RRI in FLAG-ERA HBP

WORKSHOP

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Background – why RRI?

Europe wants research and innovation in order to create jobs, find solutions to societal problems, be a knowledge-based society and continue as a powerful global actor

BUT European states and the European Union need to show that research and innovation is in the interest of the people to justify strong public investments

* Experiences, such as with GMOs, have led to public resistance to new technologies

* Research scandals or perceptions of biased research have led to public skepticism

* Social skepticism to scientific establishment 'elites'

→ new such experiences must be avoided

→ by developing research policies that stimulate new reflections on responsibility within science and innovation environments themselves and by facilitating informed dialogue between scientists, innovators and the public

Trust in science is at stake!

2 — NORSUS Norwegian Institute

* Social skepticism to scientific establishment 'elites'

→ new such experiences must be avoided

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RRI – a response

Funders have been responsive to this situation

Responsible Research and Innovation (RRI) is one respons

co-creation, citizen science, open science are other responses

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A bit of history

Responsibility and emerging technologies has been on the agenda for 30 years in research and innovation policy

- Biotechnology – The Human Genome Project 1990 (ELSI program)
- Nanotechnology, ICTs

- ELSI seen as add-on and hostile to tech (looking for problems) → Since 2011 RRI has been an overall framework for responsibility in emerging technologies in Europe – as a way to do S&I right
  - Promoted by research funders

- RRI is both a theoretical, policy and practical approach

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Fundamental topics for RRI

1. AVOIDING THE WRONG IMPACTS OF S&T

Technological development appears everywhere and in liberal, capitalist societies this is possible as long as it is not in conflict with risk regulations

- For emerging science and technologies (biotechnologies, nanotechnologies, ICTs) the development takes place so quickly that risk regulation lags behind

→How can we make sure that science and innovation don't create problems now or down the road?

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Fundamental topics for RRI

2. CREATING THE RIGHT IMPACTS OF S&I

Our society have some grand challenges that R&I needs to contribute to solving

→ How can we make sure that science and innovation contributes to what is good for society?

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Fundamental topics for RRI

3. WHO ARE TO DECIDE WHAT ARE THE RIGHT (AND WRONG) IMPACTS OF SCIENCE AND INNOVATION, ANYWAY?

Scientists and innovators are experts in justifying (and hyping) their inventions; we are trained in spelling out the benefits of our research and toning down the potential problems

One cannot assume that the scientists' and innovators' own assessment represents a neutral assessment of the benefits and burdens of the inventions for society

→ How can societal groups/the public be involved in discussions about science and innovation so that the resarchers and innovators take a broader view?

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Fundamental topics for RRI

4. THE RESPONSIBILITIES OF RESEARCHERS AND INNOVATORS

- 'Science takes the credit for penicillin, while society takes the blame for the bomb'

(Jerry Ravetz 1975)

→ Many actors are involved in the innovation process, what are the responsibilities of the individual scientists or innovators versus all the other actors that modify how innovation meets the world?

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What is RRI? → EC's approach

Responsible research and innovation is an approach that anticipates and assesses potential implications and societal expectations with regard to research and innovation, with the aim to foster the design of inclusive and sustainable research and innovation.

Responsible Research and Innovation (RRI) implies that societal actors (researchers, citizens, policy makers, business, third sector organisations, etc.) work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society.

In practice, RRI is implemented as a package that includes multi-actor and public engagement in research and innovation, enabling easier access to scientific results, the take up of gender and ethics in the research and innovation content and process, and formal and informal science education.

What is RRI? → UK and Norwegian approach

Jack Stilgoe, Richard Owen & Phil Macnaghten:Framework for Responsible Innovation

4 dimensions of RRI in Engineering and Physical Sciences Research Council (EPSRC)

To be responsible, R&I needs to engage in:

1. Anticipation – assessing potential future implications of the research
2. Reflection – reflecting on values affected by the research and own motivations
3. Engagement – involving others in these reflections and anticipations
4. Action/Responsiveness – being prepared to change and adapt the planned research in respons of new knowledge or stakeholder concerns

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What is RRI

→ Addressing societal needs

→Avoiding undesirable side effects

→ Responsibility integrated into research and innovation practices → responsibility cannot be outsourced (but collaboration is good!)

→ Responsibility related to

- *social, environmental, ethical or political issues*

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Why is RRI important in projects related to FLAG-ERA HBP?

