



## DELIVERABLE 6.3: Handbook of Policy Recommendations

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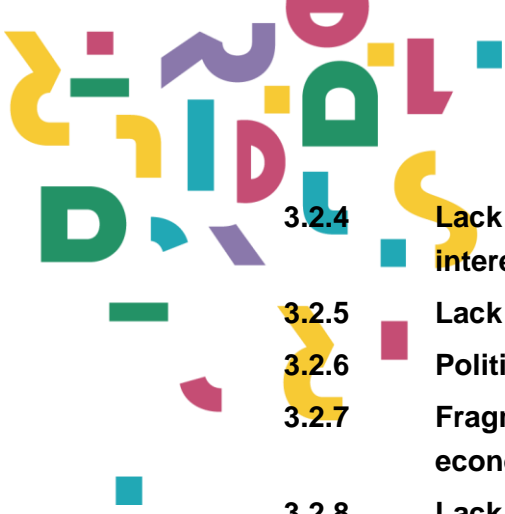
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## EXECUTIVE SUMMARY

- This document is Deliverable 6.3 of the TetRRIS project, funded by the European Commission under its Horizon 2020 Research and innovation program (H2020) Science with and for Society Call 14. Deliverable 6.3 provides a Handbook of Policy Recommendations abstracted from the experience, results and analytical conclusions from the TetRRIS project. It is designed for policy makers and practitioners who may wish to undertake initiatives to strengthen RRI in their regions. To this end, after briefly summarising the pilot actions conducted in the different regions in the course of the TetRRIS project, it presents an analysis of the drivers/opportunities and barriers/obstacles to the recognition and uptake of RRI, before deriving policy recommendations on this basis. The aim of this *Handbook* is generalisation and transferability to other regions. For this reason, the text largely dispenses with detailed, pilot-specific analysis. For this, see the previous deliverables of the TetRRIS project. Instead, it offers generalised and therefore somewhat more abstractly framed, analyses and recommendations.

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This deliverable will present a synthesis of experiences gathered in the course of the four case study regions' pilot exercises and distill learnings with a view to drivers that RRI-related activities can build on generically and with the view to barriers that they meet.

In a first section, it will briefly recap the diverse, yet related activities that have been pursued in the four case study regions in order to give the reader a baseline insight into the basis on which the subsequent synthesis draws. It will document clearly which types of activities have been performed and -- implicitly -- which not, so that future readers have full transparency on whether and, if so, to what degree it may serve as a direct or rather more general reference for specific undertakings that they themselves have in mind.

In a second section, it will present drivers and barriers, further differentiating barriers into those that hinder the very recognition of processes with bearing on RRI relevant processes as something relevant and those that hinder the development of adequate momentum once their relevance has in principle been acknowledged and some of them put in place. In general, learnings and findings have been considered as generic if they were mentioned as relevant in at least two of the case study regions. Effectively, most are backed up by respective assessments from three regions.

In a third and final section, it will present policy recommendations based on the drivers and barriers observed. Given the diversity of governance arrangements in European regions and the very different remit of regional governments (if any such level exists), they cannot be very specific and technical. Instead, they are anchored in both the opportunities and the obstacles that have been identified and point towards general leverage points that future 'change agents' can take advantage of as well as ways in which typical bottlenecks can be addressed.

## Background of the Learning Experience in the four case study regions' pilot exercises and Basis for Conclusions

This section provides a brief summary of the type of activities that have been conducted in the four case study regions in the course of the pilot exercises. For more detail and specific learnings, please refer to the individual reports produced under WP6.2.

### 2.1 Pilot Activities in Tampere

- Intertwining with the ongoing regional development program process by enhancing RRI dimensions
- Collaboration with regional initiative Ekothon2, a co-creation event that enhanced public engagement with the civil society and the grass-root-level actors of the region.
- Collaboration with regional initiative Sprint Innovation Festival, the pilot prepared challenges for an innovation competition for students which incorporated RRI dimensions, e.g. a challenge to attract young people and increase diversity of recruiting in manufacturing and one on envisioning a sustainable digital future of the region.
- 'Strong, stronger, responsible' seminar series on sustainability and responsibility targeted especially at SMEs. The seminar addressed especially corporate social responsibility (CSR)
- 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.
- Regional exchange between Tampere and Karlsruhe: The pilot action facilitated collaboration among representatives of regional partners and stakeholders, thus supporting mutual learning and reflection. 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.
- 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.

## 2.2 Pilot Activities in Karlsruhe

- Practitioner Network Citizen and Stakeholder Participation

The Practitioner Network conducted a series of workshops, and 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. The second benefit of the network was the opportunity to critically reflect on one's own and potentially still limited understanding of the potentials of public engagement. The third benefit was networking and a greater awareness of the range of supporting resources within and beyond the region.

- Karlsruhe-Tampere Exchange

The 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, 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.

## 2.3 Pilot Activities in Cantabria

- Efforts were allocated to set up four particular domains of opportunity for the diffusion and adoption of RRI concept in the territory (Nieminen et al., 2021). These four domains of opportunity were aligned with the R&I strengths of the region as well as with different societal concerns and also aimed to congregate different initiatives/projects/platforms/social movements in the territory
- Subsequently, four pilot actions were co-designed and co-created by regional stakeholders in close collaboration with SODERCAN in the four domains of opportunity for the diffusion and adoption of RRI in the territory, covering the themes of collaborative/cooperative health forum, sustainable consumption model based on technological alternatives, digital empowerment, and sustainability education
- Collaborative/Cooperative Health Forum: This pilot action aimed to establish a forum for cooperation in the health sector, bringing together various stakeholders including governments, universities, technology

centers, companies, and patient associations. The forum aimed to foster collaboration, generate synergies, and address societal and regional challenges in the health sector. However, due to political barriers, the pilot action did not progress as planned. Lessons learned include the need for agile instruments and mechanisms to support bottom-up initiatives and the importance of stakeholder engagement and RRI institutionalization.

