

Documentation of results of short survey on perceived benefits and shortcomings

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1. INTRODUCTION

Economic and innovation activity is highly influenced by territories and regions. Given the environmental and social concerns of the society, Responsible Research and Innovation (RRI) has become increasingly important. The project aims to implement RRI in the territorial level in four different European regions, through various pilot actions, such as mapping and analysing the drivers and barriers for a RRI related transition and supporting the implementation of RRI. Mid-way through the implementation and execution of pilot actions in the four pilot regions (Task 4.2), the pilots each ran a short survey to collect their regions stakeholder impressions on work progress, the pilots perceived value, and remaining shortcomings. The survey and its findings are intended to help regional partners of TetRRIs project further improve the pilot actions for the coming period as well as to develop the long-term regional strategy.

The following sections explain how the survey was conducted, what it consisted of, and how it was assessed. Furthermore, it offers the survey results, comparisons between the perceived value of the actions in each region versus the actual action plans developed at the end of Work Package 3 (D3.2), and a description of how each pilot intends to proceed as a result of the survey's findings.

1.1. Roadmap

Following the action plans created in D3.2, the pilot regions were asked to create an RRI roadmap (see Annex on page 24). The roadmap design, as stated by the 'CWA 17796 Responsibility-by-design standard' is meant to guide an organization as it puts into practice the key RRI dimensions: Anticipation and reflection; inclusion; and responsiveness. Each RRI roadmap (except for that of Cantabria) has four areas of action and is designed to start with the definition of the desired outcome of the RRI vision for the region. The Y-axis shows the benefits, drivers, and challenges, risks and barriers, RRI approaches, tools and actions, as well as R&I technologies and products. These have been adjusted in accordance with each pilot region to meet their specific contexts.

The logic behind the roadmaps was to show how each pilot's risks and barriers, identified earlier in the project, would be targeted through RRI approaches, tools and actions. Over time, regional partners could adjust their pilot actions in the event that risks and barriers were not overcome as a result of pilot actions. The road-mapping is being kept as a living document so as to help regional partners identify risks and barriers, benefits, drivers and challenges, overtime and as these may change.

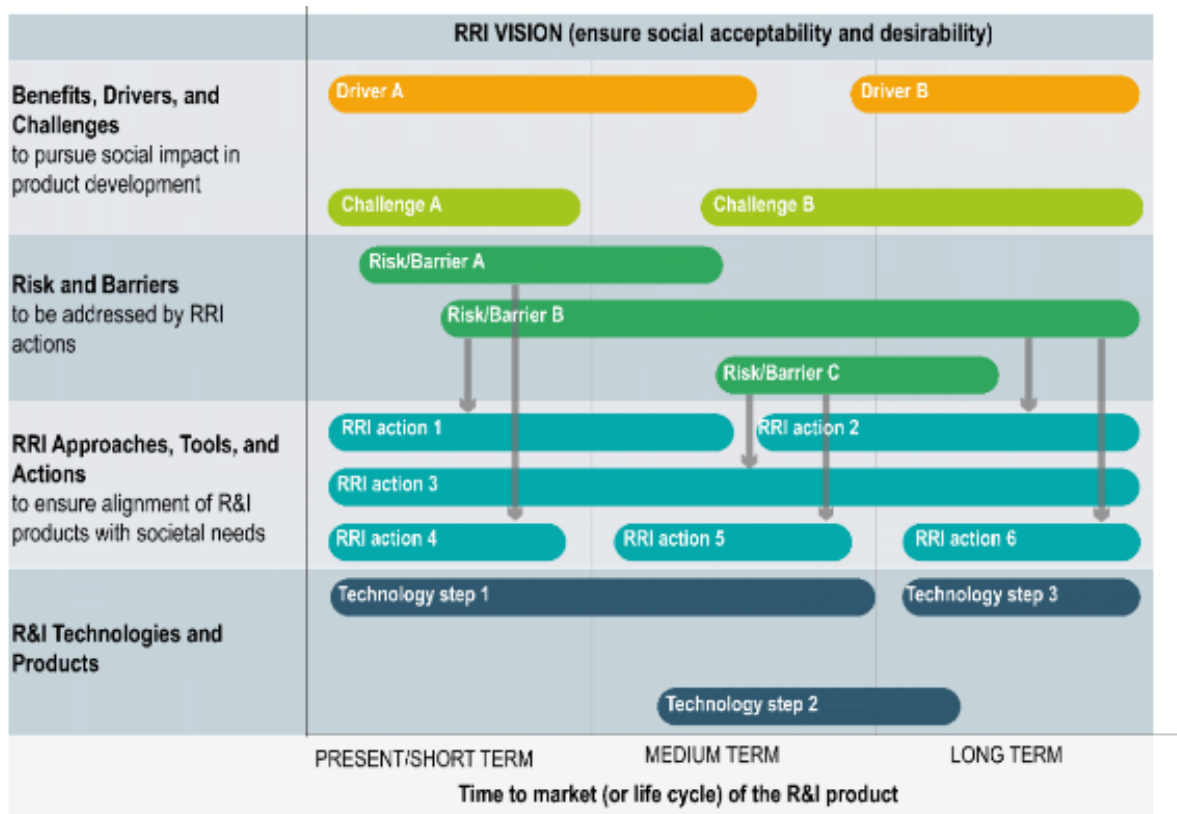


Figure 1 Roadmap

1.2. Survey Creation

The survey was created using the responsible research and innovation (RRI) indicators from a CEN standard, ‘CWA 17796 Responsibility-by-design standard’. The indicators were formed into two value sets: 1) influence on stakeholder assessment and decisions and 2) ability to influence or control. Each section consisted of 11 questions (see below). In the first set of questions, survey-takers were asked to rate the indicators by the extent to which the indicator influenced how they or their organization made assessments and decisions (e.g. How much does awareness of public and social values influence the assessment and decisions you make for your organization?). The rating scale was based on a 1-5 Likert scale: (1 = no influence whatsoever; 2 = limited influence; 3 = moderate influence; 4 = significant influence; 5 = highly influence (extensive) influence).

Table 1: Questions - Influence on stakeholder assessment and decisions

1.	How much does awareness of public and social values influence the assessment and decisions you make for your organization?
2.	How much does awareness of ethical issues in (regional) innovation influence the assessment and decisions you make for your organization?
3.	How much does the integration of public and social values into innovations influence the assessment and decisions you make for your organization?
4.	How much does anticipation of social effects in the innovations influence the assessment and decisions you make for your organization?
5.	How much does stakeholder engagement influence the assessment and decisions you make for your organization?
6.	How much does diversity and gender equality influence the assessment and decisions you make for your organization?

7.	How much does transparency and accountability influence the assessment and decisions you make for your organization?
8.	How much does user-centered mechanisms to address public and social values in service or/and product development influence the assessment and decisions you make for your organization?
9.	How much does your organization's capacity to align products/services towards societal goals influence the assessment and decisions you make for your organization?
10.	How much does active monitoring of RRI impacts (e.g. ethical/social impact analysis, risk management, auditing regional innovations' non-financial values) influence the assessment and decisions you make for your organization?
11.	How much does outcome focused measures (backward- and forward looking) of innovations influence the assessment and decisions you make for your organization?

In the second set of questions (see below), the survey takers were asked to rate the 11 indicators by the extent to which they feel their organization can manage/control certain aspects within the organization (e.g., To what extent do you feel your organization can manage/control the awareness of public and social values within the organization?). This rating scale was also based on a Likert scale with 1 being = no ability to manage/control, whatsoever; 2 = limited ability to manage/control; 3 = moderate ability to manage/control; 4 = significant ability to manage/control; 5 = extensive ability to manage/control.

Table 2: Questions - Ability to manage and control

1.	To what extent do you feel your organization can manage/control the awareness of public and social values within the organization?
2.	To what extent do you feel your organization can manage/control the awareness of ethical issues of (regional) innovations within the organization?
3.	To what extent do you feel your organization can manage/control the integration of public and social values into innovations within the organization?
4.	To what extent do you feel your organization can manage/control the anticipation of social effects in its innovations?
5.	To what extent do you feel your organization can manage/control the engagement of stakeholders?
6.	To what extent do you feel your organization can manage/control the diversity and gender equality within the organization?
7.	To what extent do you feel your organization can manage/control the transparency and accountability within the organization?
8.	To what extent do you feel your organization can manage/control the user-centered mechanisms to address public and social values in service or/and product development of the organization?
9.	To what extent do you feel your organization have the capacity to manage/control its products/services towards societal goals?
10.	To what extent do you feel your organization can manage/control the active monitoring of RRI impacts within the organization (e.g. ethical/social impact analysis, risk management, auditing regional innovations' non-financial values)?
11.	To what extent do you feel your organization can manage/control the outcome focused measures (backward- and forward looking) of innovations within the organization?

Both sets of questions were asked in every pilot region. Each stakeholders' answers were documented in a table such as the one in **Figure 3**. Once all stakeholders had completed their surveys, the average rating was found for each indicator. The project has taken this average to map the impact of the RRI dimensions on the stakeholders of the region. These answers can be found in the ANNEX on page 24.

1.3. Materiality Matrix

We live in an uncertain and constantly changing world. Materiality helps us identify and prioritise the RRI dimensions that matter most to pilot regions and stakeholders.

An issue is material to region if it meets two conditions. Firstly, it impacts region in terms of RRI dimensions, their impact or trust. And secondly, it is important to region' stakeholders – such as governments, employees, investors, CSOs, etc. In determining if an issue is material, we also consider whether it is aligned with TetRRIS vision and purpose and the degree to which we can affect change.

We use the materiality assessment to identify priority RRI dimensions across the regional value chain. Materiality helps to inform the development of the TetRRIS pilot region RRI plan/roadmap and ensures we report on the issues of most interest. One could update the assessment in regular basis to make sure it reflects changes in regional plan and the external environment.

To make a materiality matrix for each pilot region, using the same Likert scale of 1-5, regional partners (i.e. SODERCAN, TRK, Tampere, DIH-World, TalentMagnet leaders) were asked to rate the indicators on a matter of importance for their region. To do so, they were asked to compare two indicators against each other (e.g. awareness of public and social values against stakeholder engagement) and rate on a scale of 1-5 (1 being not important in comparison, 3 being equally important, and 5 being substantially important in comparison). This helped each regional partner identify what they believed the priorities in the region were. Together with the survey, these results helped the project understand where regional leaders and their action plans might differentiate or align with the needs of their stakeholders. The results of this materiality matrix per pilot can be found in the ANNEX on page 24.

1.3.1. Plotting with Materiality Matrix

Together with the two surveys, the materiality could then be plotted in a graph. As can be seen in **Figure 2**, survey 1 “influence on stakeholder assessment and decisions” (left, blue) and survey 2 “ability to influence or control” (right, orange) were each plotted independently on their own Y-Axis. The results from regional partners were plotted on the X-Axis. The purpose of the double Y-Axis is to show the differences between how local stakeholders have influence on or are influenced by RRI dimensions and the importance of relevant indicators in the region. The purpose of completing this exercise was to help inform the pilot region leaders on how to proceed with pilot actions in their regions moving forward and for the duration of the project. This is achieved by seeing in which dimensions they do not pay sufficient attention as well as they could and along with qualitative analysis, they can improve their pilot actions for implementing RRI.