HBP related projects can have social, environmental, ethical or political implications

- How can this research contribute to solving real needs?
- How can we avoid that new applications create new environmental, health or social uncertainties?
- How does this research impact on our understanding of human beings, consciousness, etc.?
- Potential dual use
- Privacy issues, and other issues related to AI
- Animal welfare issues
- How can we embed this research in society to increase possibility for stakeholder input, and – ultimately – the right/responsible uptake of this research in real world practices

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RRI keys

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The RRI keys, and beyond

1. Gender & diversity
2. Open Science (open access and open data)
3. Science education (increasing public understanding of science)
4. Ethics (research ethics and integrity)
5. Public Engagement

…

1. Sustainability and the SDGs
2. Societal fairness and equity

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Results from the survey

- All the keys are considered relevant (scores between 3.6 and 4.7)
- The keys you would like most assistance with is Open Science and Public engagement
- The support you have asked for is guidelines, infrastructure, money, time and expertise
- Some quotes:
  - We have clear in our mind that delivering concrete benefits to society is our primary goal.
  - It will be essential to involve […] subjects in a way that engages them in our project not merely as test subjects, but also as active participants
  - Potential worry: Animal experimentation is always a controversial aspect, yet one that is essential to reach our research objectives. Given its controversial nature, it is likely to engage sectors of the public that are not normally interested in neuroscientific research.
  - Identified need: Public engagement for data center that sustains storage and organize imaging datas in an open access

→ Can we will nudge you to take a broader view on the keys?

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A broader view on the RRI keys

- Gender → Diversity in general, assessing the way the research may influence differences in society
- Open science → Not only about data repositories, but can potentially impact on how you view IP issues etc?
- Science education → Can this also mean that you learn more about other disciplines?
- Public engagement → Is one-way dissemination enough, or is it about learning from the publics or other stakeholders?
- Ethics → Is it only about not breaking research ethics rules? Can ethics also mean a reflection on the potential ethical issues the research can have longer term? Privacy, new scientific uncertainties, dual use, change of production systems, impacts on human identity, etc.?

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Some tools for further reflection when you 'get home'

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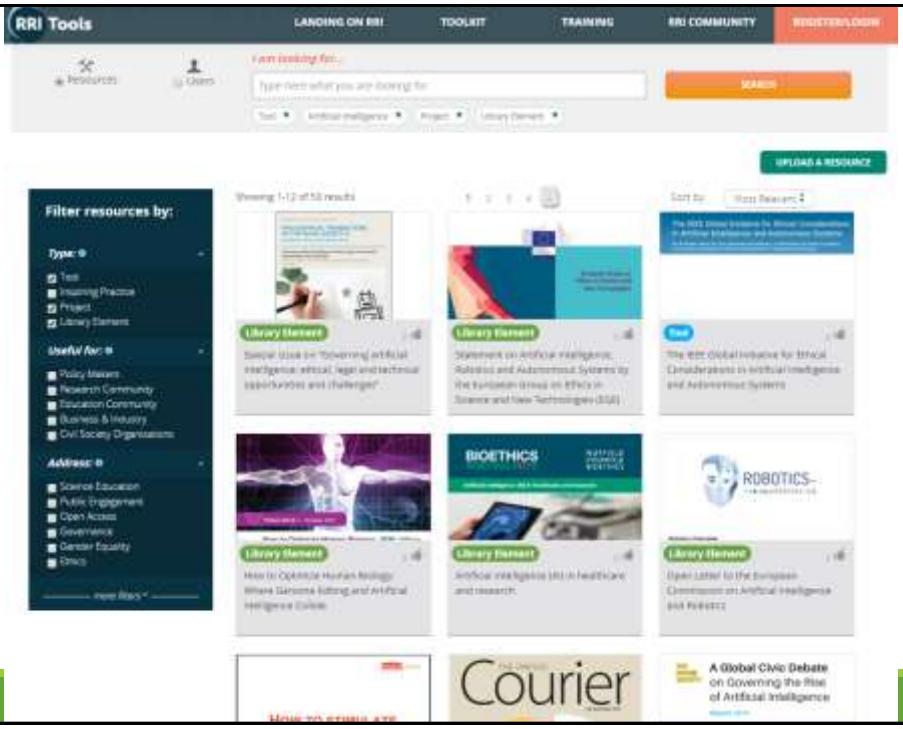

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Societal Readiness Thinking Tool

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Our role today

* Give feedback based on the survey and the presentations
* Reflection partners in the group sessions
* General feedback in the plenary session

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