- • Sustainable consumption model based on technological alternatives: This pilot action focused on changing consumption patterns towards more sustainable processes, particularly in the "Blue economy and fair energy transition" domain. The aim was to encourage organizations to adopt sustainable practices through the incorporation of technologies such as hydrogen and aquaculture. Although no significant progress was made in this pilot action, it led to the establishment of the "Blue Economy Cantabria" platform, which continues to address related issues.
- Digital Empowerment: The third pilot action aimed to promote digital training programs and enhance digital competences at the regional level. It involved stakeholders from the ICT sector, companies, training centers, universities, trade unions, and government departments. The pilot action addressed RRI keys such as stakeholder engagement and ethics, and it created several benefits for the stakeholders involved. The experience highlighted the importance of collaboration between companies and clusters and the need for capacity building around RRI.
- Sustainability Education: The fourth pilot action focused on coordinating existing activities related to sustainability in the region and promoting education and training in sustainability. The aim was to increase the impact and engage citizens and the regional ecosystem in sustainability initiatives. Stakeholders such as the Chamber of Commerce, the University of Cantabria, and the regional business association participated in this pilot action. The pilot action provided a dedicated forum for discussing past and current interventions and helped establish synergies between different stakeholders. It also contributed to the development of a new environmental education strategy.

## 2.4 Pilot Activities in Szeged/Timisoara

- "Cross-border learning pilot": On account of the relatively low level of local awareness of RRI and RRI-aligned themes as well as the close pre-existing cooperation between the two towns, Szeged/Timisoara was conceived as a "cross-border learning pilot" whose main objective was to introduce key notions related to RRI to the region and enhancing local learning from, with



respect to RRI development, more “advanced” regions like Tampere. Most activities were carried out in Szeged, but with participation by the stakeholders from Timisoara.

- TalentMagnet: TalentMagnet is an ongoing initiative within the Interreg Danube project, aiming to carry out talent attraction and retention activities in region. The TetRRIS work focused on developing RRI as a tool for talent attraction and retention, and integrating this into the ongoing TalentMagnet work. Key actions in this pilot included a session with the TalentMagnet steering committee to introduce them to the notion and potentials of RRI, online RRI training for the TalentMagnet staff, developing infographics to communicate RRI, and defining an RRI workshop series for local local talents. The workshops utilise a case-study methodology wherein participants are asked to use RRI frameworks to solve real-life problems.
- DIH-World: DIH World is the strategic project of the regional partner clusters in Szeged. Its objective is to establish a regional Digital Innovation Hub in Szeged. The TetRRIS work with DIH-World focused on integrating RRI themes into this project. TetRRIS activities included helping to develop a business plan for DIH-World based on cooperative action, open innovation and public engagement, conducting a workshop on regional foresight, and developing a “responsibility accelerator” for local companies.
- Close exchanges with other TetRRIS pilot regions, especially Tampere.

## 3 Common Drivers/Opportunities for and Barriers/Obstacles to the effective and impactful implementation of RRI related actions at regional level

- This section summarises learnings on drivers/opportunities as well as barriers/obstacles that have been identified in at least two, often three of the case study regions. Purely idiosyncratic experiences are not listed here, for those please refer to the regional reports produced under WP 6.2. However, the review of all regional reports did not provide evidence of too many such case-specific experiences to start with. Clearly, there were differences in wording and slightly different perspective – resulting from the difference in activities performed and the diversity of governance set-ups that they were positioned in. Very often, however, they were quite obviously addressing the same fundamental problems from different angles. In these cases, they were subsumed under a new, joint heading seeking to keep the essence of the opportunity or the challenge at hand. Consequently, the headings in this section are in most cases not directly identical to that of the respective reference points in the regional reports.

### 3.1 Typical Drivers/Opportunities

#### 3.1.1 Presence of change agents

- there are usually some 'champions' or 'change agents' who will promote the topic in their region proactively, regardless of external support ('pockets of RRI expertise'); "active individuals" required to trigger effort are often there,

One asset on which most RRI initiatives can build is that central notions connected to it have hardly passed unheard of in any region. Typically, there are at least some key proponents of central topics like sustainability, public engagement/participation, ethics and corporate social responsibility. Activities in other areas, such as the field of gender equality, are typically even mandated by law. In short, few regional innovation ecosystems are completely stagnate, there are always some seeds of change and relevant people seeking fostering their thriving. In that sense, RRI activities are not something the very emergence has to be incentivised, but something that is typically already present in pockets. So, primarily, support for RRI can be focused on broadening the reach and increasing the momentum of an activity that is already present in pockets.

