the intensive engagement of the participants with the topics and material.

There is good reason to believe that the pilot action, and specifically the workshops, will have had an impact, but what exactly this impact is, especially in the longer term, is more difficult to say. It certainly helped to position public engagement as an issue

of importance among regional actors, and in particular with the TRK GmbH. The TRK GmbH is one of (if not the) main intermediary organisation in the region. It makes important contributions to and helps set regional policy and development strategy, especially through helping to set the relevant policy agendas. In as far as the pilot action helped to position public engagement as an issue of importance with the TRK leadership, it in turn helped to put it “on the map” for wider regional strategy making. This should help insure that it continues to receive attention.

■ Similarly, the pilot action clearly helped to raise the regional actors’ awareness of the importance of public engagement, its potentials, and its multiple facets and formats. In particular it also provided them with much deeper insight into *how* to “do” good public engagement activities, and where to get help for this if necessary. Not least, the pilot action “Practitioner Network” managed to achieve some degree of post-project continuity. All this should help strengthen the use of public engagement in innovation and development activity in the region. This will help improve innovation and development activity in the region. As discussed above, this should also support the region in the achievement of a number of the Sustainable Development Goals, as, in practice, these (also) tend to require public engagement to be successfully achieved.

The longer-term impact of the Karlsruhe-Tampere Exchange similarly remains to be seen. Clearly, a connection has now been established and a basis for enhanced future cooperation laid, that did not exist before. Realising benefits to both regions from this will however require further action in both regions. As both regions are interested in pursuing this, the prospects are though quite good.

Both of the TetRRIS partners in the Karlsruhe Technology Region, Fraunhofer ISI and TRK GmbH, derived useful learnings from the pilot. For one, the experience underscored the importance of closely listening to local actors, to properly understand their needs, and to ensure that a language and nomenclature is used that local actors can readily understand and associate themselves with. If these conditions are met, significant action in cooperation with local actors becomes possible. At the same time, the pilot experience also underscored the importance of not overburdening local actors and not placing excess demands on them. “Participation fatigue” is real, as actors are today often flooded with support measures and projects. Yet the amount of time people have available is limited. This may even have become more pronounced during the pandemic and its aftermath. Activities like the pilot action, which seek to enlist voluntary, and unfunded participation by outside actors, can therefore only work if the amount of voluntary effort required of the outside actors is kept in strict limits, and if a clear value proposition is presented to them. If these conditions are met, however, worthwhile initiatives are feasible.

5 Szeged-Timisoara

5.1 What was done

As underlined in deliverables D2.1 and D3.1, the aspects of RRI are not directly visible and don’t play significant role in the Szeged-Timisoara region. These issues are in some cases quite “vague” for the regional actors, and play little or no role in the policy

discourse or in actual practice. The results showed that parts of the innovation sector have some rudimentary awareness of the RRI concept but do not have accurate knowledge about the elements, involving responsibility dimensions and benefits of RRI.

In the Szeged-Timisoara region there is no strategic conscious RRI-awareness in general: the strategic documents do not include Responsible Research and Innovation (RRI) or/and Responsible Innovation (RI).

■ The last regional strategic plan was prepared in 2006 where competitiveness was presented with emphasis. Social innovation, however, is mentioned only once in this document that served as the Regional Strategy⁷. The currently relevant S3 for 2021-2027 has been prepared on national level and social innovation is defined as a “dimension” of the strategy but responsible innovation is not mentioned at all in this document⁸.

There are some steps being taken in applying RRI in the regional innovation, but these are mainly individual efforts of several organizations. This means, that it is often done in at least an implicit, de-facto manner (i.e., without calling it “RRI”) in this region.

For example, DUTIREG, as a representative of the South Great Plain region in the DIH-World project, took part in the strategic working group activities which were started in 2021⁹ and provided practical information and methodology for strategic actions but, on the other hand, without explicitly defining RRI as priority area.

There are some key persons in the region who understand and believe in RRI, and most of the regional achievements are in line with their persuasion. The main reason for this derives from (i) *lack of trust*, (ii) *lack of cooperation willingness*, (iii) *importance of informal channels*, (iv) *Hungarian researchers and actors in the innovation process have minimal information on RRI in general*.