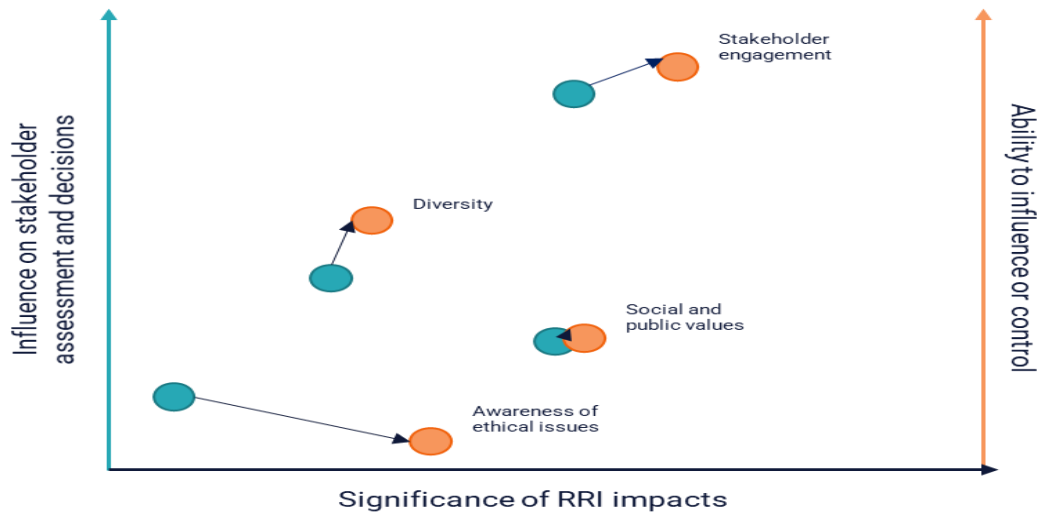


Figure 2 Plotting surveys' results with Materiality Matrix

1.3.2. Comparison of Materiality Matrix and Pilot Action Roadmap

After plotting the RRI Materiality Matrix, the regions were asked to compare their materiality matrices with their road mapping tables. Here, the materiality matrix reveals the RRI priorities and expectations of stakeholders and regional partners. The roadmap, reveals the strategy for interacting with regional stakeholders to increase RRI in the regional. Side-by-side, the goal was to compare how regional action plans met the expectations and priorities of their stakeholders. For example, if the actions taken in the region were not meeting the expectations and priorities of the region's stakeholders, then a reevaluation of the actions were necessary. Similarly, if some priorities were being met, but others ignored (or even paid too much attention to) then additional actions could be embedded in the action plan moving forward. However, the quantitative analysis complemented also by qualitative understanding of the pilot actions as each pilot did also desk research and internal workshops as part of their extensive qualitative analysis of their actions, to be seen both in D3.2 and pilot roadmaps. The conclusion will not be merely induced from the presented quantitative data, as well as comparing with qualitative data, such as barriers, and local conditions can help improve the measures that need to be taken.

Below there are the templates of the survey results and materiality matrix, which will be used for plotting surveys' results with Materiality Matrix.

Influence on stakeholder assessments and decisions											
	Indicators										
Stakeholders	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRIrelevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)
Stakeholder 1											
Stakeholder 2											
Stakeholder 3											
Stakeholder 4											
Stakeholder 5											
Stakeholder 6											
Stakeholder 7											
Stakeholder 8											
Stakeholder 9											
Stakeholder 10											
AVERAGE											

Ability to influence or control											
	Indicators										
Stakeholders	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRIrelevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)
Stakeholder 1											
Stakeholder 2											
Stakeholder 3											
Stakeholder 4											
Stakeholder 5											
Stakeholder 6											
Stakeholder 7											
Stakeholder 8											
Stakeholder 9											
Stakeholder 10											

Figure 3 Surveys' results

Table 3 Materiality matrix

	Prioritization										
Indicators	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRIrelevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)
Awareness of public and social values											
Awareness of ethical issues of innovations											
Integration of public and social values into regional agency innovations											
Anticipation of social effects in the regional agency innovations											
Stakeholder engagement											
Diversity and gender equality											
Transparency and accountability about RRI-relevant choices											
Learning mechanisms to address public and social values in product development											
Capacity to align to societal goals											
Active monitoring of RRI impacts											
Outcome focused measures (backward- and forward looking)											

2. PILOT SURVEYS

2.1 CANTABRIA

2.1.1 Introduction

Cantabria is a particular region into the Spanish geography as it gathers less than 1% of total population and total territory of Spain. However, it offers significant prospects regarding research and innovation (R&I) in sectors such as health or renewable energies. The research team was able to start developing some domains of opportunity related with RRI that can be activated through pilot actions conducted in the territory. These “domains of opportunity” tried to identify particular areas of intervention where different, technologies, R&I stakeholders, companies, public administrations, associations and citizens can be affected or interested about its future potentialities and challenges regarding RRI. Cantabria has several strengths in R&I but is not characterized by predominant sectors which can create technological or sectorial roadmaps. It is also important to mention that due to the Covid-19 pandemic a more flexible approach that could guarantee inclusivity and involvement of different regional stakeholders was selected. In this sense, the aim of this document is to present the survey results for RRI dimensions’ influence on stakeholder assessments and decisions, as well as for the stakeholders ability to manage or control the certain aspects/RRI dimensions. A workshop with 22 participants was conducted that all filled both the surveys, as representative members of the involved and affected stakeholders of the Cantabria region. The survey results are presented and analysed in the following sections.

2.1.2. Survey results

This section includes the survey results from both sets of questions i.e. 1) RRI dimensions influence on stakeholder assessments and decisions (Figure 5); 2) stakeholders ability to manage or control the RRI dimensions (Figure 6). The table indicates how many participants opted for each level of Likert scale from 1 to 5 and average score (in the last column) for each question of the survey. For instance 11 represent 11 of interviewees or those who filled out the survey agreed with Likert scale 4.

Influence on stakeholder assessments and decisions		1	2	3	4	5	Average score
1	How much does awareness of public and social values influence the assessment and decisions you make for your organization?	0	1	6	12	3	3.8
2	How much does awareness of ethical issues in innovation influence the assessment and decisions you make for your organization?	1	2	5	8	6	3.7
3	How much does the integration of public and social values into regional agency innovations influence the assessment and decisions you make for your organization?	1	3	4	12	2	3.5
4	How much does anticipation of social effects in the regional agency innovations influence the assessment and decisions you make for your organization?	0	4	5	11	2	3.5
5	How much does stakeholder engagement influence the assessment and decisions you make for your organization?	0	3	3	8	8	4.0
6	How much does citizen participation influence the assessment and decision you make for your organization?	3	11	5	2	1	2.4
7	How much does diversity and gender equality influence the assessment and decisions you make for your organization?	1	3	9	6	3	3.3
8	How much does transparency and accountability about RRI-relevant choices influence the assessment and decisions you make for your organization?	2	1	5	9	5	3.6
9	How much does the capacity to align to societal goals influence the assessment and decisions you make for your organization?	0	3	13	3	3	3.3
10	How much does active monitoring of RRI impacts influence the assessment and decisions you make for your organization?	0	11	6	4	1	2.8
11	How much does outcome focused measures (backward- and forward looking) influence the assessment and decisions you make for your organization?	0	2	6	8	6	3.8

Figure 3 RRI dimensions' influence on stakeholder assessments and decisions for Cantabria region

Ability to manage or control		1	2	3	4	5	Average score
1	To what extent do you feel your organization can manage/control the awareness of public and social values within the organization?	3	2	11	5	1	3.0
2	To what extent do you feel your organization can manage/control the awareness of ethical issues of (regional) innovations within the organization?	2	5	8	5	2	3.0
3	To what extent do you feel your organization can manage/control the integration of public and social values into innovations within the organization?	1	8	9	2	2	2.8
4	To what extent do you feel your organization can manage/control the anticipation of social effects in its innovations?	2	7	10	3	0	2.6
5	To what extent do you feel your organization can manage/control the engagement of stakeholders ?	2	6	13	2	0	2.7
6	To what extent do you feel your organization can manage or control citizen participation within your organization?	4	7	7	4	0	2.5
7	To what extent do you feel your organization can manage/control the diversity and gender equality within the organization?	1	7	4	8	2	3.1
8	To what extent do you feel your organization can manage/control the transparency and accountability within the organization?	1	7	6	6	2	3.0
9	To what extent do you feel your organization have the capacity to manage/control its products/services towards societal goals?	0	7	9	6	0	3.0
10	To what extent do you feel your organization can manage/control the active monitoring of RRI impacts within the organization (e.g. ethical/social impact analysis, risk management, auditing regional innovations' non-financial values)?	2	6	8	5	0	2.8
11	To what extent do you feel your organization can manage/control the outcome focused measures (backward- and forward looking) of innovations within the organization?	1	5	11	3	2	3.0

Figure 4 Stakeholders ability to manage or control the RRI dimensions for Cantabria region

As it can be derived by figures 5 and 6 the highest scores on indicators' influence on stakeholders' assessments and decisions for Cantabria are related to stakeholder engagement, awareness of public and social values and awareness of ethical issues. On the other hand, the less selected indicators as influential are the citizen participation and the active monitoring of RRI impact. As far as it concerns, the stakeholders' ability to manage and control the RRI dimensions, the highest score concerns diversity and gender equality issues.

Cantabria’s surveys also include a question about citizen engagement that was not used in the latest survey’s version. Thus, this question is missing in the other pilots.

Furthermore, the results of the materiality matrix filled by the regional pilot partners from Cantabria region are presented. Pilot partners were asked to assess each indicators’ weight compared to the rest indicators on a Likert-scale from 1 to 5.

Internal prioritization of indicators - weighting system													
Indicators	Prioritization												Significance of RRI dimension impact
	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRI-relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)		
Awareness of public and social values	5	1	3	3	5	1	3	4	4	3	4	3.9	
Awareness of ethical issues of innovations	5	1	1	3	1	1	2	1	3	1	2.4		
Integration of public and social values into regional agency innovations	3	5	3	3	4	3	5	3	3	1	4.1		
Anticipation of social effects in the regional agency innovations	3	5	3	4	3	2	4	2	2	1	3.6		
Stakeholder engagement	1	3	3	2	4	3	3	4	3	3	3.6		
Diversity and gender equality	5	5	2	3	2	4	3	4	3	2	3.9		
Transparency and accountability about RRI-relevant choices	3	5	3	4	3	4	2	3	3	2	4.0		
Learning mechanisms to address public and social values in product development	2	4	1	2	3	3	4	4	4	3	3.8		
Capacity to align to societal goals	2	5	3	4	2	2	3	2	3	2	3.5		
Active monitoring of RRI impacts	3	3	3	4	3	3	2	3	2	2	3.6		
Outcome focused measures (backward- and forward looking)	2	5	5	5	3	4	4	3	4	4	4.9		

Figure 5 Materiality matrix of indicators for Cantabria region

As it can be derived by Figure 7, the regional partners identified what they believed the leader priorities in the pilot region were. The process to find the “RRI principle priorities” included desk research and internal workshops. Identification of RRI material priorities for pilot regions is initiated by Initial research phase to define scope (completed in WP2), following with stakeholder engagement exercise within each region, in this section for Cantabria (completed in WP3). Once we defined the list of RRI principles (through CWA 17796 Responsibility-by-design standard), internal workshop has been organized in Cantabria to identify the priorities of pilot region leader and regional stakeholders among defined RRI dimensions. Having stated above, this materiality assessment focuses on the impacts on the region and what the region can control. Models like this are helpful for strategy setting for the region, here in Cantabria.

Using the same Likert scale of 1-5, regional partners (i.e. SODERCAN leaders) were asked to compare two RRI dimensions against each other (e.g. diversity and gender equality against stakeholder engagement) and rate on a scale of 1-5 (1 being not important in comparison, 3 being equally important, and 5 being substantially important in comparison). For instance, in Cantabria region the awareness of public and social values is substantially important compared to stakeholder engagement that is why its score is 5. Correspondingly, the scores below the brown line are the opposite, i.e., stakeholder engagement scores 1 compared to awareness of public and social values. The last column shows the total score of each indicator in order to compare the strengths and weaknesses of each region in terms of the different RRI dimensions. These results were used to in order to turn these scores into a similar to the surveys score on a Likert-scale from 1 to 5.

For Cantabria the most significant indicators in comparison were related to outcomes focused measures for backward and forward looking, transparency and accountability about RRI relevant choices, and integration of public and social values into regional agency innovations. The aforementioned were among the most significant and relevant RRI dimensions for Cantabria region. At the following section a reflection of these priorities in comparison with Cantabria’s region actions in the roadmap that was previously constructed is presented.

2.1.3. Comparison

As already mentioned, along with the two surveys, the materiality was then be plotted in a graph. As can be seen in **Figure 8**, survey 1 “influence on stakeholder assessment and decisions” (left, blue) and survey 2 “ability to manage or control” (right, orange) were each plotted independently on their own Y-Axis. The results from regional partners were plotted on the X-Axis. The arrows depict the distance that needs to be covered for reaching the ability to manage or control in comparison with the actual influence of RRI on stakeholders’ assessment. This graph is compared with the roadmap that was previously created for this region.

