

## Res-AGorA Results and Outputs - Bringing it all together

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### Overview

The objective of Responsible Research and Innovation (RRI) is to make research and innovation more 'responsible' - responsive, inclusive and sustainable, with reference to the societal, technological, political and economic challenges and opportunities Europe is facing. The question is: How to make this happen?

During the course of more than three years of extensive theory-inspired empirical research and co-construction processes with key stakeholders in the field of research and innovation (R&I), the Res-AGorA project generated numerous insights and findings contributing to a better understanding of the conditions for RRI. Most importantly, the project developed an orientating governance framework – the **Responsibility Navigator** –, designed to support the identification, development and implementation of measures and procedures that can transform R&I in such a way that responsibility becomes an institutionalised ambition.


Together with the Res-AGorA book [Navigating Towards Shared Responsibility in Research and Innovation](#), this policy note represents the final output of our project.

The purpose of this policy note is twofold: First, we want to call attention to the key findings of the Res-AGorA project. We are convinced that Res-AGorA's Responsibility Navigator and the supporting Co-construction Method provide guidance for responsible governance of R&I. Second, based on the lessons and implications for R&I policy the project identified, we recommend a number of stepping stones that are crucial if we want to give RRI a widespread and deep impact in European societies. Policy-makers and other stakeholders in the field of R&I interested in fostering institutional change towards higher levels of responsibility are invited to take our policy recommendations into consideration.<sup>1</sup>

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### The Res-AGorA Project

Res-AGorA is a three-year, EU FP7 project (2013-2016) which has co-constructed with practitioners and strategic decision makers a good-practice framework, the "Responsibility Navigator"  which facilitates reflective processes involving multiple kinds of stakeholders and policy-makers towards the generic aim of making European research and innovation more responsible, responsive, and sustainable.

The development of this framework builds on three years of intensive empirical research comprising: an extensive programme of in-depth case-studies; systematic 'scientometric' literature analysis; country-level monitoring (RRI-Trends) and five broad-based co-construction stakeholder workshops.

The resulting Res-AGorA Responsibility Navigator was conceived as a means to provide orientation without normatively steering research and innovation in a certain direction. Furthermore Res-AGorA's "Co-construction Method" is a collaborative methodology designed to systematically support and facilitate the practical use of the Responsibility Navigator with stakeholders.

The Responsibility Navigator, the Co-construction Method and accompanying materials are offered to change agents who wish to navigate towards Responsible Research and Innovation.

Res-AGorA was funded by the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 321427.

<sup>1</sup> This policy note builds on the findings and arguments presented in the previous two policy notes, summarizes selected elements and further advances key issues with the aim of informing decision-makers interested in making R&I more 'responsible'. The policy notes are available at: [http://res-agora.eu/assets/Res-AGorA-Policy-Note-1\\_RRI-in-the-Making-1.pdf](http://res-agora.eu/assets/Res-AGorA-Policy-Note-1_RRI-in-the-Making-1.pdf), <http://res-agora.eu/assets/Res-AGorA-Policy-Note-2-Navigating-towards-RRI.pdf>

## 1. Why care about RRI governance?

Our theoretical investigations, the extensive empirical fieldwork and stakeholders from funding agencies, universities, administrative bodies, civil society organisations and industry all point to a commonly felt need and desire to push for institutional change towards more responsiveness, more and better involvement of stakeholders and much more emphasis on continuous experimentation and capacity building across institutions and organisations in order to deal better than in the past with contentious R&I issues.

The quest for responsible R&I has in fact become an increasingly important concern in R&I policy and political debates. Arguably, this is a result of two long-standing claims that developed separately and that are now brought together:

First, there are longstanding concerns around the ethical, legal, environmental and social implications of R&I which are based on issues related to scientific practice and developments as well as from technological innovations fuelled by claims for reacting against direct or indirect unintended negative effects.

Second, there is an increasing desire among the R&I community and policymakers to improve 'responsiveness', that is, to be more responsible vis-à-vis what societies regard as desirable research directions or outcomes. Examples are the efforts aiming to increase societal relevance of research, corporate responsibility, open access instruments, gender policies, innovation for cohesion, etc.

Against this background, the main purpose of the Res-AGorA project was to assist Europe to embrace simultaneously excellent science, a competitive industry and responsibility-related goals, by developing a governance framework specifically aiming at supporting stakeholders to better navigate towards such goals while encouraging and facilitating strategic collective reflection and action in the desired direction.