Based on all of these, TetRRIS partnership decided to carry out learning pilots in the Szeged-Timisoara region, with two pillars:

5.1.1 TalentMagnet:

With a cooperation between Horizon2020 and Interreg Danube initiatives, this pillar aimed to carry out talent attraction and retention activity with the help of RRI-aspects. The followings were done, following the roadmap accepted by the TetRRIS partnership:

1. Having TalentMagnet’s steering committee meetings on the importance of RRI (raising awareness on RRI in the partnership): TalentMagnet project held its Steering Committee meeting in Nyíregyháza (Hungary) in September 2021 and Emad Yaghmei from TetRRIS team had the opportunity to present the basics of RRI on 15th September 2021 for the TalentMagnet partnership.

⁷ <https://www.palyazat.gov.hu/download.php?objectId=1776>

⁸ <https://nkfih.gov.hu/english/national-smart-specialisation-strategy/s3-strategy-2021-2027>

⁹ https://dihworld.eu/wp-content/uploads/2021/07/DIH-World_Working-Group-Event-Report_2021.pdf

2. An RRI training with TetRRIS: An online RRI Training for TalentMagnet staff has been successfully organized online on 18th February 2022. **During the 1,5-hour training, 18-22 people participated.**
3. Creating RRI-related visuals: Five infographics with easy-to understand key RRI-messages and advantages has been edited by the TetRRIs Szeged Team experts.
4. Inviting TalentMagnet key persons to main TetRRIS activities in order to continue cooperation and get more support: On 19th October 2021, TalentMagnet Lead Partner introduced the TalentMagnet project and the cooperation between TalentMagnet and TetRRIs for TetRRIs partners.
5. Involving RRI keys and dimensions into the deliverables:
 - D.T2.1.2 Local Talent Clubs established using RRI keys and dimensions.
 - D.T2.1.5 Urban hackathons implemented using RRI keys and dimensions.
6. Raising awareness of RRI in a post socialist innovation environment (starting challenge): The RRI training has been successfully held for 18 TalentMagnet staff members. During the training they seemed to be interested, but in contrary, they didn't fill-in the questionnaire after the training. Based on that, TalentMagnet's Szeged Staff and TetRRIs' Szeged staff consulted the opportunities, and the idea was that the TalentMagnet-TetRRIs cooperation **should be extended to the main target group of the TalentMagnet Project: the local talents.** For selected talents we organized RRI education with a workshop series. The main objective of the pilot was to *i) wake-up interest of RRI, ii) build understanding and accurate knowledge of RRI, iii) gain practical experience on RRI.* To address all of these, we defined a workshop series for talents, in which an RRI training was followed by a real-life problem solving using RRI framework. **Our aim was to create real-life case study for talents and let them solve individually or in groups, using RRI framework.**

The topic of the real-life case study will be in line with one of the most important topics of the European Union, the EU Green Deal: the Carbon Capture and Utilization (CCU). An external CCU expert will be invited to talk about CCU to understand the real-life problem which should be addressed with the RRI framework.

Following the logic of socio-technical integration, we worked with both talents from social sciences and technical scientist during the workshop series as follows:

- 27/10/2022 – 1st workshop for Chemist talents
- 31/10/2022 – 1st workshop for Economist talents with Emad Yaghmaei's RRI keynote
- 03/11/2022 – 2nd workshop for Chemist talents
- 14/11/2022 – 2nd workshop for Economist talents with Krisztina Kádár's CCU keynote
- 21/11/2022 – 3rd workshop for Economist talents: RRI and CCU debate day1
- 28/11/2022 – 4th workshop for Economist talents: RRI and CCU debate day2

5.1.2 DIH World:

DUTIREG is committed to creating the roadmap for implementing Digital Innovation Hub in Szeged (which is a DIH-World result). It follows the open innovation process and public engagement shall be an important element thanks to the TetRRIS actions for knowledge transfer. The working group of DUTIREG (4 people) has followed the TetRRIS actions and participated at networking events. Therefore, the knowledge transfer has been done efficiently.