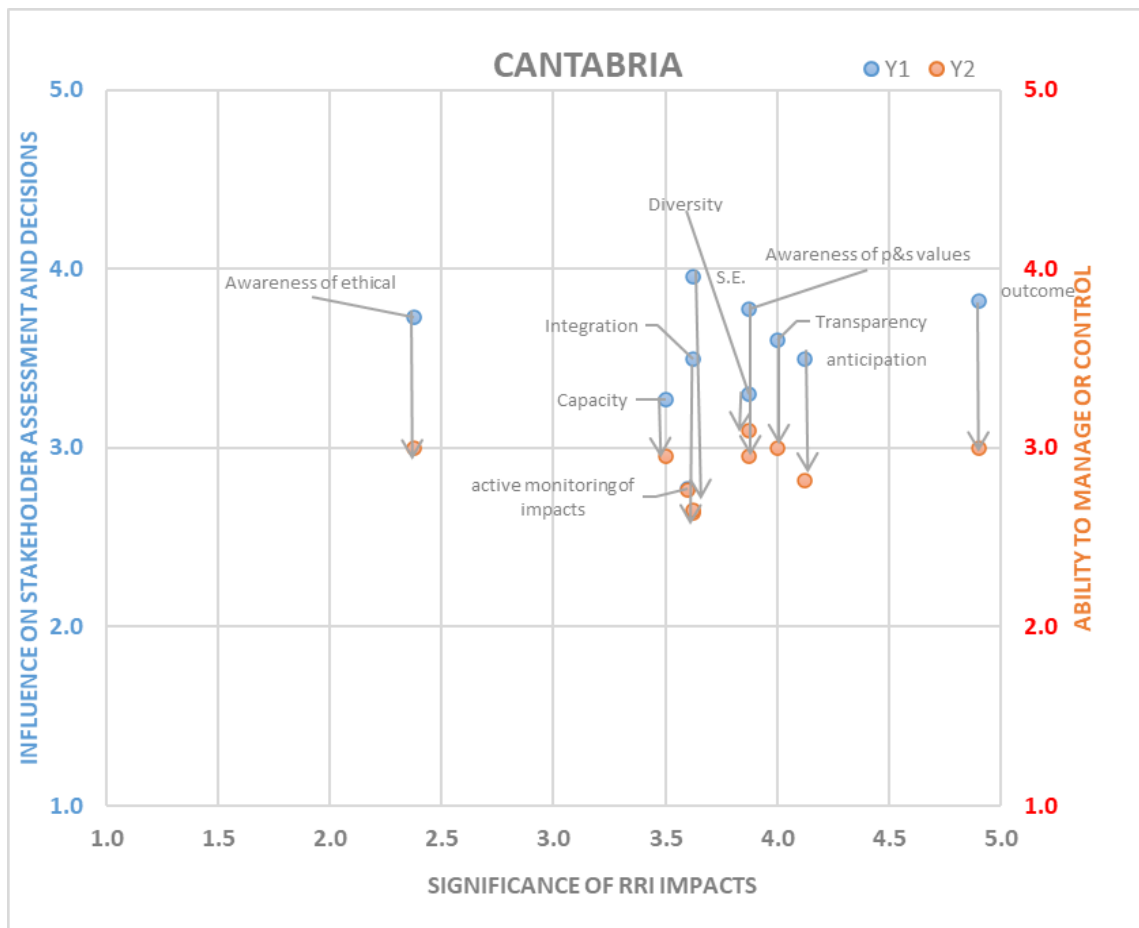


Figure 6 Plotting surveys’ results with Materiality Matrix for Cantabria

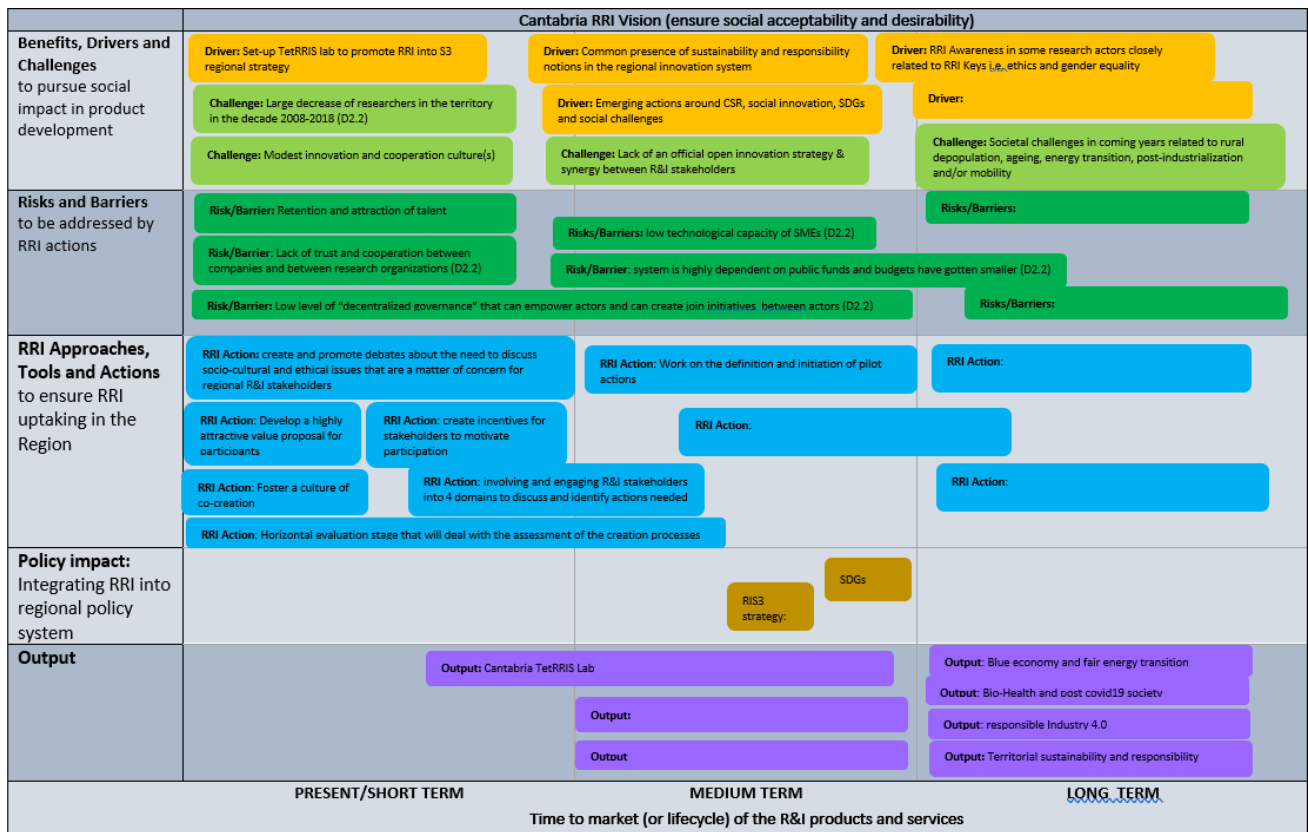


Figure 7 Roadmap of Cantabria

For Cantabria the most significant indicators in comparison were related to outcomes focused measures for backward and forward looking, transparency and accountability about RRI relevant choices, and integration of public and social values into regional agency innovations. The aforementioned were among the most significant and relevant indicators for Cantabria region.

This helped each regional partner identify what they believed the priorities in the region were. Together with the survey, these results help the project understand where regional leaders and their action plans might differentiate or align with the needs of their stakeholders. Also, by comparing with the actions mentioned in the roadmap (Figure 9); creation and promotion of debates about the need to discuss socio-cultural and ethical issues that are a matter of concern for regional R&I stakeholders; specific definition of plot actions, development of highly attractive proposals for participants; creation of incentives for stakeholders to motivate participation; fostering a culture of co-creation; involvement and engagement of stakeholders. These actions align with the high scores given on indicators such as having focused measure for backward and forward looking in terms of outcomes, transparency and accountability about RRI relevant choices, and integration of public and social values into regional agency, which provide incentives and take into consideration significant social and cultural issues. However, the lowest score was given on the indicator regarding awareness of ethical issues. This does not come in line with the region’s plan of embedding ethical values and creating and promoting of debates about ethical issues of primordial importance for regional R&I stakeholders.

2.1.4. Conclusion

It must be noted that the Roadmap and the pilot actions were chosen on the basis of extensive interviews and workshops with local stakeholders (completed in WP3). The comparison between the Roadmap and the results of the survey does not indicate any privilege of either roadmap or survey against each other. This comparison is helpful for strategy setting of the region for embedding RRI principles. Overall, from the comparison for Cantabria region, it can be seen that most of the priorities are being met and sometimes even paid too much attention to, since the blue dots representing the influence RRI dimensions have on stakeholders' assessments surpass the orange dots that depict the stakeholders' ability to control. However, these results cannot stand alone and also need to be taken into consideration along with the qualitative data and local conditions for Cantabria. Taken everything into account, these results function as starting point for further discussions in the regions for further discussions. Several gaps that could be tackled refer to additional actions that could be embedded in the action plan moving forward for embedding RRI values in the region's planning in terms of Responsible Research and Innovation. More specifically, one action that could be considered is increasing stakeholder engagement by making sure that everyone is involved and represented. All qualitative initiatives incl. workshops and interviewees, without exception, acknowledged both the need for, and benefits of, stakeholder involvement. The quantitative data has also supported this point. Towards this direction, open and meaningful dialogues through workshops, and open activities for information and knowledge exchange could boost and enhance trust between companies. The results from this deliverable can serve for further activities within TetRRIS in WP4, 5, and 6.

2.2. TAMPERE

2.2.1. Introduction

As also stated in Deliverable 3.2 the project team in the Tampere Region aims to develop an innovation system through the pilot, which would be attentive to ecological, ethical and social considerations in such a way that they are systematically integrated into innovation activities in the region. Firstly, Tampere pilot team identified a small number of ongoing or promising processes and initiatives from a perspective of the project objectives. The Council of Tampere Region introduced, and secondly enhanced, sustainability and responsibility views in an institutional setting of a regional development. Six RRI themes that are particularly important to the Tampere region were identified; namely anticipation, openness, diversity (including gender questions), stakeholder inclusion and public engagement, transparency and communication of RDI activities, and last, reflexivity and responsiveness. In May 2021, the findings of Deliverable 2.2. were reported back and discussed in a small workshop with regional stakeholders—many of whom were interviewed during the preparation of the Deliverable. This conversation with the stakeholders helped the project team further elaborate the RRI related issues that could be addressed as part of the pilot activities in the Tampere region. A workshop with 8 participants both from public and private institutions was conducted in which all of them filled out both the surveys, as representative members of the involved and affected stakeholders of the Tampere region. The continuous interaction between the project team and the various stakeholders active in the RDI ecosystem in the Tampere Region was beneficial for the pilot actions. More specifically, through this interaction, and according to the surveys' results various activities, can be evolved and adapted while being implemented. In this sense, the aim of this document is to present the survey results for RRI dimensions' influence on stakeholder assessments and decisions, as well as for the stakeholders' ability to influence or control the RRI dimensions. The survey results are presented and analyzed in the following sections.

2.2.2. Survey results

This section includes the survey results from both sets of questions i.e., 1) RRI dimensions influence on stakeholder assessments and decisions (Figure 8); 2) stakeholders' ability to influence or control the RRI dimension (Figure 9). The table indicates how many participants opted for each level of Likert scale from 1 to 5 and their average score (in the last column) for each question of the survey.