### 3.1.2 Changed policy making cultures

- the overall culture in policy making has changed, RRI measures are more and more commonly no longer seen as a burden, but as an important and potentially also politically fruitful objective (broader acknowledgement of e.g. sustainability)

■ While some years ago, established political views did not favour RRI and, consequently, many policy makers at municipal or regional level would obstruct or at best ignore RRI related issues, today's policy framework provides a more fertile ground from different perspectives. First, more and more policy makers have developed a better understanding of how important an engagement for sustainability, diversity and equality is in substance. Against this background, they are more likely to make it their mission. Second, issues like gender equality, sustainability and some dimensions of ethics have become the mainstream in various domains of politics. Different to 20-30 years ago, when it could be politically detrimental to consider these issues too much – and appear 'hesitant', today's policy landscapes and electorates tend to reward credible engagement with RRI related issues. So it is also a pragmatic choice.

### 3.1.3 De facto RRI often already present

- there is usually at least to some degree of 'fertile ground' for RRI-related initiatives, be it as there was a lot of 'de facto RRI' before or because the need to include this perspective is at least broadly acknowledged in a more generic sense

In line with the above, regarding the policy domain, the diffusion of RRI into society has also created a fertile ground more broadly. Unanimously, all regions report activities that could be considered 'de facto RRI' in different domains. Sometimes, these are dispersed and isolated so that no real transformation has yet been effected. But they have begun to change stakeholders' mentality and awareness of RRI related issues. While broader society will at times be less embracing with a view to some more progressive elements among the RRI keys, issues like gender equality, sustainability and public participation are the result of seminal, societal transformations which have inevitably found their reflection in many people's views and mindsets, long before this came to be promoted under the heading of "RRI".

### 3.1.4 Consonance of RRI with current policy concerns

- an intensification of RRI related activities resonates with current policy concerns in the areas of sustainability, inclusion, participation, and



diversity, that local decision makers know they will have to address in any case,

More and more climate change leaves very tangible traces in many of Europe's regions, a perceived lack of public participation gives leverage to populist parties, migration makes diversity an ever more acute issue, and a shortage of qualified labour makes gender exclusiveness not only a morally objectionable but also an economically harmful choice. Accordingly, RRI related issues have become very tangible, and practical policy concerns that local policy makers now have to deal with on a daily basis. Accordingly, dealing with RRI has turned from a 'choice of interest' into a 'choice of necessity' that policy makers can less and less be avoided in designing effective regional innovation policies that provide actual added value to their local constituency.

### 3.1.5 Role models

- single – often public sector – organisations may have already started more concerted approaches and begun to serve as role models,

With the advent of gender mainstreaming, citizen involvement and an increasing public expectation that public administrations demonstrate their 'greenness', various larger organisations have already internalised activities relevant for central RRI keys, albeit to different degrees. In particular in the context of contested public undertakings, be they in the technology, the construction or the traffic domains, many municipalities and other local organisations have already gained ample experience with a view to not least public participation and sustainability-oriented efforts. Through experience, they have learned which approaches work better and which less so, as well as which formats are suitable for stakeholder involvement as well as the concrete working towards specific RRI targets.

### 3.1.6 Pragmatic needs for RRI

- pragmatic understanding of the concrete need to consider RRI-related issues to sustain existing and future business models and to enable innovation and piloting activities,

In parallel to the gradual evolution of corporate social responsibility from lip service to substance, many companies have had to learn that some of their earlier business models are simply no longer sustainable in light of the substantial countervailing momentum that both increasingly inclement natural conditions as well as social discontent can easily give rise to. Given the potential of obstruction that citizens – individual or organised – can unleash and the increasing clout of environmental legislation by means of which overstepping

companies can be regulated out of business, the imperative to factor RRI related requirements into commercial considerations has become at least a bit stronger than before.

### 3.1.7 Broader knowledge and understanding of co-creation

- methodologically, co-creation is much broader known to and acknowledged by firms that was a few years ago,

Some years ago, the notion of co-creation was not commonly known, not even in the domain of innovation management. By many in the core domain of engineering it was regarded as something a bit esoteric, pertaining to the spin-off community and/or the creative domain, but not really relevant for larger enterprises. That, too, has changed, not least due to the increasing role of user innovation in the software and - more broadly - the digital sector. And as the digital sector becomes more important and more successful, so does the approach to innovation associated with it. While reservations to the ad-hoc involvement of laypersons in design and innovation processes remain, in particular with a view to technical challenges, few would now object to the notion that the (current or potential) customer should be sufficiently heard in the matter in order to generate a meaningful product.

## 3.2 Typical Barriers/Obstacles (to recognition and serious uptake)

### 3.2.1 Underdeveloped governance structures

- governance structures for RRI related issues remain underdeveloped

Since RRI has traditionally not been an issue that regional governments had the remit or interest to deal with, there are usually no specific structures, competences or resources allocated to the domain. While larger administrations have usually no problem to muster the needed resources to set up specific working groups, task forces, host and moderate workshops as required, smaller and less well-endowed administrations hardly have that capacity. The problem is particularly acute where regional level organisations have very limited remit or are not even formally part of the echelons of the political system. In most such cases, capacities to deal with issues related to the RRI field have to be organisationally learned.

### 3.2.2 Narrow understandings of sustainability

- there is often a narrow understanding of sustainability and responsibility as something additional rather than integral to future business activities, there is a lack of focus on anticipation and reflexivity,

Despite an overall change in narrative and in increasing acceptance of RRI related activities throughout society, traditional views continue to persist – in particular in the business sector. Quite commonly, it is not yet understood that sustainability and responsibility are not something that can voluntarily be pursued 'on top' of the main business activity to somehow improve one's moral standing - but in many cases something that is integral to the success of business itself. Importantly, that implies that sustainability and responsibility are not something that stands in contrast to business interests as related activities cause extra expenses. Instead, RRI activities can create win-win situations and make business go smoother which is too rarely understood.

