

This policy brief provides insight into

- The concept of Responsible Research and Innovation (RRI)
- The relevance for RRI in Australia
- The RRI-Practice project

The RRI-Practice project

The main aim of RRI-Practice is to analyse RRI related discourses and pathways to implementation, including barriers and drivers, in 22 research conducting and research funding organisations, in 12 European and non-European countries, in order to identify, understand, disseminate and promote RRI implementation best practices that can be scaled up at European and global levels.

The Australian case study has included mapping the national research landscape as well as focusing on two institutions: the Commonwealth Scientific and Industrial Research Organisation and the University of Queensland. Data collection methods included document analyses, workshops, focus groups and interviews.

The project is funded by the European Commission, during the period of 2016 – 2019.

Interpretations of RRI

The European Commission emphasises five policy keys for RRI: ethics, gender, open access, societal engagement and science education (see <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>)

All keys are present in Australia but their focus and application vary across the different research institutions.

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POLICY BRIEF

SEPTEMBER 2018

Responsible research and innovation (RRI) has emerged in recent years, especially in Europe, as a science policy framework that seeks to achieve: a) engaged publics and responsible actors in the science and innovation field; and b) ethically acceptable, sustainable and socially desirable research and innovation outcomes that are aligned with societal needs and challenges.

In February 2017, the University of Queensland team organised a workshop in Canberra with key stakeholders in the Australian research and innovation system to discuss RRI. Both within the national workshop and interviews, participants agreed that RRI is not a term that is frequently used in Australia. Notions of RRI naturally gravitate towards research integrity which dominates Australia's research landscape. However, those from outside the research sector felt that RRI had notions of 'triple bottom line', an ethos of planning and delivering benefit or return on investment, alongside recognition of possible repercussions or negative unintended consequences of research and innovation.

Over the duration of the project greater awareness of the term RRI has emerged. This was clearly evidenced during the September, 2018 workshop held at the University of Queensland to discuss RRI-Practice in the Australia context. The question remains whether an RRI approach will deliver more value than the current ad hoc approach? And if so, how will RRI values be embedded in future research? Questions include: Who are we responsible to? What are we responsible for? Who are the main actors? Despite this ambiguity, trust and transparency were two words that were frequently referred to as important principles of RRI.

It is clear a number of good practices corresponding to the RRI keys exist in Australia. "The Australian Code for the Responsible conduct of Research 2018" ('the Code') sets out the high-level principles, responsibilities, and expectations for research across all disciplines and institutions. Similarly, engagement with the Science and Gender Equity (SAGE) Athena SWAN program aims to reward STEM institutions for monitoring, self-reflection and planning to reduce gender inequality. Alongside the National Indigenous Higher Education Workforce Strategy (NIHEWS) which aims to improve universities' employment strategies in relation to Aboriginal and Torres Strait Islanders are clearly focused at improving the gender and diversity issues that exist in Australia's current research workforce.

RRI-Practice workshop in the Australian Context (Sept 5 - 6, 2018)





RESPONSIBLE RESEARCH AND INNOVATION IN PRACTICE

Interpretations of RRI

Ideally the major developers of S&T/R&D/Innovation and the broader community should be involved in RRI, with the government-funded agencies leading the way via a mandate that becomes standard operating practice, that is followed by corporations who are largely committed to triple-bottom line already, but may not be across the theory of RRI well yet. AUS 009

Things have changed, people really do have expectations that have increased, not just of industry, not just of government, but I think maybe also of science to a degree. I don't think science captures the public imagination always in the same way. So, what does drive social acceptance of so many different things. What makes people trust something? CSIRO 007

I think our partnerships in the future will be based much more on alignment of values than simple transactions. So, the test will be for us, when do we stop working with someone because they do something that our values do not align with? Could it be that we don't view that they're being responsible in how they go about doing what they do? UQ 006

Read the Australian National Case Study Report on <https://www.rri-practice.eu/knowledge-repository/publications-and-deliverables/>

Partners:

Oslo and Akershus University College (NO), Karlsruhe Institute of Technology (DE), University of Exeter (UK), Commissariat a L'Energie Atomique et aux Energies Alternatives (FR), University of Padova (IT), Applied Research and Communications Fund (BG), Stichting Katholieke Universiteit (Nijmegen) (NL), Wageningen University (NL), Chinese Academy of Science and Technology for Development (CN), Research and Information System for Developing Countries (IN), Arizona Board of Regents (US), Fundacao de Desenvolvimento da UNICAMP (BR), The University of Queensland (AU)

Do research and innovation create societal problems or solve them?

With the growing focus on impact across the Australian research landscape and ultimately a call from Australian society for greater accountability around the use of research funds, RRI practices can help to address these issues. Whether it is in relation to the national research challenges, emerging science and technology issues or the quest to address sustainability, RRI provides a framework to help address these issues. However, from an institutional perspective it will be important to ensure that relevant RRI practices become culturally embedded within the different research organisations.

Similarly, there was seen to be little tolerance for the introduction of RRI if it places additional burden on researchers. Having adequate time and resources being made available for its implementation was seen to be critical. Reward and recognition structures based around RRI principles were seen to be important elements for culturally embedding RRI practices more broadly.

Do we have the tools for being responsible?

RRI provides an approach for addressing responsibility in research and innovation. We have identified several tools and examples across the Australian research landscape that help to enable greater responsibility. For example:

- the Horizon Scanning Series of the Australian Coalition of Learned Academies (ACOLA) commissioned by the Commonwealth Science Council and Australia's Chief Scientist undertakes interdisciplinary analyses of emerging science and technologies to help guide decision-making and anticipate consequences of these new innovations.
- the requirements set out in 'the Code' from the Australian Research Council (ARC), the National Health and Medical Research Council (NHMRC) and Universities Australia means Australia is generally recognised as an ethically sound research conducting nation and provides clear guidelines for research higher degree students and early career researchers to ensure best practice approaches to ethics are established early.
- a commitment to open access is growing based on the research funders such as the ARC and NHMRC requiring the widest possible dissemination of research subject to restrictions relating to intellectual property or culturally sensitive data.
- The Commonwealth Scientific and Industrial Research Organisation (CSIRO) has developed a unique way to measure and define impact pathways with the intent of increasing the adoption and impact of research outputs. It has developed a framework which encourages researchers to consider the economic, social, and environmental benefits of their research activities.

The RRI-Practice consortium Oslo, September 2016