	Influence on stakeholder assessments and decisions	1	2	3	4	5	Average score
1	How much does awareness of public and social values influence the assessment and decisions you make for your organization?	0	0	0	4	4	4.5
2	How much does awareness of ethical issues in innovation influence the assessment and decisions you make for your organization?	0	0	4	2	2	3.8
3	How much does the integration of public and social values into regional agency innovations influence the assessment and decisions you make for your organization?	0	0	0	4	4	4.5
4	How much does anticipation of social effects in the regional agency innovations influence the assessment and decisions you make for your organization?	0	0	2	4	2	4.0
5	How much does stakeholder engagement influence the assessment and decisions you make for your organization?	0	0	0	3	5	4.6
6	How much does diversity and gender equality influence the assessment and decisions you make for your organization?	0	0	1	3	4	4.4
7	How much does transparency and accountability about RRI-relevant choices influence the assessment and decisions you make for your organization?	0	0	0	4	4	4.5
8	Learning mechanisms to adress public and social values in product development	0	0	2	5	1	3.9
9	How much does the capacity to align to societal goals influence the assessment and decisions you make for your organization?	0	1	1	4	2	3.9
10	How much does active monitoring of RRI impacts influence the assessment and decisions you make for your organization?	1	1	4	2	0	2.9
11	How much does outcome focused measures (backward- and forward looking) influence the assessment and decisions you make for your organization?	0	0	1	5	2	4.1

Figure 8 RRI dimensions' influence on stakeholder assessments and decisions for Tampere region

	Ability to manage/control	1	2	3	4	5	Average score
1	To what extent do you feel your organization can manage/control the awareness of public and social values within the organization?	0	1	0	2	5	4.4
2	To what extent do you feel your organization can manage/control the awareness of ethical issues of (regional) innovations within the organization?	1	0	3	3	1	3.4
3	To what extent do you feel your organization can manage/control the integration of public and social values into innovations within the organization?	1	0	0	5	2	3.9
4	To what extent do you feel your organization can manage/control the anticipation of social effects in its innovations?	1	0	2	4	1	3.5
5	To what extent do you feel your organization can manage/control the engagement of stakeholders ?	0	0	0	2	6	4.8
6	To what extent do you feel your organization can manage/control the diversity and gender equality within the organization?	0	0	2	3	3	4.1
7	To what extent do you feel your organization can manage/control the transparency and accountability within the organization?	0	0	2	3	3	4.1
8	To what extent do you feel your organization can manage/control the user-centered mechanisms to address public and social values in service or/and product development of the organization?	1	1	0	4	2	3.6
9	To what extent do you feel your organization have the capacity to manage/control its products/services towards societal goals?	0	0	1	4	3	4.3
10	To what extent do you feel your organization can manage/control the active monitoring of RRI impacts within the organization (e.g. ethical/social impact analysis, risk management, auditing regional innovations' non-financial values)?	2	0	3	2	1	3.0
11	To what extent do you feel your organization can manage/control the outcome focused measures (backward- and forward looking) of innovations within the organization?	0	1	1	3	3	4.0

Figure 9 Stakeholders ability to influence or control the RRI dimensions for Tampere region

As it can be derived by Figures 10 and 11 the highest scores on indicators' influence on stakeholders' assessments and decisions for Tampere are related to stakeholder engagement, awareness of public and social values and transparency and accountability and integration of public and social values into regional agency innovations. On the other hand, the less selected indicator as influential is the active monitoring of RRI impact. As far as it concerns, the stakeholders' ability to manage and control the RRI dimensions, the highest score concerns the ability to control or manage stakeholder engagement.

Furthermore, the results of the materiality matrix filled by the regional pilot partners from Tampere region are presented. Pilot partners were asked to assess each indicators' weight compared to the rest indicators on a Likert-scale from 1 to 5.

Internal prioritization of indicators												
Indicators	Prioritization											Significance of RRI dimension impact
	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRIrelevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)	
Awareness of public and social values	3	2	3	4	3	4	1	4	4	2	3.8	
Awareness of ethical issues of innovations	3	2	3	4	4	4	1	4	4	2	3.5	
Integration of public and social values into regional agency innovations	4	4	4	5	4	4	1	4	5	3	4.3	
Anticipation of social effects in the regional agency innovations	3	3	2	5	4	4	1	4	4	3	3.8	
Stakeholder engagement	2	2	1	4	2	3	1	3	3	2	2.6	
Diversity and gender equality	3	2	2	3	4	4	1	4	4	3	3.4	
Transparency and accountability about RRI-relevant choices	2	2	2	5	3	2	1	3	3	3	3.0	
Learning mechanisms to address public and social values in product development	5	5	5	3	5	5	4	5	3	3	5.0	
Capacity to align to societal goals	2	2	2	3	3	3	2	3	3	3	2.9	
Active monitoring of RRI impacts	2	2	2	3	3	3	1	3	2	2	2.6	
Outcome focused measures (backward- and forward looking)	4	4	3	4	4	3	3	3	4	3	3.9	

Figure 10 Materiality matrix of indicators for Tampere region

As it can be derived by Figure 12, the regional partners identified what they believed the leader priorities in the pilot region were. Using the same Likert scale of 1-5, regional partners (i.e. Tampere leaders) were asked to compare the indicators against each other. For instance, in Tampere region the awareness of public and social values is somewhat important compared to stakeholder engagement that is why its score is 4. Correspondingly, the scores below the brown line are the opposite, i.e., stakeholder engagement scores 2 compared to awareness of public and social values. (For more information about the steps taken for materiality assessment please see the explanation of Figure 7).

For Tampere the most significant indicators in comparison were related to outcomes focused measures, integration of public and social values into regional agency innovations, and learning mechanisms to address public and social values. The aforementioned were among the most significant and relevant RRI dimensions for Tampere's region. At the following section a reflection of these priorities in comparison with Tampere's region actions in the roadmap that was previously constructed is presented.

2.2.3. Comparison

As already mentioned, along with the two surveys, the materiality was then be plotted in a graph. As can be seen in **Figure 13**, survey 1 "influence on stakeholder assessment and decisions" (left, blue) and survey 2 "ability to manage or control" (right, orange) were each plotted independently on their own Y-Axis. The results from regional partners were plotted on the X-Axis. The arrows depict the distance that needs to be covered for reaching the ability to manage or control in comparison with the

actual influence of RRI on stakeholders' assessment. This graph is compared with the roadmap that was previously created for this region.

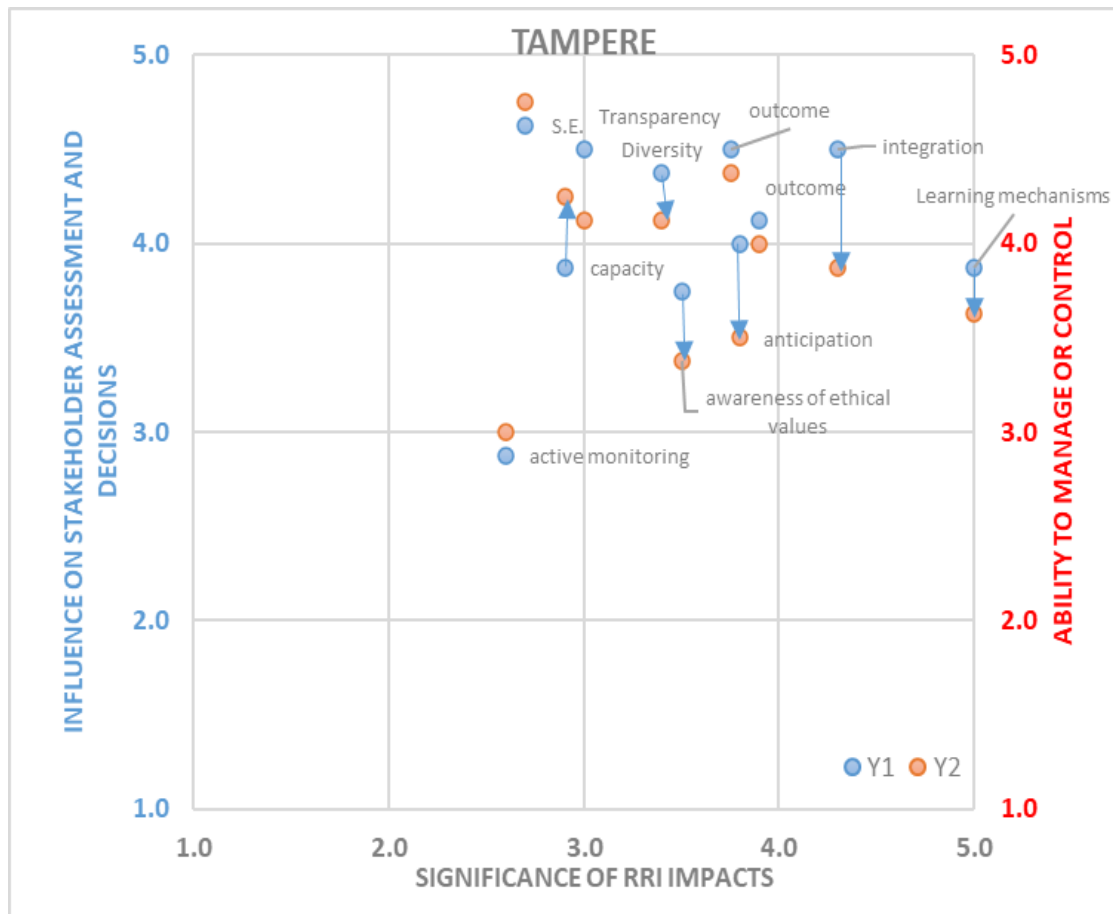


Figure 11 Plotting surveys' results with Materiality Matrix for Tampere

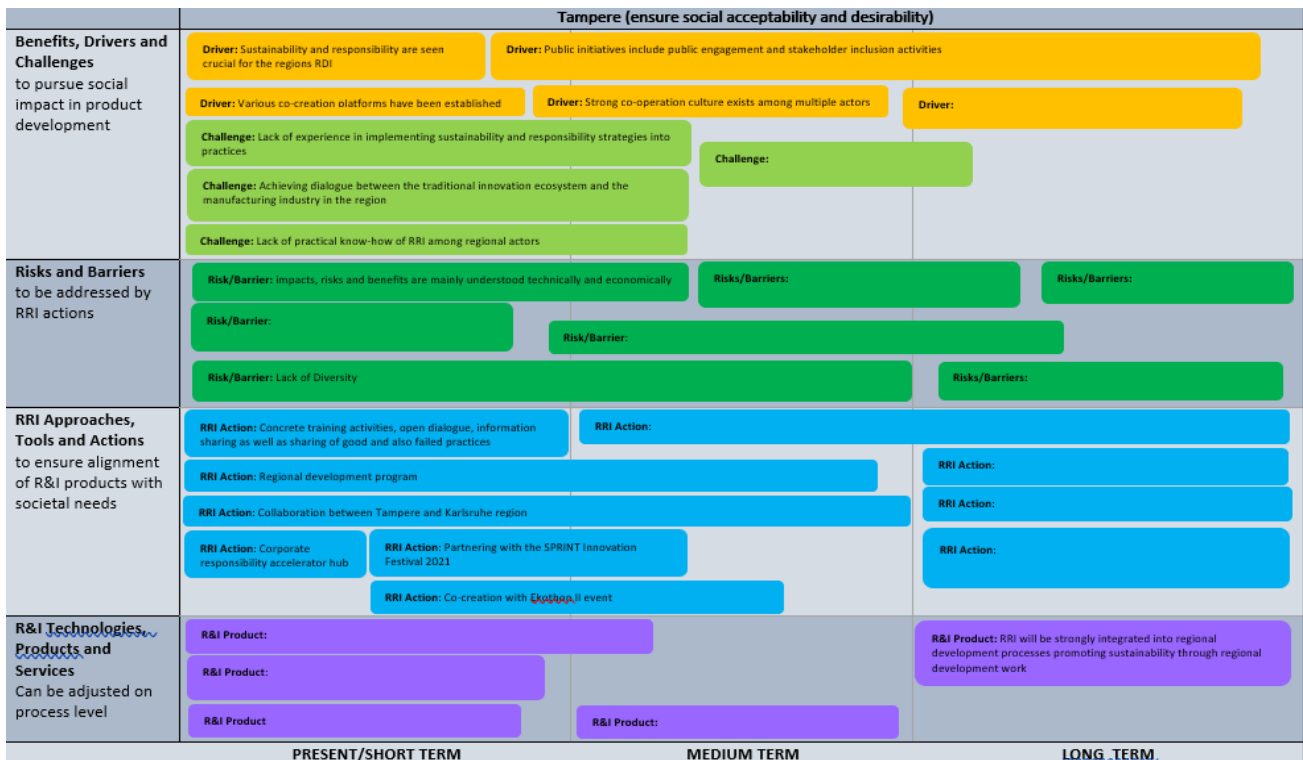


Figure 12 Roadmap of Tampere

This helped each regional partner identify what they believed the priorities in Tampere region were. By comparing with the actions mentioned in the roadmap (Figure 14); co-creation with Ekothon II event; partnering with the sprint innovation festival 2021; collaboration between Tampere and Karlsruhe region; regional development program; corporate responsibility accelerator hub. These actions align with the high scores and given on indicators such awareness of social and public values¹, integration of public and social values into regional agency innovations, and awareness of ethical issues of innovation, which provide incentives and take into consideration significant social and ethical issues. However, the lowest score was given on the indicators regarding stakeholder engagement and active RRI monitoring.