### 3.2.3 Conservatism

- businesses remain conservative with a view to their general understanding of innovation, seeing it as something technological rather than as something that is deeply societally embedded,

In a similar vein, many engineers and developers still quite fundamentally lack perspective with a view to the broader embeddedness of technological innovation. Defined as introduction of a novel solution on the market, or in society, however, no innovation would even be such without the engagement of potential clients or users. Nonetheless, many developers still maintain a rather technical mindset and consider innovations completed with the invention and/or the proof of technical concepts. In such environments, there is no tradition and hence often no concept of participation and consultation as an integral part of the process of innovation. Accordingly, it will be more difficult to convince decision makers of the added value of RRI or for that matter identify individuals with a suitable mindset to participate in RRI efforts.

### 3.2.4 Lack of knowledge about concrete local needs and interests

- on the side of those able to implement and fund such formats (regional development agencies, municipalities, etc.), there is a lack of knowledge about the concrete needs and interests of local stakeholders concerning RRI that already exist,

Typically, regional stakeholders tend to have a number of very concrete concerns and interests that could form the basis and leverage point for RRI activities likely to actually develop momentum. However, this information is usually rather

dispersed and since related issues have so far usually never been discussed under the heading of 'RRI', the more difficult to identify and bring together for purpose. As outlined above, regional governments typically lack the experience and at times also the means to track relevant discussions and gather insights from them. At the same time, many stakeholders continue to look at RRI related themes from a very individualistic perspective as they just never considered taking it to a more aggregate level. Partially, this is also a vicious circle since as long as there are no visible government activities individual stakeholders have no chance to know where to turn to with their input.

### 3.2.5 Lack of dedicated platforms

- there is typically a lack of dedicated platforms or other formats through which relevant stakeholders could be involved,

Without a tradition of concerted RRI related activities, most regions lack any formalised or institutionalised infrastructure for stakeholder involvement. While many have ample experience in the field, most activities are started in an ad-hoc manner wherever that is either legally required or considered politically expedient. In rather few cases is there an overarching, known framework of reference through which RRI related processes are coordinated. Admittedly, this is also in part difficult as the overall reach of the RRI keys is so broad that some of them may fall under the remit of a different government organisation than others. In turn, not many regions have dedicated, separate entities such as development organisation that have convincingly taken charge of the matter.

### 3.2.6 Politicisation of RRI

- RRI can be politicised – leading to greenwashing and related activities, which in the long term could jeopardize and discredit further RRI efforts as well ,

On the flipside of the abovementioned trend towards greater RRI acceptance in both policy and society is that RRI activities may at times also fall victim to attempts at greenwashing and window dressing. Contrary to their intention, some regional governments may institute RRI related for the sole purpose of demonstrating activity rather than actually seeking to substantially change something or connect them to the innovation and economic processes of essence to the regional economy. As a result of such practice, stakeholder - who eventually see through the character of such activities - may lose trust in all future activities under a similar heading. This could substantially jeopardise overall progress towards RRI in the region.



### 3.2.7 Fragmentation and lack of trust in the local socio-economic system

- general fragmentation and lack of trust in the local socio-economic system may prevent the realisation of open and participatory formats from the outset, the generic lack of a collaborative culture in the region

Some regional ecosystems are characterised by a lack of trust between local stakeholders, sometimes for historical reasons, sometimes because ongoing transformations are creating different spheres of interest. Moreover, the economic systems in less well-developed regions often tend to be fragmented with a view to the type and the sectoral orientation of the companies. Sometimes, there has so far also been little reason for them to collaborate. Independent of the exact reason, such situations may create a difficult basis for the development of RRI activities at a broader basis. If there is no genuine interest among stakeholders to become engaged, or mistrust of other regional organisation prevails over any advantage they may see, the majority of e.g. workshop formats will be hard to orchestrate productively and needed knowledge about practical concerns and interest hard to come by.

### 3.2.8 Lack of shared vision and integration

- there is a lack of a shared vision and often poor integration with other regional strategy initiatives, e.g. in the RIS3 context

So far, most regional strategies on the basis of which funding is allocated have been developed without specific consideration of RRI related issues. At least the first wave of RIS3 strategies was primarily driven by a competitiveness perspective and has not given too much room to integrate a more mission- or responsibility-oriented approach in both the related consultation processes as well as the final, resulting documents. As outlined above, many activities in the RRI domain have so far happened idiosyncratically and problem-driven. While this is the case for many other activities as well, the fact that RIS3 entrepreneurial or open discovery processes hardly focused on RRI efforts has led to a particularly pronounced lack of shared vision in this field. As a result, an important opportunity to develop concrete, concerted activities was foregone. While the perspective has been somewhat broadened in the second round of RIS3 development, the integration between economy policy and RRI still remains weak.

### 3.2.9 Not all aspects of RRI have received equal attention

- while some aspects of RRI may be quite commonly considered, others may not have received similar attention

Some of the most central RRI keys such as ethics and gender equality are typically already quite commonly considered and institutionalized through



particular policies and/or activities carried out in a regular basis. Likewise, the promotion of sustainability and Corporate Social Responsibility has already been relatively commonly integrated into policy documents like innovation strategies and the regional support landscape with specific programmes and policies aimed to their promotion. In contrast, other aspects like public engagement, open access and/or science education are less widely popular and possibly also less naturally relevant to broader groups of stakeholders.