### Three core themes of RRI

- Governance: RRI advocates a widening of societal actors participating in the governance of R&I
- Objectives: RRI advocates orienting R&I towards addressing societal problems (grand challenges)
- Meaning of responsibility: RRI advocates a shift from retrospective accounts (accountability, liability) to prospective (anticipative) future-oriented accounts

(Source: [Res-AGorA Policy Note #1](#))

## 2. Taking the ambitions of responsible R&I seriously

Taking these ambitions seriously, change agents will have to facilitate transformation of the R&I system towards a set of articulated normative goals, embedding values into practices and processes, and orienting action towards those goals.

While a number of explicit proposals for responsible R&I have already been developed, these cannot be the definite final manifestation for all the different contexts at different political and organisational levels across Europe, as the very essence of what is 'responsible' in R&I is contested and will need constant re-negotiation and deliberation.

This fluid and contested nature of responsible R&I is the starting point of Res-AGorA. Rather than constructing yet another framework to specify the normative content of what responsible R&I should be, Res-AGorA developed a framework to guide the process of governing towards higher levels of responsibility in R&I, where the normative content is negotiated by the actors themselves as part of a continuous process of reflexive, anticipative and responsive adaptation of R&I to changing societal challenges. The aim of Res-AGorA was to develop a framework of principles intended to harness the self-governing capacities and capabilities of actors within Europe. This orienting framework will help actors to understand their responsibility challenges and to design, negotiate and implement their own context-specific understanding of responsibility in R&I.

Res-AGorA has designed this framework, codified in the **Responsibility Navigator**, which was conceived as a means to provide orientation without normatively steering R&I in a pre-defined direction. It aims at making existing and new governance instruments and arrangements effective, reaching from bot-



tom-up processes up to transformation at a systemic level. It is therefore expected that by adopting and adapting the Responsibility Navigator, R&I performed in Europe will become more satisfactorily aligned with societal needs and concerns.

Ten Res-AGoRA principles and requirements have been identified to allow for responsibility-related governance (for a brief summary see below). The [Responsibility Navigator](#) defines each principle and illustrates them with fictive cases depicting possible situations and governance challenges and dilemmas.

## Ten Principles and Requirements for Navigating Towards Responsible Research and Innovation



### Ensuring quality of interaction

1. **Inclusion:** Navigation towards responsabilisation is more likely to be transformative if it takes into account the diversity of actors relevant to the problem or project in a way that engages them directly and effectively in debate or joint activities, where both their material interests and core values are considered and if they perceive the processes of sense and decision making as legitimate, transparent and trustworthy.
2. **Moderation:** Organisational modes appropriate to build up trust, collect data and organise dialogue are needed in the form of 'fora', that is, institutionalized places or procedures for interaction and for 'bridging' different perspectives between contesting actors, after which some alignment of goals and procedures is expected.
3. **Deliberation:** Sense-making and decision-making among actors with different knowledge claims and positions, not only between organisational actors but also individuals, require confronting, synthesising and eventually compromising across different perspectives which might arise from various 'knowledges'.

### Positioning and Orchestration

4. **Modularity and flexibility:** Legitimate and effective governance rest on carefully combining 'hard' and 'soft' regulatory mechanisms, allowing for self-regulation and organisation, as well as external control and accountability structures (e.g. supervision), where flexibility of governance arrangements should not lead to arbitrariness.
5. **Subsidiarity:** Complementary to the self-governance and the self-control expected from the alignment of mutual understanding of responsibility-related values and commitment, some level of hierarchical command-and-control process may be necessary in certain circumstances. This should be performed mainly by independent actors, capable to oversee and enforce, perhaps applying a variation of soft and hard pressures such as requiring transparency about R&I governance practices, naming and shaming, sanctions, and accountability, where both bottom-up and top-down responsible research and innovation governance approaches should be balanced with and attuned to the specific situation. In this context, 'external' authority should have a subsidiary (that is, a supporting, rather than a subordinate) function, performing only those tasks which cannot be performed effectively at a more immediate level.
6. **Adaptability:** Governance towards responsabilisation should be able to reflect different historical developments of R&I systems and changing conditions. Therefore, such calibration requires assessing whether governance arrangements still effectively and legitimately serve responsibility goals, where both goals and costs and consequences of governance instruments and arrangements may also change over time.