2.2.4. Conclusion

Similarly to Cantabria region, it must be noted that the Roadmap and the pilot actions were chosen on the basis of extensive interviews and workshops (completed in WP3). The comparison between the Roadmap and the results of the survey does not indicate any privilege of either roadmap or survey against each other. This comparison is helpful for strategy setting of the region for embedding RRI principles. Overall, from the comparison, it can be seen that there is a gap between some dimensions and the level of influence they could have according to the expectations of the region's stakeholders. More specifically, one action that could be considered is increasing stakeholder engagement and capacity to align societal goals by making sure that everyone is involved and represented. Through

¹ It is worth noticing that the terms **public and social values** were taken from the CEN RRI standard. They refer to sets of moral principles defined by the public and society dynamics, institutions, traditions and cultural believes. These values are implicit, and provide orientation to individuals and corporations to conduct themselves properly within a social system.

workshops, and open activities for information and knowledge exchange stakeholder engagement could be enhanced. Also, through the corporate responsibility accelerator hub more societal concerns and goals could be taken onto consideration and become an starting point for discussions. These discussions along with the qualitative data and local conditions for Tampere could serve for further activities within TetRRIS in WP4, 5, and 6.

2.3. KARLSRUHE

As also stated in Deliverable 3.2 the Karlsruhe Technology Region can be described as an established and dynamic regional innovation system that enjoys a high level of RRI practice on the part of local innovation actors. Even though the region is home to several research institutes, RRI terminology has hardly penetrated the region's research, development and innovation communities regarding environmental sustainability focusing on developing environmentally friendly mobility and logistics solutions. More specifically, it is concentrated on the field of public engagement and inclusion, mainly in the context of activities seeking to innovate new technologies or develop new physical and social infrastructures. The main challenges that were identified that have prevented the integration of RRI-oriented practices in the Karlsruhe Technology Region were related to several needs of actors in the regional innovation system that could possibly be addressed by pilot activities. In a pilot- action workshop, 16 public and private participants filled both the surveys, as representative members of the involved and affected stakeholders of the Karlsruhe region. The survey results are presented and analyzed in the following sections.

2.3.2. Survey results

This section includes the survey results from both sets of questions i.e., 1) RRI dimensions influence on stakeholder assessments and decisions (Figure 11); 2) stakeholders' ability to influence or control the RRI dimensions (Figure 12). The table indicates how many participants opted for each level of Likert scale from 1 to 5 and their average score (in the last column) for each question of the survey.

	Influence on stakeholder assessments and decisions	1	2	3	4	5	Average score
1	How much does awareness of public and social values influence the assessment and decisions you make for your organization?	0	0	2	11	3	4.1
2	How much does awareness of ethical issues in innovation influence the assessment and decisions you make for your organization?	0	3	5	6	2	3.4
3	How much does the integration of public and social values into regional agency innovations influence the assessment and decisions you make for your organization?	1	4	2	6	3	3.4
4	How much does anticipation of social effects in the regional agency innovations influence the assessment and decisions you make for your organization?	0	2	8	3	3	3.4
5	How much does stakeholder engagement influence the assessment and decisions you make for your organization?	2	1	6	5	2	3.3
6	How much does diversity and gender equality influence the assessment and decisions you make for your organization?	2	6	2	4	2	2.9
7	How much does transparency and accountability about RRI-relevant choices influence the assessment and decisions you make for your organization?	2	6	2	4	2	2.9
8	Learning mechanisms to adress public and social values in product development	0	2	6	5	3	3.6
9	How much does the capacity to align to societal goals influence the assessment and decisions you make for your organization?	1	1	8	4	2	3.3
10	How much does active monitoring of RRI impacts influence the assessment and decisions you make for your organization?	2	7	2	5	0	2.6
11	How much does outcome focused measures (backward- and forward looking) influence the assessment and decisions you make for your organization?	1	2	4	5	4	3.6

Figure 13 RRI dimensions' influence on stakeholder assessments and decisions for Karlsruhe region

	Ability to manage/control	1	2	3	4	5	Average score
1	To what extent do you feel your organization can manage/control the awareness of public and social values within the organization?	0	2	5	9	0	3.4
2	To what extent do you feel your organization can manage/control the awareness of ethical issues of (regional) innovations within the organization?	0	1	9	5	0	3.3
3	To what extent do you feel your organization can manage/control the integration of public and social values into innovations within the organization?	2	4	4	5	1	2.9
4	To what extent do you feel your organization can manage/control the anticipation of social effects in its innovations?	1	8	3	9	1	3.0
5	To what extent do you feel your organization can manage/control the engagement of stakeholders ?	0	2	7	4	3	3.5
6	To what extent do you feel your organization can manage/control the diversity and gender equality within the organization?	0	2	7	4	3	3.5
7	To what extent do you feel your organization can manage/control the transparency and accountability within the organization?	0	2	3	7	4	3.8
8	To what extent do you feel your organization can manage/control the user-centered mechanisms to address public and social values in service or/and product development of the organization?	0	2	4	9	1	3.6
9	To what extent do you feel your organization have the capacity to manage/control its products/services towards societal goals?	0	5	6	4	1	3.1
10	To what extent do you feel your organization can manage/control the active monitoring of RRI impacts within the organization (e.g. ethical/social impact analysis, risk management, auditing regional innovations' non-financial values)?	0	6	6	3	1	2.9
11	To what extent do you feel your organization can manage/control the outcome focused measures (backward- and forward looking) of innovations within the organization?	0	8	2	2	4	3.1

Figure 14 Stakeholders ability to influence or control the RRI dimensions for Karlsruhe region

As it can be derived by Figures 15 and 16 the highest scores on indicators' influence on stakeholders' assessments and decisions for Karlsruhe are related to learning mechanisms to address public and social values in product development, awareness of public and social values and outcomes focused measures. On the other hand, the less selected indicator as influential is the active monitoring of RRI impact. As far as it concerns, the stakeholders' ability to manage and control the RRI dimensions, the highest score concerns the ability to control or manage transparency and accountability about RRI-relevant choices and the lowest scores the integration of public and social values and the active monitoring of RRI.

Furthermore, the results of the materiality matrix filled by the regional pilot partners from Karlsruhe region are presented. Pilot partners were asked to assess each indicators' weight compared to the rest indicators on a Likert-scale from 1 to 5.

Internal prioritization of indicators												
Indicators	Prioritization											Significance of RRI dimension impact
	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRI-relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)	
Awareness of public and social values		3	3	4	2	3	4	5	3	4	4	4.4
Awareness of ethical issues of innovations	3		3	3	2	3	4	4	4	4	4	4.3
Integration of public and social values into regional agency innovations	3	3		4	3	3	3	5	3	3	4	4.3
Anticipation of social effects in the regional agency innovations	2	3	2		3	3	3	5	3	4	4	4.0
Stakeholder engagement	4	4	3	3		3	4	5	4	5	4	4.9
Diversity and gender equality	3	3	3	3	3		4	5	3	4	4	4.4
Transparency and accountability about RRI-relevant choices	2	2	3	3	2	2		4	2	3	3	3.3
Learning mechanisms to address public and social values in product development	1	2	1	1	1	1	2		1	2	3	1.9
Capacity to align to societal goals	3	2	3	3	2	3	4	5		4	3	4.0
Active monitoring of RRI impacts	2	2	3	2	1	2	3	4	1		3	2.9
Outcome focused measures (backward- and forward looking)	2	2	2	2	2	2	3	3	3	3		3.0

Figure 15 Materiality matrix of indicators for Karlsruhe region

As it can be derived by Figure 17, the regional partners identified what they believed the leader priorities in the pilot region were. Using the same Likert scale of 1-5, regional partners (i.e., TRK leaders) were asked to compare two indicators against each other. For instance, in Karlsruhe region the awareness of public and social values is substantially important compared to learning mechanisms to address public and social values in product development that is why its score is 5. Correspondingly, the scores below the brown line are the opposite, i.e., learning mechanisms score 1 compared to awareness of public and social values. (For more information about the steps taken for materiality assessment please see the explanation of Figure 7).

For Karlsruhe the most significant indicators in comparison were related to stakeholder engagement, awareness of social and public values, diversity and gender equality. The aforementioned were among the most relevant RRI dimensions for Karlsruhe's region. At the following section a reflection of these priorities in comparison with Karlsruhe's region actions in the roadmap that was previously constructed is presented.

2.3.3. Comparison

As already mentioned, along with the two surveys, the materiality was then be plotted in a graph. As can be seen in **Figure 18**, survey 1 "influence on stakeholder assessment and decisions" (left, blue) and survey 2 "ability to manage or control" (right, orange) were each plotted independently on their own Y-Axis. The results from regional partners were plotted on the X-Axis. The arrows depict the

distance that needs to be covered for reaching the ability to manage or control in comparison with the actual influence of RRI on stakeholders' assessment. This graph is compared with the roadmap that was previously created for this region.