### 3.3 Typical Barriers/Obstacles (to realisation):

#### 3.3.1 Lack of concerted RRI activities

- while RRI is acknowledged as a concept, there is a lack of concerted activities that newly interested players could join,

In general, more and more stakeholders are now aware that RRI-related efforts should be considered more broadly and deeply, and that integrating them is of essence to develop a future oriented regional research, innovation and economic system. However, this generic acknowledgement often remains without consequence, as specific actors do not know whom to turn to realise potential efforts of becoming engaged. Typically, regional stakeholders have pressing daily business to deal with - in business as much as in administration - and cannot (always) be expected to free time to initiate and orchestrate respective activities by themselves. Accordingly, it will remain difficult to free latent readiness and momentum in the territory unless someone kick-starts concrete action and invites others to join.

#### 3.3.2 Need for low-threshold formats to engage stakeholders

- it is not enough to know about stakeholder's interests, low-threshold formats need to be found to actually engage them

In line with the above said, it is often not enough to have understood what issues the stakeholders would in principle like to see addressed. More importantly, there needs to be a clear concept by means of which concrete activities and efforts this could be realised in a fruitful and constructive manner. Again, most stakeholders whose interest and acknowledgement is so far rather latent do not have the knowledge how relevant issues could successfully be pursued and will not be able to acquire that knowledge. Hence, first impulses will have to be set externally. Once first experiences are gained, stakeholders will at first better be able to make choice between different formats of RRI efforts offered to them and - with time - also move in a position where they can begin to provide such efforts



themselves and take the initiative in orchestrating RRI activities at an overarching regional level.

### 3.3.3 Too transactional an approach to RRI common

- the approach to taking up RRI discussions is too transactional: such activities often only happen in projects, but to have long-term transformational impacts, activities need to be integrated into local stakeholders' activities beyond the life of the project,

There is a general recognition among the regional partners that projects like tetRRIS, while useful to provide the above-mentioned kickstart, are rarely enough to sustain RRI related processes in the long run and to lastingly integrate them into a region's business and administrative culture. Projects end, and with them, after three years, most activities. While the above-mentioned point, that more and more actors will become active in their own right over time certainly holds, there are limits to the amount of change that a relatively small-scale project can affect in three years. It is therefore necessary, when designing project activities, to focus on how they might be sustained post-project (e.g. by integrating their key ideas/practices into other parallel or subsequent projects and initiatives). At the same time, necessary to be realistic about the extent that stakeholders will integrate new *and additional, unfunded* practices into their ongoing professional activities. Also, it still needs a constant, low-threshold external offer to lastingly facilitate the involvement of a broader range of actors, regardless of whether some of them become more actively engaged or not. Responsibility for RRI can by definition not be exclusively relegated to individual actors, if only to ensure impartiality and fair representation of interests. Also, certain forces of resistance and inertia will remain, so that the promotion of RRI will need continuous investment to enable a gradual but lasting change of mindset.

### 3.3.4 Dedicated funding opportunities missing

- there are usually no dedicated funding opportunities for specifically RRI related efforts and where there are, their time horizon is typically too short,

In line with the above-said, one problem results from the fact that existing funding opportunities are typically not sufficiently dedicated to RRI. Dedicated RRI efforts are typically short-term and transactional, at other levels RRI is only included as 'de facto RRI' or under the heading of specific RRI keys. Accordingly, there is a mismatch between systemic approaches that remain short-term and long-term approaches that are fragmented and partial. Against this background of funding opportunities, it is difficult, even for local 'change agents' or 'evangelists', to work towards a coordinated systemic transformation of the regional techno-economic system. As mentioned above, societal transformation will drive forward progress

and advanced in the domain of specific RRI dimensions whether local policy coordinates or not. The opportunity to consciously design and drive this process and to position the region in advantageous manner in this regard - possibly even as best practice - may be forfeit, unless systemic funding approaches will eventually be taken more seriously.

### 3.3.5 Lack of "safe spaces"


- there is a lack of 'safe spaces' and confidential fora for discussion in which exchanges on more sensitive issues can take place before they are publicly addressed,

One further problem with gaining traction in RRI related efforts is that they quite commonly touch on sensitive issues, both politically and in the business domain. It is thus often an idealistic assumption that stakeholders can simply meet in a workshop and discuss frankly and openly about lessons learned. In the initial phases of triggering a transformation in mindset and practice, such exchanges will inevitably have to involve mentions of (own) personal and organisational failure, mistakes made in consequence of lack of experience as well as obstruction and hesitation experienced by other parties. Evidently, none of these issues are discussed lightly in front of unknown participants, and for good reasons. Hence, it would be crucial to have some 'safe spaces', i.e. groups of stakeholders that meet with the intent to work towards transformative change and to that end risk opening up on certain issues. To enable such exchanges, the size of the group has to be limited and meetings have to take regularly to build trust and a joint ambition. Ideally, at least some of the partners also bring established trust relationships into these discussions. So far, however, such groups do not exist in the majority of regions, or at least do not discuss with a specific focus on RRI related issues.