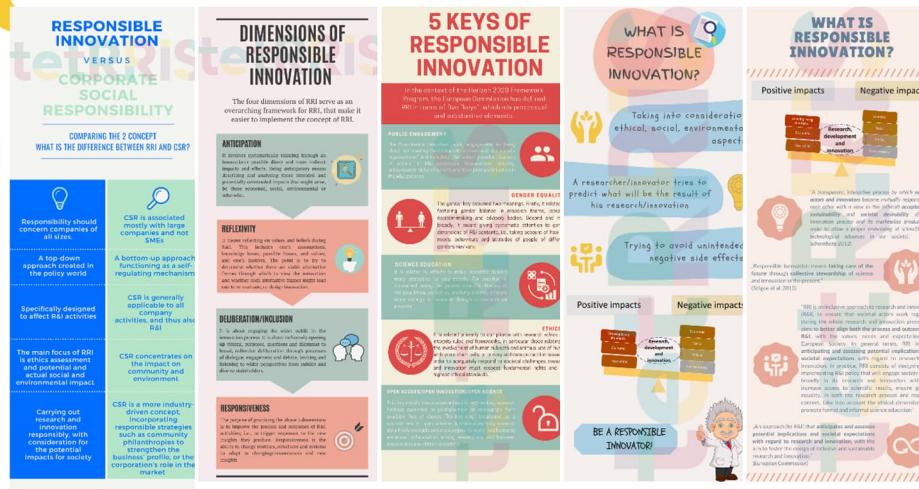
The TetRRIS workshop on regional foresight was organised by VTT and DARINNO together. Thus, it has been a cooperative action of the Tampere and Szeged-Timisoara regions. The workshop was held on the **8th December 2022** as a physical event on two locations: the first part was organised in the main building of the University of Szeged and the second part was held at the ELI Research Centre within the Science Park in Szeged. Participants of the event came mainly from the university and industrial clusters active in the region within the ICT and photonics sector. The participants formulated strategic areas of RRI activities as future actions within the TetRRIS project. One example was the „responsibility accelerator” function which has already been tested as an experimental service by VTT and DARINNO implements it in the region of Szeged.

The involvement of the stakeholders from Timisoara was also discussed and therefore an online discussion was held on the **9th December 2022** with the municipality of Timisoara. The interest of the Romanian partners was confirmed and joint implementation of the responsibility accelerator as cross-border sustainability action for companies was agreed upon.

5.2 Key Outcomes of the different Pilot Actions

5.2.1 Pilot Action 1: TalentMagnet

- What RRI Elements (keys, dimensions) did the Pilot Action address?
Since our pilot action was a learning pilot, our aim was to address as many keys and dimensions as possible. To do so, RRI visuals have been designed to visualize the most important messages of RRI, which have been integrated in planning the workshops. Our five visuals covered the following topics: *i) RRI in general, ii) the five keys, iii) the dimensions*. After the workshop series we were able to evaluate the visuals as successful, since TalentMagnet partners and participants used the visuals quite often during their work and implemented its elements.



Concerning RRI Elements (keys, dimensions) addressed in the Pilot Action we can highlight 3 concrete cases:

a. TalentMagnet deliverable D.T2.1.2 Local Talent Clubs established:

Talent Clubs reflected the „customer focus” of TalentMagnet, which needed public engagement from the RRI keys and inclusion dimension. The Clubs facilitated the direct involvement of the most important target group of the project: young talents. Talent Clubs were communities of local talents (those who live and work in the city, and those who are from the city but study elsewhere in higher education), with the purpose of (i) *facilitating a constant dialogue with, as well as (ii) gradually nurturing an attachment to place of, talented young people.* The local talent club enabled the local authority and the other stakeholders to better understand the very specific needs of the local talent and to address those needs in an agile way. When establishing Local Talent Clubs, partners took into consideration the gender and ethics RRI key, such as the open access, because the results are visible and transferable and available for everyone.

b. TalentMagnet deliverable D.T2.1.5 Urban hackathons implemented:

We developed an innovative new tool that engaged talented young people to get involved in addressing pressing local challenges and identify possible solutions – thus further strengthening their links and attachment to the city, while also helping the stakeholders to better understand their specific needs and expectations. This needed public engagement from the RRI keys and inclusion dimension. This new tool was „URBAN HACKATHON” – the methodology of intense interactive events that involve local professionals from public and private sector - and young people to jointly solve problems in the various thematic areas (for instance environment, climate-resilience, social inclusion, mobility, or even talent attraction and retention itself, etc.). The methodology was developed by the knowledge providers, in consultation with the city partners. To test the methodology, each partner run one pilot hackathon in their cities during the project. When organizing urban hackathons, partners took into consideration the gender and ethics RRI key, such as the open access, because the results are visible

and transferable and available for everyone.

c. Workshop series: It should be highlighted, that almost all speakers from the Economist talents workshop used RRI in their arguments at the end, which can be evaluated as a big success of the workshop series. During their work they often mentioned the importance of *public engagement* and *inclusion*. They highlighted the need of more info about new technologies and bounded this to open innovation key. Most of them argued with the uncertainty and the possible not expected side-effects of the CCU technologies or alternative technologies presented by the “contra” team. Public engagement and social inclusion has been also debated by the teams discussing also the amount of available info about CCU and alternative technologies for the general public.

- **What benefits did the Pilot Action create for key stakeholders?**
 Since our pilot was a learning one, the main benefit is that we have laid down the basis of the RRI framework by a successful pilot. The workshop series proved that addressing RRI from the perspective of talents using educative tools could be successful in the region. DIH-World partners also learnt a lot about RRI therefore they have appropriate knowledge to integrate RRI in the DIH Business Plan by end of April 2023.
- **What benefits had the Pilot Action been anticipated to create that however did not materialise?**
 As an indirect benefit we can mention that both the trained TalentMagnet participants and the educated talents will use their new knowledge during their everyday work and in their future projects, which could have a spill over effect in the Szeged-Timisoara region. DIH-World project has already created the transnational cooperation framework between the different DIH which can also be used to promote RRI in community days and networking events. The starting date for this activity was delayed to April 2023 therefore this activity shall continue after the completion date of TetRRIS project.
- **What learnings / implications for further activity?**
 In case of the TalentMagnet pillar this is definitely the highlighted importance of information and common understanding. It was a good experience to see how participants get closer and closer to the RRI framework after getting new info and understanding what it means. What I learned is definitely that RRI is a very difficult topic for our stakeholders, at the beginning they found it “very philosophic”, “not practical”, “far” from me etc, but after getting new infos they found it important. So, the RRI community should translate RRI to an easy-to-understand way with lots of practical examples and real life practices.

The institutional framework of the TetRRIS partner regions (especially in Karlsruhe and Tampere) was useful example for the DIH-World experts therefore the DIH Business Plan could several practical aspects from the models of these towns. It is not only

knowledge transfer on institutional level but also provided examples to implement RRI actions in practice

5.3 Continuity Actions for the different Pilot Actions

1. **(Planned, future) Pilot Action 1: TalentMagnet:** Approaching the project closure of the TalentMagnet project in 2022, we decided to turn the focus of the TalentMagnet pillar of the TetRRIS project to the talents – making the TalentMagnet pillar independent from the TalentMagnet project itself. This strategic decision was led also by continuity and sustainability issues, to be able to continue TetRRIS achievements also after project closure. Based on that, we see the continuity of the TalentMagnet pillar in the structure of the workshop series where the key is the **RRI education**. The reason of this is that nothing we tried to implement in RRI topics in the last few years (including the period before TetRRIS) was so successful as the RRI education, so we should continue as follows:

- translate the main aspects of RRI into easy-to-understand messages.
- collecting practical examples, the talents meet in their everyday life
- defining real life issues for practicing RRI
- implementing an updated workshop series with talents (integrating the lessons learned from the first series)

- **What RRI keys or dimensions should the (continuing) pilot action address?**

The continuing pilot action, the workshop series – similarly to the first workshop series – would address all the keys and dimensions. It is not possible to specify it now, because the core of the workshop series will be a real-life issue again. Consequently, talents will have to solve a real-life problem using RRI framework, and it will be their choice which key or element they can fit to solve the given problem.

- **What are the more specific aims of the (continuing) pilot action? What benefits should it deliver, and for whom? Who is the intended audience / stakeholders?**

Based on the success of the first workshop series, the main objective of the pilot wouldn't be changed:

- wake-up interest of RRI
- build understanding and accurate knowledge of RRI.
- gain practical experience on RRI.