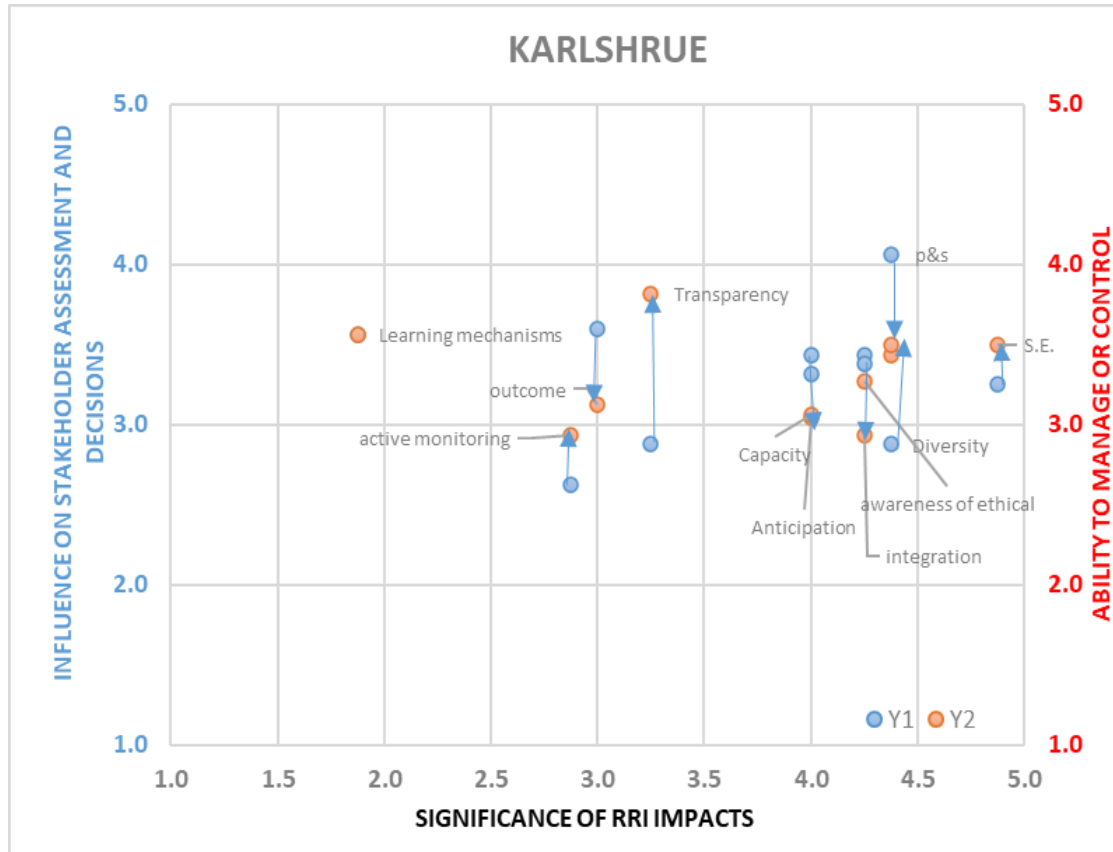


Figure 16 Plotting surveys' results with Materiality Matrix for Karlsruhe

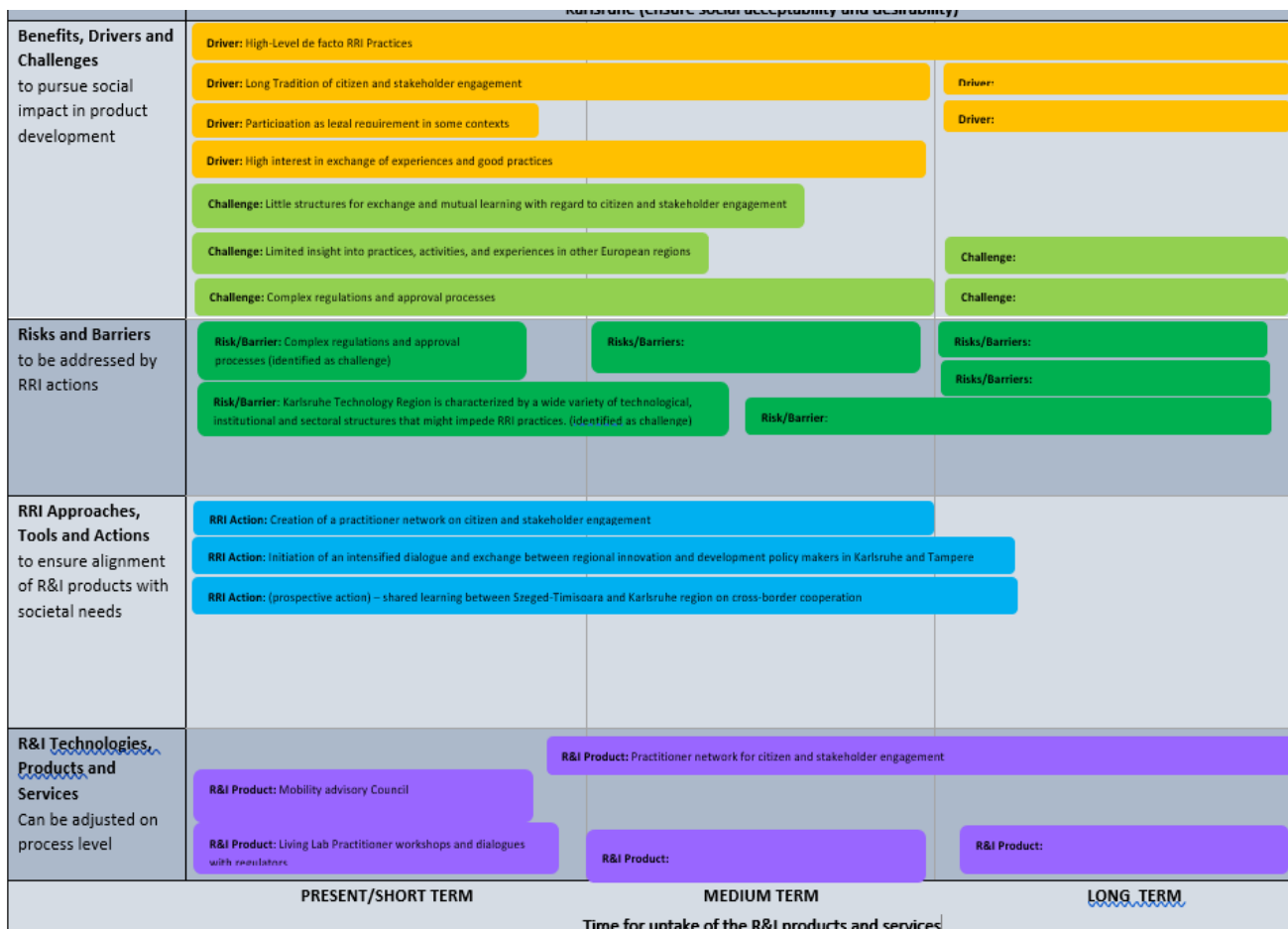


Figure 17 Roadmap of Karlsruhe

This helped Karlsruhe’s regional partners identify what they believed the level of abilities in the region were. By comparing with the actions mentioned in the roadmap (Figure 19); creation of a practitioner network on citizen and stakeholder engagement; shared learning between Karlsruhe and Szeged-Timisoara; initiation of an intensified dialogue and exchange between regional innovation and development policy makers in Tampere and Karlsruhe. These actions align with the high scores given on indicators such as stakeholder engagement, awareness of social and public values, diversity and gender equality, which provide incentives and boost participation. However, the lowest score was given on the indicator regarding active monitoring of RRI.

2.3.4. Conclusion

We should note that the results of this section can only function as starting point for further discussions in the region, and we just suggest some potential gaps.

Some recommendations for the continuation of the pilot could be to take into consideration the gaps on active monitoring of RRI and on transparency and accountability of RRI related decisions. Given Karlsruhe’s focus on stakeholder engagement, actions towards the aforementioned dimensions could be discussed and embedded in their pilot actions. For example, some of the main actions for Karlsruhe region are the creation of open networks for citizen and stakeholder engagement through active dialogues. This pilot action is ongoing and not completed and already dedicated towards this goal.

However, focusing on making processes more transparent and having active monitoring processes could be helpful in terms of the region's main focus, which is enhancing the stakeholder engagement.

Furthermore, it must also be taken into account the qualitative and local conditions, such as the possibilities of the project team to affect regional policy-making and local power structures. Also, although expectations are a high incentive and a good starting point for the project activity in Karlsruhe, and the realistic opportunities to meet them may be limited in context of TetRRIS. Expectations give however, prospect to enhance RRI in a longer perspective and good starting points.

2.4. SZEGED-TIMISOARA

2.4.1. Introduction

As also stated in Deliverable 3.2, the Szeged-Timisoara Pilot is a "learning pilot" focused on deriving useful knowledge from the more advanced pilot regions of Tampere, Karlsruhe and Cantabria to stimulate first steps towards integrating RRI into the local development and innovation processes in the area of creative industries. Two strategic projects within this region, DIH-World and TalentMagnet based on regional smart specialization strategies in Szeged-Timisoara region. DIH-World will respond to the needs of European manufacturing start-ups and SMEs leading to the optimal combination of theoretical inputs for skill development and tangible results from the experiments. The second pilot, TalentMagnet addresses major societal challenges of the Szeged region caused by the outmigration of highly-educated young people (brain drain). The TalentMagnet project addresses major societal (demographic and labour market) challenges caused by the brain drain of highly-educated young people. The main objective of TalentMagnet is to strengthen multilevel governance and improve institutional capacities to reduce the outmigration of these talented young workers. TalentMagnet will help institutional actors and other stakeholders to identify obstacles, and develop an implementation plan. To support TalentMagnet project in addressing RRI Keys, an online workshop was organized to investigate, discuss and analyse all the possible ways to integrate RRI framework into the workflow of the TalentMagnet project in Hungary. In a workshop 12 participants both from public and private institutions filled one of the surveys, as representative members of the involved and affected stakeholders of the Szeged-Timisoara region. In this sense, the aim of this document is to present the survey results for RRI dimensions' influence on stakeholder assessments and decisions, as well as for the stakeholders' ability to influence or control the RRI dimensions. The survey results are presented and analyzed in the following sections. Stakeholders of the project discussed the overall concept of RRI (as it is a relatively new concept in the region), challenges of RRI integration in the region, and how to solve these challenges.

2.4.2. Survey results

This section includes the survey results for RRI dimensions influence on stakeholder assessments and decisions (Figure 14). The table indicates how many participants opted for each level of Likert scale from 1 to 5 and their average score (in the last column) for each question of the survey.

	Influence on stakeholder assessments and decisions	1	2	3	4	5	Average score
1	How much does awareness of public and social values influence the assessment and decisions you make for your organization?	0	6	1	2	2	3.0
2	How much does awareness of ethical issues in innovation influence the assessment and decisions you make for your organization?	0	2	6	4	0	3.2
3	How much does the integration of public and social values into regional agency innovations influence the assessment and decisions you make for your organization?	0	1	0	2	6	4.4
4	How much does anticipation of social effects in the regional agency innovations influence the assessment and decisions you make for your organization?	0	2	4	1	4	3.6
5	How much does stakeholder engagement influence the assessment and decisions you make for your organization?	0	1	4	6	0	3.5
6	How much does citizen participation influence the assessment and decision you make for your organization?	0	1	1	7	3	4.0
7	How much does diversity and gender equality influence the assessment and decisions you make for your organization?	0	5	0	5	1	3.2
8	How much does transparency and accountability about RRI-relevant choices influence the assessment and decisions you make for your organization?	0	4	4	3	1	3.1
9	How much does active monitoring of RRI impacts influence the assessment and decisions you make for your organization?	1	3	3	1	1	2.8
10	How much does outcome focused measures (backward- and forward looking) influence the assessment and decisions you make for your organization?	2	5	2	2	0	2.4
11	Learning mechanisms to adress public and social values in product development	2	2	2	5	1	3.1

Figure 18 RRI dimensions' influence on stakeholder assessments and decisions for Szeged-Timisoara region

As it can be derived by Figures 15 and 16 the highest scores on indicators' influence on stakeholders' assessments and decisions for Szeged-Timisoara are related to citizen participation, integration of public and social values into regional agency innovations and anticipation of social effects. On the other hand, the less selected indicator as influential is the outcomes focused measures.

Furthermore, the results of the materiality matrix filled by the regional pilot partners from Szeged-Timisoara region are presented. Pilot partners were asked to assess each indicators' weight compared to the rest indicators on a Likert-scale from 1 to 5.

Internal prioritization of indicators - weighting system												
Indicators	Prioritization											Significance of RRI dimension impact
	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRIrelevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)	
Awareness of public and social values	5	1	2	3	5	1	1		3	1	2	2.4
Awareness of ethical issues of innovations	5	5	3	4	5	1	2		5	3	3	3.9
Integration of public and social values into regional agency innovations	4	3	5	3	5	1	3		5	3	3	3.8
Anticipation of social effects in the regional agency innovations	3	2	3	5	1	3		5	3	3	3	3.5
Stakeholder engagement	1	1	1	1	5	1	2		3	1	1	1.5
Diversity and gender equality	5	5	5	5	5	5	4		5	3	3	5.0
Transparency and accountability about RRI-relevant choices	5	4	3	3	4	2	5		5	3	3	4.0
Learning mechanisms to address public and social values in product development							5					0.0
Capacity to align to societal goals	3	1	1	1	3	1	1		5	2	2	1.9
Active monitoring of RRI impacts	5	3	3	3	5	3	3		4	3	3	4.0
Outcome focused measures (backward- and forward looking)	4	3	3	3	3	5	3		4	3	3	3.9

Figure 19 Materiality matrix of dimensions for Szeged-Timisoara region

As it can be derived by Figure 21, the regional partners identified what they believed the leader priorities in the pilot region were. Using the same Likert scale of 1-5, regional partners (i.e.,

TalentMagnet leaders) were asked to compare two indicators against each other. For instance, in Szeged-Timisoara region the awareness of public and social values is substantially important compared to stakeholder engagement that is why its score is 5. Correspondingly, the scores below the brown line are the opposite, i.e., stakeholder engagement scores 1 compared to awareness of public and social values. (for more information about the steps taken for materiality assessment please see the explanation of Figure 7).