### Developing Supportive Environments

7. **Capabilities:** Fostering responsabilisation crucially depends on reflexive individuals capable of recognizing, anticipating, deliberating, communicating, and collectively pursuing societally desired processes and outcomes of R&I activities and their evaluation. This process requires a certain level of 'governance literacy,' particularly important for next generation of public and private researchers, programme and research managers, policymakers and members of civil society organisations, where learning and 'un-learning' new concepts via formal training or practice for assessing 'excellence' involving responsibility-related values are determinant.
8. **Capacities:** For individual capabilities to unfold and express themselves, they need a supportive organisational and network infrastructure, such as access to information and resources for participation. This requires the availability of spaces for reflection, interaction and negotiation, appropriate incentive structures and an open knowledge base.
9. **Institutional entrepreneurship:** Both capability and capacity building are most often not self-organising activities; instead, they require leadership, top-level and continuous support, vision and strategy, lobby work and the rewarding of institutional improvement in order to facilitate change towards responsabilisation.
10. **Culture of transparency, tolerance and rule of law:** Only basic democratic principles such as rule of law and freedom of speech will make responsibility-related governance effective and sustained overtime. For this reason, the ability to make claims and to invoke legal or political means is a necessary condition for fostering responsabilisation at different organisational settings and arrangements. Enacting the aforementioned governance principles implies supporting the free ability to think and act in a proactive way and under the rule of law, where actors feel empowered by the appropriate organisational culture.

In order to facilitate the practical use of the Responsibility Navigator in different institutional and organisational settings, Res-AGorA developed a collaborative workshop methodology. This [Co-construction Method](#) encourages reflective processes between diverse and often opposing stakeholder groups. It is centred on the conceptualization and implementation of responsible R&I in organisations and elsewhere. The workshop design offers a unique process for organisations which want to steer research-related decision-making processes towards more responsible R&I. It provides an open space for reflection without normatively predefining what ‘responsibility’ is. Rather, it is designed to “walk the talk”, making it possible for stakeholders to gain firsthand experience on how to possibly promote responsible R&I.



The workshop design itself resulted from extensive deliberative co-construction work within the Res-AGorA team and has been thoroughly tested in real life settings. The procedural design merges default conceptual dimensions and principles of responsible R&I with a rigorous bottom-up approach of bringing in stakeholders’ everyday experiences in implementing measures for the responsabilisation of R&I processes.

For actors interested in using the Co-construction Method in their contexts, an easy-accessible manual is available online at: <http://responsibility-navigator.eu/co-construction-method/>

### 3. *Lessons and policy recommendations*

While we are convinced that applying the Responsibility Navigator – perhaps practically supported by using the Co-construction Method – will provide organisations with useful orientation in making responsibility an institutionalised ambition, this transformation of R&I practices needs to be encouraged and facilitated by the general framework conditions and by a conducive R&I policy environment. During the course of the project, we identified a number of important lessons and implications for policy and programme development. Governments and public and private funding agencies aiming to foster institutional change within R&I towards increased responsiveness to societal challenges are invited to take the following into consideration:

- Responsibility in R&I is shown to be a historically unfolding and context-specific process. It is important that policy-makers at the European and Member State levels and within individual organisations work with this reality, and that they have the means to adjust and adapt the spirit of responsible R&I to their own circumstances, mobilizing bottom-up inclusive processes.
- The interpretation of what it means to be responsible in R&I differs from context to context, resulting in a rich landscape of variety. Furthermore, the actors themselves are best placed to determine this content through intra- and inter-organisational collective negotiations and action. In this spirit, the Responsibility Navigator is offered as a ‘thinking-tool’ to support strategic reflection, negotiation, and learning. We caution against top-down prescriptions of what the focal elements of responsibility should be. Genuine bottom-up, inclusive processes will help actors to uncover what these priorities are and should be. Prescribing the normative content of RRI top-down risks it becoming another bureaucratic tick-box exercise, an example of **responsibility-wash** where the RRI ambition remains on the organisational surface and does not become **deeply institutionalised**.
- The previous point is closely related to the issue to what extent the “six key dimensions of RRI” (public engagement, open access, gender equality, science education, ethics and governance) that are currently being promoted by the European Commission<sup>2</sup> should remain the conceptual core of RRI. While these key dimensions represent important nuclei of RRI, the ongoing debate shows that limiting RRI to these six key dimensions would unduly constrain the integrative potential of the RRI concept, and create the risk of a conceptual “lock-in” as other, currently unforeseen elements or requirements of making R&I more responsible might be ignored. In particular, this would constrain the potential of RRI to contribute to re-opening fundamental questions about the purpose, direction and future societal benefits of R&I.

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<sup>2</sup> See <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation> (accessed 25 March 2016).