### 3.3.6 Uncertainty

- uncertainty about how activities can feed into the regional strategy process is exacerbated by the fact that concerted discussions around RRI too often only take place in projects, the momentum of which quickly fades

As mentioned above, concerted discussions around RRI (i.e. those aiming broader than discussing specific aspects) have so far not very regularly been integrated into the broader regional processes of strategy development. Instead, they are triggered in specifically designed projects funded from centralised EU sources. Typically, these do not directly involve those units formally in charge of strategy development so that it remains quite challenging to build stable and lasting organisational links during a comparatively limited period of performance.



Typically, the technicalities of the funding process are not directly reflected upon in these projects which focus more strongly on the identification of relevant topics and suitable formats to pursue and promoted pertinent activities. The last step to subsequently adapt the funding system based on what has been learned and identified as missed opportunities is then often not taken, as the responsible actors are either not involved or there has been insufficient opportunity to pitch resulting insights to high-ranking decision makers who will take the ultimate decisions about the shape, content and thematic focus of the strategy.

### 3.3.7 Lack of Collaboration

- lack of collaboration, between public bodies in charge of implementing policies; at times also outright institutional resistance motivated by politics

That said, it is at times not even easy to identify the suitable regional decision makers to whom the result of a project oriented towards process and substance could be pitched. In fact, there are different reasons why the pursuit of RRI oriented activities can be problematic and, all too often, at least one of them applies. Quite commonly, for example, RRI related matters are primarily under the remit of one branch regional government and hence contested by others that compete for the same budget and top-level attention. Alternatively, some RRI keys may fall under the remit of one branch while others were traditionally addressed elsewhere. In this case, a truly 'integrated approach' can be perceived as unaligned with administrative realities, inconvenient, fraught with transaction cost and hence undesirable. Finally, different branches of government may simply have different readings of the RRI concept, consider different aspects important (part because of remit but also due to party politics) and hence be in conflict about which overarching approach and strategy is in the best interest of the constituency.



## 4 Policy Recommendations

This final section summarises the learnings on both Drivers/Opportunities and Barriers/Obstacles and seeks to derive generic policy recommendations on their basis. Obviously, such recommendations cannot be very detailed and technical – in particular with a view to who has to do what - as this depends on the individual regional governance arrangements which vehicles and means for implementation are at all available. Nonetheless, some of the above learnings from the tetRRIS pilots provide sufficiently solid conclusions with a view to what needs to be done or achieved in order to sustainably establish a more RRI conscious and - as a result - also more effective regional innovation ecosystem. The precise, administrative way in which such actions could be realised or changes be locally effected will be for the reader to determine. The objective of this report thus is to conclude on some recommendations in substance, fully recognising individual administrators superior expertise on means and process.

### 4.1.1 Pragmatism and Additionality

- *pragmatically reflect on the role and additionality of external scientific advice*

Very fundamentally, it is important that external enablers to not assume a posture of seeking to convey a 'new message' or 'external requirement' or to proselytise with a view to the need for more responsible action in abstract terms. As mentioned, at least some actors will already have engaged with related issues under some heading and could be strongly irritated by a group of external newcomers selling old wine in new skins. Instead, a key role lies in systematising and making explicit the already ongoing de facto RRI activities and concerns by giving local actors a language and concepts to understand what they were already doing (or aim at), and thus helping them add momentum to and improve their existing activities. While external partners can help with establishing networks and management structures, all substance must come from the stakeholders themselves.

### 4.1.2 Understand local needs, concerns and interests

- *enable a 'sounding out' of local concerns, needs and interest which already exist, reate a common understanding of what 'RRI' means in and for the region; develop the knowledge needed to find ways to raise the interest of local stakeholder*

As RRI is a generic concept, all future activities with practitioners need to relate to concrete aspects of it, rather than to the abstract umbrella term - which, in

addition, has been politically discontinued. At the beginning of all initiatives, actors unfamiliar with the RRI concept needs to be conveyed the basics, but then develop a common understanding among themselves that promises to add value in the concrete context at hand. Through working sessions it can be established in what areas acceptance for and relevant results of dedicated activities appear most likely. The resulting strategic focus should be clear and concrete enough to enable targeted activities but not so narrow as to merely reflect individual interests of dominant stakeholders. All activities thus need a conception phase during which the different stakeholders bring in their demands and expectations.

#### 4.1.3 Identify suitable formats

- *identify suitable formats through which stakeholders can be involved even when they are unable to pay them or to cover their costs*

As mentioned in the section on barriers, potential promoters of RRI have to remain realistic about the willingness-to-engage on the part of stakeholders which are in the early stages of being convinced and to whom participation (i.e. taking time off daily duty) is already a first commitment. Realistically, therefore, the cost of organisation has to be borne centrally by those in charge of activities and events, in turn implying that at least the initial ones should in total not be too costly. Further down the line, when more participants see the benefit and have become willing to contribute financially or in kind (e.g. by providing venues and catering), more ambitious and somewhat grander formats can be chosen. To start with, they should be low-threshold and seek to convey a pragmatic, working style atmosphere. With a view to engaging entrepreneurs, this approach is also important from another perspective: it will help to convey clearly that this is a result-oriented effort aiming to effect actual change - rather than a nice-to-be-at meeting sustained primarily by the free catering offered or to formally comply with some sort of political necessity, see above.