For Szeged-Timisoara the most significant indicators in comparison were related to diversity and gender equality, transparency and accountability, active monitoring of RRI and awareness of ethical issues of innovation. The aforementioned were among the most significant and relevant RRI dimensions for Szeged-Timisoara’s region. At the following section a reflection of these priorities in comparison with Szeged-Timisoara’s region actions in the roadmap that was previously constructed is presented.

2.4.3. Comparison

As can be seen in **Figure 22**, survey 1 “influence on stakeholder assessment and decisions” (left, blue) was plotted independently on the Y-Axis. The results from regional partners were plotted on the X-Axis. The arrows depict the distance that needs to be covered for reaching the ability to manage or control in comparison with the actual influence of RRI on stakeholders’ assessment. This graph is compared with the roadmap that was previously created for this region.

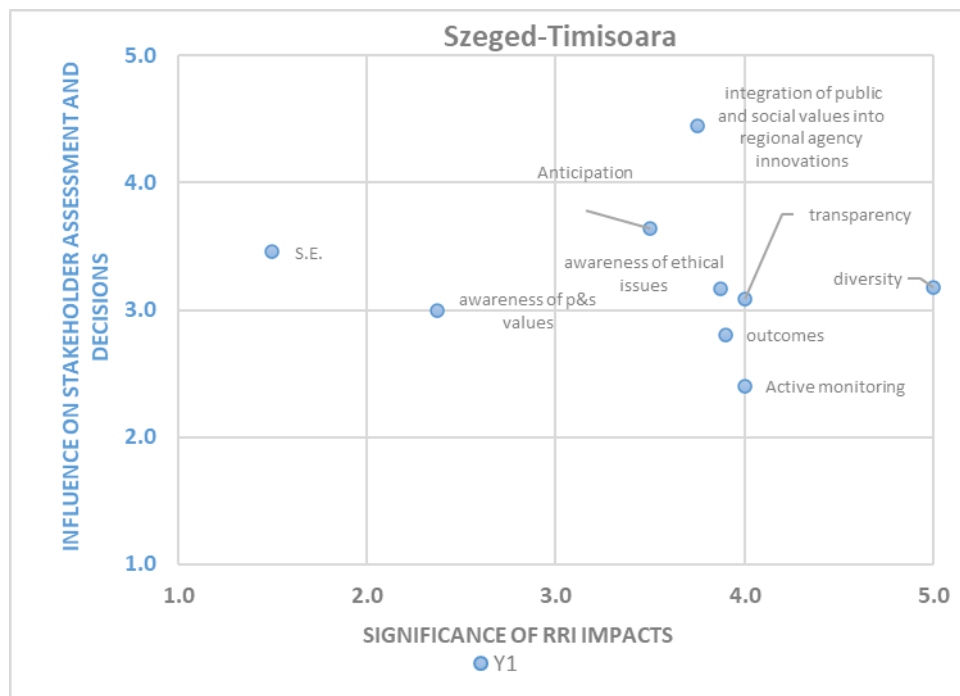


Figure 20 Plotting survey’s results with Materiality Matrix for Szeged-Timisoara

The roadmap for the pilot region Szeged - Timisoara is presented in the following graph.

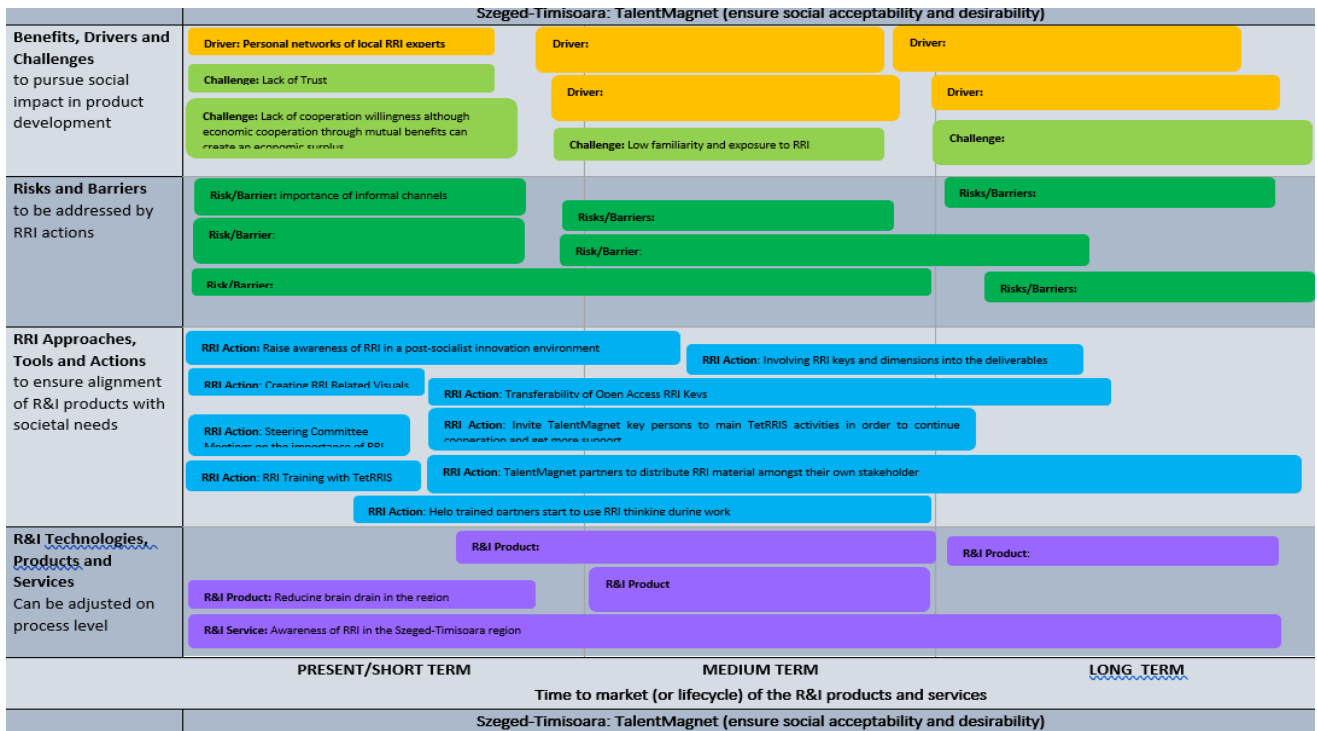


Figure 21 Roadmap of Szeged-Timisoara

Comparing the surveys’ results with the actions mentioned in the roadmap (Figure 23); raise awareness of RRI; create RRI visuals; transferability of open access; help trained partners start using RRI in their work; boost cooperation. These actions align with the high scores given on indicators such as, transparency and accountability, active monitoring of RRI and awareness of ethical issues of innovation, which provide incentives and take into consideration significant social and cultural issues. However, the lowest score was given on the indicators regarding stakeholder engagement and learning mechanisms, which does not align with the proposed actions for enhancing cooperation activities.

2.4.4. Conclusion

Overall, it can be seen that the main priorities for Szeged-Timisoara region is to increase awareness about RRI in its region and gain knowledge from the most experienced regions within the TetRRIs project. It focuses on creating RRI visuals and promote open access and transparency among stakeholders. These actions taken in the region align with the surveys’ results since transparency, openness, accountability and raising awareness of social values that are of primordial importance for the stakeholders according to the survey’s results.

2.5 DIH-World

DIH-World is a project that brings together digital innovation hubs from EU countries in order to exchange and transfer knowledge, while also sharing best practices in digitalisation support to companies through active dialogues and workshops. The project have been presented as transnational

project with focus on Digital Innovation Hubs and community development by open innovation platforms. Cross-border cooperation with Timisoara (neighbour Romanian region) has also been planned because the development of the network of European DIH nodes (E-DIH) provide the transnational backbone for supporting digital transformation of SMEs on European level. The E-DIH network will be present in Timisoara because the regional innovation centre (Tehimpuls Association) has been selected for support by the government in Romania.

The official start of E-DIH network was scheduled at the end of 2021 therefore cooperative actions with RRI focus were planned in the first quarter of 2022 (including RRI training based on the experience of TalentMagnet project). Unfortunately, the official endorsement of regional E-DIH nodes by the European Commission was done only in June 2022. This delay of several months has obliged the TetRRIS team in Szeged to make joint actions not only with DIH-World partners but also with other innovation stakeholders in Hungary on national and regional level. Hence, no actions for this survey has been performed due to the delay of the official endorsement of regional E-DIH nodes by the European Commission. Once the pilot is settled op and runs properly the survey wil also be conducted for DIH-Wolrd and more comprehensive results for this region will be obtained.

3. ANNEX

3.1. Cantabria

3.1.1. Survey response(s)

Indicador – Influence		1	2	3	4	5
1	¿En qué medida influye el conocimiento de los valores públicos y sociales en la evaluación y en las decisiones que toma su organización? How much does awareness of public and social values influence the assessment and decisions you make for your organization?	0	1	6	12	3
2	y las cuestiones éticas de la innovación? How much does awareness of ethical issues in innovation influence the assessment and decisions you make for your organization?	1	2	5	8	6
3	¿En qué medida influye en esas decisiones la integración de los valores públicos y sociales de las innovaciones? How much does the integration of public and social values into regional agency innovations influence the assessment and decisions you make for your organization?	1	3	4	12	2
4	y la previsión de los efectos/anticipaciones sociales de las innovaciones? How much does anticipation of social effects in the regional agency innovations influence the assessment and decisions you make for your organization?	0	4	5	11	2
5	¿En qué medida influye el compromiso de los stakeholders/agentes interesados? How much does stakeholder engagement influence the assessment and decisions you make for your organization?	0	3	3	8	8
6	¿Cuánto influye la participación ciudadana en las decisiones que toma su organización? How much does citizen participation influence the assessment and decision you make for your organization?	3	11	5	2	1
7	¿En qué medida la influyen la diversidad y la igualdad de género en las decisiones que toma su organización? How much does diversity and gender equality influence the assessment and decisions you make for your organization?	1	3	9	6	3
8	¿y la transparencia? How much does transparency and accountability about RRI-relevant choices influence the assessment and decisions you make for your organization?	2	1	5	9	5
9	¿En qué medida influye la capacidad de alinearse con los objetivos sociales en la evaluación y las decisiones que toma su organización? How much does the capacity to align to societal goals influence the assessment and decisions you make for your organization?	0	3	13	3	3
10	¿En qué medida influye el seguimiento activo de los impactos de la RRI en la evaluación y las decisiones que toma su organización? How much does active monitoring of RRI impacts influence the assessment and decisions you make for your organization?	0	11	6	4	1
11	¿En qué medida influyen las medidas centradas en los resultados (con vistas al futuro y al pasado)? How much does outcome focused measures (backward- and forward looking) influence the assessment and decisions you make for your organization?	0	2	6	8	6

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Indicador ¿En qué medida considera que tiene USTED capacidad de influir en los siguientes factores/indicadores EN SU ORGANIZACIÓN?		1	2	3	4	5
1	How much do you have the ability to influence or control awareness of public and social values within your organization?	3	2	11	5	1
2	How much do you have the ability to influence or control awareness of ethical issues of innovations within your organization?	2	5	8	5	2
3	How much do you have the ability to influence or control integration of public and social values into regional agency innovations within your organization?	1	8	9	2	2
4	How much do you have the ability to influence or control anticipation of	2	7	10	3	0

	social effects in the regional agency innovations within your organization?					
5	How much do you have the ability to influence or control stakeholder engagement within your organization?	2	6	13	2	0
6	How much do you have the ability to influence or control citizen participation within your organization?	4	7	7	4	0
7	How much do you have the ability to influence or control diversity and gender equality within your organization?	1	7	4	8	2
8	How much do you have the ability to influence or control transparency and accountability about RRI-relevant choices within your organization?	1	7	6	6	2
9	How much do you have the ability to influence or control capacity to align to societal goals within your organization?	0	7	9	6	0
10	How much do you have the ability to influence or control active monitoring of RRI impacts within your organization?	2	6	8	5	0
11	How much do you have the ability to influence or control outcome focused measures (backward- and forward looking) within your organization?	1	5	11	3	2