- **What concrete actions are planned or foreseen (as far as can be specified at this point) in the pilot action?**

- First, the updated structure of the workshop series should be worked out. To do so, we have to take into consideration the bottlenecks and the weak points of the first workshop series (for example the importance of a proper room, the feedbacks during the debate etc.)

and using these inputs we have to update the schedule of the 2nd workshop series.

- Then we have to present the plans to the management of the university and get allowance for the 2nd workshop series.
- After that we have to invite the talents to take part in the workshop.
- As a next step, we have to develop the “translations” for making RRI easy-to-understand for everyone.
- Afterwards we have to define the real-life topic.
- Then we have to invite an expert of the real-life topic to the workshop series to ensure the professional background of the workshop series
- As a next step, we have to define the dates and venues of the workshops.
- During the workshop, there will be a presentation first, using the visuals created.
- Then the discussions would follow
- Afterwards debate days would be organized.
- As a closure, we would go to RRI solutions.

- **What (if any) constraints do you face that may impact or complicate realising the pilot action?**

From the list of activities above, the following constraints may impact or complicate realising the pilot action:

- We won't get the allowance for the 2nd workshop series from the management of the university.
- Talents will not be willing to take part in the workshop.
- We can't find an expert for the real-life topic, or he/she will not be able to take part, or he/she needs financial support
- We will not find proper venue for the workshops and/or we won't have financial sources to finance the rent.

- **Are there networks, alliances or (future) collaboration opportunities that you foresee that the intended future pilot action may tap into or lead to?**

Not relevant

- **What is the process, the next steps to realise the future action?**

See above.

- **Rough timeline?**

- updating the structure of the workshop series: until Summer 2023
- presenting the plans to the management of the university: beginning of September 2023.
- Inviting talents to take part in the workshop: Middle of September 2023
- developing the “translations” for making RRI easy-to-understand for everyone: September 2023
- Defining the real-life topic: September 2023

- Inviting an expert of the real-life topic: September 2023
- Defining the dates and venues: September 2023
- Workshop series: October-November 2023.

5.3.1 (Planned, future) Pilot Action 2 DIH World

Creation of RRI-related podcasts and video material with easy-to understand key RRI-messages and advantages is under progress with completion scheduled for April 2023. Recording of the foresight workshop on 8th December 2022 is also integrated into the video material which shall also be used for promoting the online discussion groups that include industrial clusters: STEPP, ArchEnerg, Építő-KIT, MIÉNK, IKOSZ member clusters + clusters in West region of Romania.

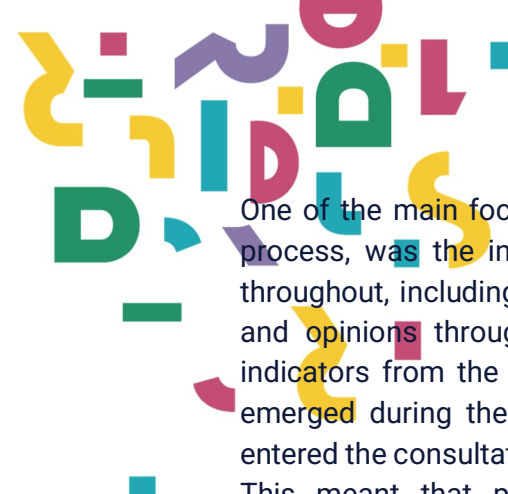
DUTIREG and the partner clusters will organize the regional Community Day on 18th April with focus on responsible innovation with digital twin applications. The event shall also be used to promote the new “Responsibility Accelerator” function which – as a new service – shall be part of the new “Business Plan for Digital Innovation Hub” (which will integrate RRI in regional innovation services) that is the outcome of the DIH-World project by DUTIREG before the end of May.

The Community Day shall also make the official announcement about the “RRI community of professionals” which is modelled on the experience of Karlsruhe Techology Region with active participation by industrial clusters, IKOSZ, EMFIE and other relevant national networks in Hungary. The primary aim of this community shall be to provide training with RRI in focus which will take the form of practical online education to cluster managers and economic development professionals during 2023 (with planned starting date on 6th April 2023).