#### 4.1.4 Support change makers

- *support nascent change makers, include technology oriented and innovative firms*

Being sensitive to existing change agents in the territory and local actors' interests is one of the main success factors. Rather than seeking to build novel initiative from scratch, it is usually much more promising to support and empower those that have already started first initiatives in the RRI area or are at least well informed and committed. Not least, this is the case for tech companies, which often tend to be quite sensitive for issues like public awareness, technology acceptance, public communication, and the involvement of societal groups. Having to fear public backlashes and concrete damage to their business



operations, many of them tend to be forerunners in considering RRI related aspects and in operationalising these concepts in a very practical, hand-on manner.

#### 4.1.5 Leverage institutional clout and convening power

- *leverage the institutional clout and convening power of existing organisations; remain sensitive to existing institutional structures and local actors' interests*

Also, the realisation of impactful activities and meaningful platforms will require the use of established channels of communication and outreach as well as the involvement of partners which are known and respected as relevant convenors by the local economy and societal stakeholders alike. Typically, only these have the ability to assess the basic possibilities, interests and barriers within the existing regional network. Therefore, an important lesson learnt is to involve capable intermediaries which are experienced in acting in concert with local policy makers, administration and relevant companies. As territories or regions are very diverse, including the intermediary structure, it cannot be guaranteed that what works in one may also work in others. Nonetheless, starting in isolation from existing networks would in most cases be the inferior approach - if only in light of the project's ambition to change perspectives within, rather than alongside existing structures,

#### 4.1.6 Support RRI activities through existing financial sources

- *support RRI activities from existing financial sources, including not least those developed and to be developed in the RIS3 context*

To support RRI in the region in a sustainable way, and to overcome the temporary character of projects like tetRRIS, related activities need to be intergrated in the existing support landscape. In this regard, the Karlsruhe example shows how existing regional innovation support programmes can be useful to link RRI efforts with a concrete funding architecture. There, the local state of Baden-Wuerttemberg has launched the competition "Regional Competitiveness through Innovation and Sustainability - RegioWIN 2030" for the 2021-2027 funding phase of the ERDF in order to make optimal use of regional on-site expertise as part of a bottom-up process. The RegioWIN 2030 competition is intended to create an incentive for the regions of the state to systematically pursue strategy-based and targeted regional and innovation policy efforts, its focus is on innovation and sustainability. In Karlsruhe, the experiences from tetRRIS were used to create a unique signature for both the regional concept and the lighthouse projects that need to be defined to obtain RegioWIN funding.

#### 4.1.7 Ensure diversity and representation

- *ensure sufficient diversity and representation across relevant meetings*

During relevant activities it is crucial to ensure a sufficient diversity of the group from various dimensions. Fundamentally, one would of course want to ascertain good representation across dimensions like gender, ethnicity and social background. However, given the key ambition of RRI related projects - to ensure broad participation and representation -, it is equally important to strike a meaningful balance between participants from local government, business and civil society. Especially in regions with a quite international composition it seems to be essential to actively include a diverse set of ideas and notions and adapt the RRI concept and instruments to the different societal groups.

#### 4.1.8 Nurture a culture of trying new things and mindsets

- *support and nurture culture of trying new things & piloting, changing mindsets;  
make use of innovative organisational concepts*

To support and nurture a culture of trying new things and of piloting, projects with a focus on experimenting and testing new technologies under real conditions should be supported. One example is the so-called efeuCampus in Karlsruhe which focuses on eco-friendly urban logistics. It is part of the RegioWin research project "Innovation Centre for Autonomous Urban Freight Logistics" As a first objective, it seeks to establish a "residential quarter of the future", a "habitable laboratory" in which technologies for energy-efficient building and living in the spirit of the energy transition will be tested and presented. In this reference quarter, goods of all kinds will be moved with new types of vehicles in an emission-free, generation-friendly and driverless manner. Due its ambition and regional impact, the project itself had to be accompanied by a systematic stakeholder and communication process prior to its launch. So while tetRRIS benefited from efeuCampus' valuable knowledge on what works in terms of stakeholder integration the project is at the same time a reference of how new mentalities can be built in specifically designed contexts and 'living labs'.

#### 4.1.9 Continue activities across projects

- *continue practitioner and network activities within the framework of other projects within the region; enlarge the group to firms and other institutions so far not involved in the tetRRIS process or other, RRI related activities,*

At the end of the tetRRIS project, the number of actors seriously involved in RRI related efforts leaves room for improvement. Hence, the objective for the coming years should be to further disseminate the concept or at least, "spirit" of RRI in



the region and to broaden its acceptance and, ideally, appreciation for it. In detail, we recommend: take into consideration the broader portfolio of current R&D&I projects, which were not directly affected by tetRRIS, as the basis for RRI in the coming years; to motivate additional players to engage in R&D activities in general and to recognize the importance of RRI instruments; to be creative in the formation of project consortia for proposals or sensitise established project consortia to consider RRI in the attempt to continuously enlarge the core group of current RRI partners within the region.