3.1.2. Matrix

		Prioritization 10										
	Indicators	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRIrelevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)
Prioritization 1/10	Awareness of public and social values	0	2	2	4	0	2	3	3	2	3	
	Awareness of ethical issues of innovations	4	0	0	2	0	0	1	0	2	0	
	Integration of public and social values into regional agency innovations	2	4	2	2	3	2	4	2	2	0	
	Anticipation of social effects in the regional agency innovations	2	4	2	3	2	1	3	1	1	0	
	Stakeholder engagement	0	2	2	1	3	2	2	3	2	2	
	Diversity and gender equality	4	4	1	2	1	1	2	3	2	1	
	Transparency and accountability about RRI-relevant choices	2	4	2	3	2	3	1	2	2	1	
	Learning mechanisms to address public and social values in product development	1	3	0	1	2	2	3	3	3	2	
	Capacity to align to societal goals	1	4	2	3	1	1	2	1	2	1	
	Active monitoring of RRI impacts	2	2	2	3	2	2	1	2	2	1	
	Outcome focused measures (backward- and forward looking)	1	4	4	4	2	3	3	2	3	3	

3.2. Tampere

3.2.1. Survey response(s)

Influence on stakeholder assessments and decisions												
Stakeholders	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and gender equality	Transparency and accountability about RRI relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward and forward looking)	
Stakeholder 1	5	3	4	5	5	5	5	3	4	1	3	
Stakeholder 2	5	3	4	3	5	4	4	3	4	4	4	
Stakeholder 3	5	5	5	4	4	4	4	4	4	4	4	
Stakeholder 4	4	4	5	4	4	3	5	4	5	3	4	
Stakeholder 5	4	3	4	4	4	4	4	4	5	3	4	
Stakeholder 6	4	3	4	4	5	5	4	4	3	3	5	
Stakeholder 7	4	4	5	3	5	5	5	4	4	3	4	
Stakeholder 8	5	5	5	5	5	5	5	5	2	2	5	
Average	4.5	3.75	4.5	4	4.625	4.375	4.5	3.875	3.875	2.875	4.125	

Influence on stakeholder assessments and decisions												
Stakeholders	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and gender equality	Transparency and accountability about RRI relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward and forward looking)	
Stakeholder 1	5	3	4	4	5	5	3	4	4	1	2	
Stakeholder 2	5	3	4	3	5	3	3	2	3	3	3	
Stakeholder 3	4	4	4	4	4	4	4	4	4	4	4	
Stakeholder 4	5	4	5	3	5	4	5	4	5	3	4	
Stakeholder 5	4	4	4	4	5	4	4	4	5	4	5	
Stakeholder 6	5	3	4	4	5	5	4	5	4	3	5	
Stakeholder 7	5	5	5	5	5	5	5	5	5	5	5	
Stakeholder 8	2	1	1	1	4	3	5	1	4	1	4	
Average	4.375	3.375	3.875	3.5	4.75	4.125	4.125	3.625	4.25	3	4	

3.2.2. Matrix

Internal prioritization of indicators														
Indicators	Prioritization											Row Total	Total Decimal value (refers to the row total / grand total)	Assigned weight value (TOV x 10)
	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRI relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)			
Awareness of public and social values		3	2	3	4	3	4	1	4	4	2	30	0.173410405	1.734104046
Awareness of ethical issues of innovations	3		2	3	4	4	4	1	4	4	2	28	0.161849711	1.61849711
Integration of public and social values into regional agency innovations	4	4		4	5	4	4	1	4	5	3	34	0.196531792	1.965317919
Anticipation of social effects in the regional agency innovations	3	3	2		5	4	4	1	4	4	3	30	0.173410405	1.734104046
Stakeholder engagement	2	2	1	4		2	3	1	3	3	2	21	0.121387283	1.213872832
Diversity and gender equality	3	2	2	3	4		4	1	4	4	3	27	0.156069364	1.560693642
Transparency and accountability about RRI-relevant choices	2	2	2	5	3	2		1	3	3	3	24	0.138728324	1.387283237
Learning mechanisms to address public and social values in product development	5	5	5	3	5	5	5		4	5	3	40	0.231213873	2.312138728
Capacity to align to societal goals	2	2	2	3	3	2	3	2		3	3	23	0.132947977	1.329479769
Active monitoring of RRI impacts	2	2	2	3	3	2	3	1	3		2	21	0.121387283	1.213872832
Outcome focused measures (backward- and forward looking)	4	4	3	4	4	3	3	3	3	4		31	0.179190751	1.791907514
Grand Total:												173		

3.3. Karlsruhe

3.3.1. Survey response(s)

Influence on stakeholder assessments and decisions													
Stakeholders	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and gender equality	Transparency and accountability about RRI relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward and forward looking)		
Stakeholder 1	4	3	4	3	1	2	2	3	3	1	1		
Stakeholder 2	4	3	1	3	1	1	4	3	2	2	3		
Stakeholder 3	3	5	4	4	5	4	4	2	3	2	3		
Stakeholder 4	4	4	4	4	3	4	4	4	3	4	4		
Stakeholder 5	5	3	4	4	3	4	5	3	3	2	2		
Stakeholder 6	4	4	3	3	4	3	3	5	3	3	4		
Stakeholder 7	4	2	2	2	2	2	2	5	4	2	2		
Stakeholder 8	3	4	5	2	3	2	2	3	4	4	4		
Stakeholder 9	4	5	4	5	3	3	4	4	3	3	5		
Stakeholder 10	4	4	2	3	3	2	4	2	3	2	3		
Stakeholder 11	5	4	5	5	4	5	4	4	5	4	5		
Stakeholder 12	5	4	5	5	4	5	4	3	5	4	4		
Stakeholder 13	4	2	2	3	4	2	3	4	4	2	4		
Stakeholder 14	4	2	2	3	4	2	3	5	4	2	5		
Stakeholder 15	4	3	3	3	5	1	5	3	1	1	5		
Stakeholder 16	4	3	4	3	3	4	3	4	3	4	3		
AVERAGE	4.0625	3.4375	3.375	3.4375	3.25	2.875	3.5	3.5625	3.3125	2.625	3.5625		
Ability to influence or control													
Stakeholders	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and gender equality	Transparency and accountability about RRI relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward and forward looking)		
Stakeholder 1	4	3	4	4	4	3	3	2	4	3	3		
Stakeholder 2	4	4	4	3	3	2	4	4	3	4	5		
Stakeholder 3	3	4	4	2	5	4	3	3	2	3	3		
Stakeholder 4	4	4	3	2	3	4	5	4	3	5	5		
Stakeholder 5	3	2	2	2	2	4	4	3	2	2	2		
Stakeholder 6	4	3	4	3	3	3	4	2	3	3	5		
Stakeholder 7	3	3	4	2	3	3	2	5	4	3	3		
Stakeholder 8	3	3	2	4	4	2	2	3	2	3	3		
Stakeholder 9	4	3	3	4	3	3	4	4	4	4	5		
Stakeholder 10	2		2	2	5	3	5	4	2	3	3		
Stakeholder 11	4	4	5	5	4	5	4	4	5	4	4		
Stakeholder 12	2	3	2	2	2	4	3	4	3	2	3		
Stakeholder 13	4	3	1	2	3	3	4	4	4	2	3		
Stakeholder 14	4	3	1	2	3	3	5	4	3	2	3		
Stakeholder 15	3	2	3	1	5	5	5	4	2	2	4		
Stakeholder 16	4	4	3	3	4	5	4	3	3	2	2		
AVERAGE	3.4375	3.285714286	2.9375	2.6875	3.5	3.5	3.8125	3.5625	3.0625	2.9375	3.5		

3.3.2. Matrix

Internal prioritization of indicators															
Indicators	Prioritization											Row Total	Total Decimial value (refers to the row total / grand total)	Assigned weight value TDV x 10	
	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRI relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)				
Awareness of public and social values		3	3	4	2	3	4	5	3	4	4	35	1.458333333	14.6	
Awareness of ethical issues of innovations	3		3	3	2	3	4	4	4	4	4	34	1.416666667	14.2	
Integration of public and social values into regional agency innovations	3	3		4	3	3	3	5	3	3	4	34	1.416666667	14.2	
Anticipation of social effects in the regional agency innovations	2	3	2		3	3	3	5	3	4	4	32	1.333333333	13.3	
Stakeholder engagement	4	4	3	3		3	4	5	4	5	4	39	1.625	16.3	
Diversity and gender equality	3	3	3	3	3		4	5	3	4	4	35	1.458333333	14.6	
Transparency and accountability about RRI-relevant choices	2	2	3	3	2	2		4	2	3	3	26	1.083333333	10.8	
Learning mechanisms to address public and social values in product development	1	2	1	1	1	1	2		1	2	3	15	0.625	6.3	
Capacity to align to societal goals	3	2	3	3	2	3	4	5		4	3	32	1.333333333	13.3	
Active monitoring of RRI impacts	2	2	3	2	1	2	3	4	1		3	23	0.958333333	9.6	
Outcome focused measures (backward- and forward looking)	2	2	2	2	2	2	3	3	3			24			
Grand Total:													325		

3.4. Szeged-Timisoara

3.4.1. Survey response(s)

Influence on stakeholder assessments and decisions		1	2	3	4	5	Average
1	How much does awareness of public and social values influence the assessment and decisions you make for your organization?	0	6	1	2	2	3.0
2	How much does awareness of ethical issues in innovation influence the assessment and decisions you make for your organization?	0	2	6	4	0	3.2
3	How much does the integration of public and social values into regional agency innovations influence the assessment and decisions you make for your organization?	0	1	0	2	6	4.4
4	How much does anticipation of social effects in the regional agency innovations influence the assessment and decisions you make for your organization?	0	2	4	1	4	3.6
5	How much does stakeholder engagement influence the assessment and decisions you make for your organization?	0	1	4	6	0	3.5
6	How much does citizen participation influence the assessment and decision you make for your organization?	0	1	1	7	3	4.0
7	How much does diversity and gender equality influence the assessment and decisions you make for your organization?	0	5	0	5	1	3.2
8	How much does transparency and accountability about RRI-relevant choices influence the assessment and decisions you make for your organization?	0	4	4	3	1	3.1
9	How much does active monitoring of RRI impacts influence the assessment and decisions you make for your organization?	1	3	3	1	1	2.8
10	How much does outcome focused measures (backward- and forward looking) influence the assessment and decisions you make for your organization?	2	5	2	2	0	2.4
11	Learning mechanisms to address public and social values in product development	2	2	2	5	1	3.1

3.4.2. Matrix

		Prioritization 10													
Indicators	Awareness of public and social values	Awareness of ethical issues of innovations	Integration of public and social values into regional agency innovations	Anticipation of social effects in the regional agency	Stakeholder engagement	Diversity and Gender equality	Transparency and accountability about RRI-relevant choices	Learning mechanisms to address public and social values in product development	Capacity to align to societal goals	Active monitoring of RRI impacts	Outcome focused measures (backward- and forward looking)	Row Total	Total Decimal value (refers to the row total / grand total)	Assigned weight value TDV x 10	
	Awareness of public and social values	1	2	3	5	1	1	3	1	2	19	0.07037037	0.703703704		
Awareness of ethical issues of innovations	5	3	4	5	1	2	5	3	3	31	0.114814815	1.148148148			
Integration of public and social values into regional agency innovations	4	3	5	1	3	5	3	3	30	0.111111111	1.111111111				
Anticipation of social effects in the regional agency innovations	3	2	3	5	1	3	5	3	3	28	0.103703704	1.037037037			
Stakeholder engagement	1	1	1	1	1	2	3	1	1	12	0.044444444	0.444444444			
Diversity and gender equality	5	5	5	5	5	4	5	3	3	40	0.148148148	1.481481481			
Transparency and accountability about RRI-relevant choices	5	4	3	3	4	2	5	3	3	32	0.118518519	1.185185185			
Learning mechanisms to address public and social values in product development										0	0	0			
Capacity to align to societal goals	3	1	1	1	3	1	1	2	2	15	0.055555556	0.555555556			
Active monitoring of RRI impacts	5	3	3	3	5	3	4	3	3	32	0.118518519	1.185185185			
Outcome focused measures (backward- and forward looking)	4	3	3	3	3	5	4	3	3	31	0.114814815	1.148148148			
										Grand Total:	270	1	10		