- As the findings of [RRI-Trends](#)<sup>3</sup> show, the awareness and relevance of making R&I more responsible is unevenly distributed across Europe and different actor groups. In terms of realising this ambition, the most developed countries are in North and West Europe (UK, the Netherlands and Scandinavia), where national policies are already well advanced in research councils, for example. A blanket top-down policy would not sit well with this reality. However, a useful policy at the European level to address the uneven distribution would be to support networking activities to spread and exchange experiences on the design and implementation of RRI according to different actor groups and R&I situations. East and South European countries would need support in terms of additional resources to make decisions and capacity-build their own approaches relevant to their current and anticipated societal, technological, and economic context-dependent needs.
- Empirical research confirmed again and again that actors operate within the structural and incentive constraints of the political economy or wider organisational culture which condition their scope for realising transformative change, both emphasizing speed and quantity over careful and inclusive deliberation. European and national policy-makers have a significant role to play in influencing these conditions if the ambition of RRI is to become a practical reality.
- Given the impressive conceptual and empirical knowledge in the field of RRI which has been generated by the growing community of academics, strategic decision-makers and R&I practitioners, it is now time for governments and funding institutions to vigorously encourage, enable and fund **experimentation** with different approaches and instruments in a diversity of settings. The Responsibility Navigator is ready to play a role in future experiments in making R&I more responsible.
- The next generation of EU-funded projects in the context of Horizon 2020 represents an ideal opportunity for this kind of experimentation. The Responsibility Navigator and the Co-construction Method have been deliberately designed to be applied in different situations and contexts. We are delighted to see that already three EU-funded projects<sup>4</sup> are explicitly building on Res-AGorA's legacy.

#### 4. Next step: RRI beyond Europe

A hallmark of the Res-AGorA findings and outputs is the depth and breadth of its underpinning empirical research programme, making the project unique among the many RRI research activities funded by the European Commission. While this strong foundation makes us confident in the 'robustness' of our analyses and the resulting conclusions, we concede that our empirical basis predominantly relates to, with few exceptions, European settings.

However, from outside Europe, we received encouraging signals from stakeholders in R&I systems in developing countries, who are seeking to make their R&I activities and outcomes more responsible in general, and more specifically, who want to work with the Responsibility Navigator.

This encourages us to call upon European decision-makers to actively broaden the current RRI debate beyond European contexts. RRI will remain isolated in Europe and possibly North America if it does not respond to relevant debates in emerging economies. Policy and funder efforts in developing countries to achieve "inclusive innovation" through innovating *for* and *with* the poor should also be taken into account in debates in high income settings.

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<sup>3</sup> Res-AGorA monitored the RRI activities in 16 European countries. The results of RRI-Trends are available at: <https://rritrends.res-agora.eu/>

<sup>4</sup> The projects HEIRRI (<http://heirri.eu/>), SMART-map (call H2020-GARRI-2015-1) and JERRI (call H2020-ISSI-2015-1) are using Res-AGorA outputs as conceptual and methodological starting points. In addition, the RRI Tools project (<http://www.rri-tools.eu>) will make available Res-AGorA material to interested users.

Policy Note #3 is the last out of 3 notes. The two previous notes are summaries of our empirical work (Note #1) and the governance framework for RRI developed by Res-AGorA (Note #2).

Policy Note #1  
[Lessons from RRI in the Making](#)

Sally Randles et al. 2015



Policy Note #2  
[Navigating towards responsible research and innovation](#)

Stefan Kuhlmann et al. 2015



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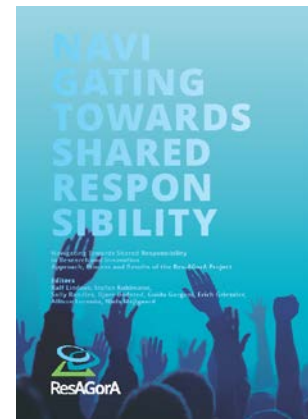
We would like to thank everyone who gave their time to participate in our case studies, country monitoring (including the 16 country correspondents), and the stakeholder workshops for their inputs and dedication to the discussions.

While every caution has been taken to represent the views of the interviewees and participants, the final representation remains the responsibility of the authors. The views and opinions expressed in this policy note may not be taken as official views of the Res-AGorA nor of the external participants.

The Res-AGorA book **Navigating Towards Shared Responsibility in Research and Innovation**, which provides an overview of the project's journey, its conceptual underpinnings and its main results, is now available. <[http://res-agera.eu/assets/Res-AGorA\\_Book\\_Lindner\\_etal\\_2016.pdf](http://res-agera.eu/assets/Res-AGorA_Book_Lindner_etal_2016.pdf)>

To view the e-paper version click [here](#).

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Visit the Res-AGorA websites: <http://www.res-agera.eu/> and <http://responsibility-navigator.eu/>

See the Res-AGorA video: [Potentials and barriers of RRI](#)

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