5.4 Broader changes in local and partner organisations’ work.

The contributions of TalentMagnet were precisely the “pilot style” actions that were foreseen and implemented by using the RRI keys and other methodological tools that TetRRIS partners made available for Szeged and Timisoara region. The actions of DIH-World, on the other hand, were more oriented toward defining and creating the institutional framework where RRI can be an important aspect in practical actions.

Timisoara has already established regional institutions which plan and implement regional programmes therefore the interventions of TetRRIS were targeting this town. The city of Timișoara in Romania has recently concluded their process to design a Smart City and Digital Transformation Strategy for the coming six years. The process was customised for the creation of this strategy, which used methods from smart city strategies, smart specialisation strategies, goal-oriented planning, and open innovation, and brought together aspects from each to create a process designed around the needs and aims of the city. Overall, the process took a bottom-up approach, with project ideas emerging from all levels of consultation, and specific project ideas coming from the stakeholder and steering groups. The process for designing the strategy was a collaborative one that involved co-design from the start and involved all target groups, stakeholders, citizens, and interested parties throughout.



One of the main focuses of the co-design process, and ultimately the consultation process, was the involvement and engagement of a wide range of stakeholders throughout, including citizens. Citizen engagement provided a broad range of input and opinions through virtual and in-person surveys, which included the use of indicators from the Digital Economy and Society Index (DESI). One challenge that emerged during the project was related to public engagement, as many citizens entered the consultation process with different ideas of what constitutes a smart city. This meant that part of the process of engaging with citizens meant also communicating with them all which encompassed the concept of a smart city so that participants would be approaching the discussions and questions from the same place of understanding.

An extended stakeholder group brought together several hundred professionals from across relevant industries and sectors to share their knowledge and ideas throughout the design process. The other primary group of stakeholders involved in the process was a steering group consisting of experts with knowledge and expertise in areas directly related to the theme of smart cities, who were involved in goal-oriented planning, a project design worked and validating the strategy's structure and content. Internal experts from Singapore, Ireland, the Netherlands and Hungary were brought in towards the end of the process to review and validate the proposed strategy, while the overall process design, orchestration, research, and drafting of the strategy were conducted by an expert facilitator.

Szeged and its region, on the other hand, do not have regional institutions or programmes therefore the focus of intervention was needed to be on the creation of the relevant stakeholder groups and/or institutions. Industrial clusters were the primary target group because they have well organised staff with professional knowledge therefore, they are well placed to influence policy actions.

Consequently, the most important achievement for Szeged of the supportive actions of the TetRRIS is that strategic foresight is now well known by the regional decision makers on NUTS-3 level. It has great importance in Hungary because the territorial organisations on NUTS-2 level were gradually dismantled during the period 2011-2016 and therefore there is no intermediary level presently above the counties (NUTS-3 entities) and the "towns with county rights" in Hungary. The decision-making power is reserved for the government in policy development issues therefore the counties and towns have very limited room for action.

Nevertheless, TetRRIS actions have been implemented in cooperation with the Territorial Innovation Platform which is the "territorial level" of the S3 organisational structure in Hungary. The cooperation with County Administration of Csongrád-Csanád (which has already been achieved) and with the Town Administration of Szeged (which is foreseen by April 2023) can guarantee that the regional stakeholders and decision makers are speaking to each other, and the agenda of the debate is led by DARINNO and its expert groups.

A model from Karlsruhe is the community of practice that is being implemented as pilot action of the TetRRIS project. Szeged will also follow this model and the

companies that received support from the responsibility accelerator shall be invited to join the cross-border community for RRI practice.

- It soon became clear from initial presentations that Karlsruhe Technology Region (KTR), having members from and cross-border cooperation with France, that KTR would be selected as knowledge provider to Szeged and Timisoara in cross-border cooperation. Information about operational arrangements were shared via online workshops and thereafter, knowledge transfer was successfully implemented between the partner regions of the TetRRIS project.

The cross-border aspect also became relevant when the model of a responsibility accelerator was transferred to Szeged. It was agreed that the new responsibility accelerator shall start its operations in Szeged but it will also provide service to companies from Timisoara later on.