#### 4.1.10 Remain realistic

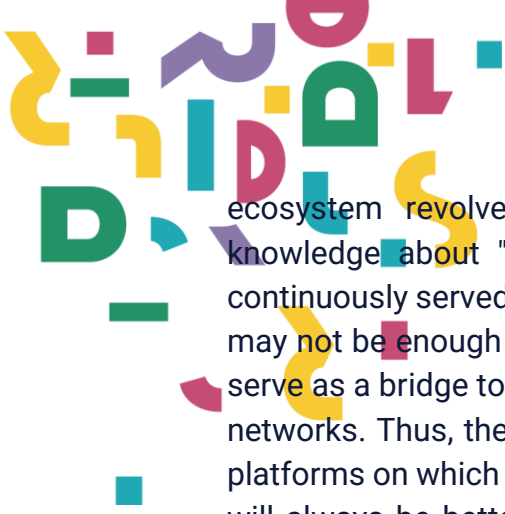
- *remain realistic with a view to what a project like TetRRIS can achieve within the limited timeframe of its execution*

As already outlined in the barriers section, projects with a limited time of performance should set themselves realistic targets. Moreover, they should focus on building a basis for a sustainable process by raising awareness, triggering first activities that help experienced change makers convey their positive experiences and other, less experienced actors, to experience the viability and added value of RRI activities for the first time. Very likely, it should also be possible to draft applications for subsequent funding under the framework of an as such unchanged regional innovation strategy and to pitch the projects positive results and experiences to high-ranking officials. What should not be expected is that a single project along can make a substantial differences to the regional populations overall mindset of the set up of regional processes of governance. While both will eventually be indispensable to transform the regional innovation system into one structurally more conscious of RRI, such changes will take time. Thus, projects like tetRRIS should be considered as providing the seeds for future developments and be evaluated on primarily that basis.

#### 4.1.11 Small activities have value too

- *while events and activities are likely to be smaller and less visible post-TetRRIS, they still deserve to be continued to the extent possible to retain awareness*

That said, one should not be too pessimistic with regard to the potential effect that even low threshold activities can develop when they are regularly conducted. In the end, much of the momentum will depend on actors' willingness to pursue RRI efforts on their own accord. While the abovesaid caveat applies, and some sort of external impulses will continuously be required, that is not to say that intrinsically motivated activities should be given up, just because their reach and momentum is apparently too limited for purpose. As has been outlined in detail, many important first steps towards a more RRI conscious regional economic



ecosystem revolve around questions of general awareness building and knowledge about "how does what" and "how needs what" - which can be continuously served with relatively limited means. While it is true that they, alone, may not be enough to effect lasting change in the region, they can certainly e.g. serve as a bridge to not forgo an achieved status quo with a view to RRI specific networks. Thus, they may be crucial to maintain the foundations for those very platforms on which future, more substantial activities will have to build. Hence, it will always be better to maintain some low level, low threshold activities than none at all.

#### **4.1.12 Develop international cooperation**

- *develop international cooperation to gather additional input and ideas; exchange experiences with other regions*

Apart from the international exchanges put in place during the tetRRIS project, the integration of such exchanges into other existing formats is important to learn from other contexts to gather new ideas and avoid repeating mistakes. Issues of particular relevance include the management of RRI instruments and their integration into on-going or new R&D&I projects, funding opportunities, relevance for and potential impact of specific features the broader innovation systems, integration into innovation strategies and regional planning activities, mobilisation of different stakeholder groups, role of engagement processes, interfaces with ongoing technology acceptance approaches, etc. To be specific, the following options should be considered: to engage in ongoing or new regional exchange format, for instance regarding the platform "RRI Tools" or specific working groups within the Smart Specialisation Platform; to connect with other similar regions nationally and internationally to continuously exchange ideas and new instruments regarding RRI; to establish an network of interested regions for regular exchanges; in the case of already established exchange formats try to include RRI topics on the agendas.

#### **4.1.13 Use existing experiences to demonstrate the positive effects of RRI**

- *Use the existing experience from tetRRIS and particular the pilot cases to demonstrate the positive effects of RRI related stakeholder integration and communication*

It appears recommendable that the further RRI activities and particularly the positive effects or success stories should be regularly demonstrated and communicated in order to sensitise and motivate the actors within the regional innovation ecosystem. More specifically, the following options should be considered: use the experience of the two year pilot phase to assess the communication strategy and adapt it when necessary; try to integrate RRI

elements into strategic planning activities in order to guarantee a comprehensive approach and consideration; think about continuing a series of regular workshops or focus groups with the broader society to demonstrate the (positive) effects of RRI related activities and to further integrate societal groups; think about other instruments to improve the socio-technical mindset in the region regarding (risky) technologies and innovations as such; continue the dialogue with scientific institutions in the region to take into consideration RRI specific activities in this particular group.

#### 4.1.14 Fund RRI

- *if possible: Establish a specific fund to add RRI activities to research, technological development and innovation (RTDI) projects in which such activities are not yet foreseen and/or not eligible for funding*

To guarantee the structural continuity of RRI considerations in regional RTDI projects as well as to guarantee a significant and long-lasting impact of any such efforts pursued sustainable financing is of essence. Against this background, we recommend to at least seriously consider possibly ways to establish a specific fund to support RRI on the level of specific R&D&I projects (which may have overlooked RRI at their inception) or within public innovation support programmes (in which RRI is not yet intended). The recommendation is based on the assumption that a significant potential with regard to RRI is already available and can be activated with relatively limited catalyst funding. The sheer communication of good practices and the elements of RRI is not sufficient to achieve impact as such. In detail, we recommend the following: establish a specific RRI fund initiated and managed by a suitable local agency with the aim to activate RRI in the region through the co-financing of existing activities so far without RRI content; the concrete specifications of the fund should be defined by the responsible agency (we favour the concept of an agile fund operating through annual calls, rather than the set-up of an administratively more complex project-based financing structure); do not define eligibility criteria too narrowly, enable, for example, the co-financing of international exchanges as well.