

eNewsletter #1 - Autumn 2013

Implementing RRI in Horizon 2020

Horizon 2020, the new European Commission (EC) multi-annual framework programme for research and innovation (R&I) for the period 2014-2020, is meant to contribute towards tackling the grand societal challenges that lie before us, including, resource scarcity, health, food security, transport, climate change. These are interconnected and complex issues affecting all of society, in Europe and beyond.

How can we ensure that publicly funded R&I outcomes meant to tackle societal challenges will ultimately:

- a) be useful and relevant to society in the long run?
- b) not be rejected, thus leading to lost opportunities and misaligned investments?

Since 2000, the EC has been funding research activities to answer these questions via its *Science and/in Society* (SiS) programmes. Findings based on over a decade of such research reveal that:

- Betting on 'technology acceptance' by way of good marketing only, is no longer a valid option;
- Diversity of actors in R&I is a must for achieving greater creativity by drawing on all forms of knowledge, and promoting better outcomes;
- Early and continuous iterative engagement of society in R&I is key to ensuring that science and

technology outcomes are societally relevant and desirable, thus also contributing to the societal acceptability of innovation.

From an EC perspective, RRI is a timely evolution of the former SiS programme. In practical terms RRI implies that all societal actors should work together during the whole R&I process in order to align both the process and its outcomes with the values, needs and expectations of European Society.

Although, globally, the concept of RRI is in evolution, the time has come to begin to operationalize RRI in Europe, and more precisely, in the implementation of Horizon 2020, with a view to subsequently extend it to the European Research Area.

In practice, RRI is a package aiming to better engage society in R&I activities. This package includes the strengthening and embedding of: public and multi-actor engagement, gender equality and gender in the research and innovation content, free on-line access to research results, formal and informal science education, and ethics, within a governance framework for responsible research and innovation.

The need to embed RRI as a cross-cutting action is clearly spelt out in Article 13 of the *Horizon 2020 Regulation*. The aim is to foster the development of RRI-friendly R&I policy and calls for proposals, as well as leadership and

By Karen Fabbri

guidance for effective RRI take-up by relevant R&I stakeholders in Europe.

In parallel to the implementation of RRI, Horizon 2020 will also continue to support research and coordination actions through a dedicated funding line entitled *Science with and for Society*.

The ProGReSS project is one of a series of key FP7 projects aiming to further RRI governance frameworks. Together these projects are contributing to building a critical mass of R&I stakeholders that can work together to build a common vision and help Europe become a leader of RRI.



Karen Fabbri is a European Commission Policy officer currently dealing with the development and implementation of responsible research and innovation governance and multi-actor/public engagement in R&I policy. With over 15 years of experience in working at the EU science-policy interface, in particular on issues of environment and sustainability.

Kick-off meeting

Paris, March 2013

From 20 – 22 March 2013 the UNESCO hosted the Progress Kick-off Meeting at their Headquarters in Paris. The synergies between UNESCO and Progress were apparent throughout all sessions. UNESCO has been advocating for a more socially responsible and ethical model to govern scientific research and innovation globally and Progress aims to provide a strategy to promote socially desirable goals. Progress partners and advisors from all continents joined the meeting in Paris to exchange ideas about pro-poor innovation, broader impacts of

science, guiding funding to address grand challenges, Chinese and Indian strategies to integrate innovation with societal concerns as well as questions such as what is responsible research and innovation (RRI), what are the main ethical issues in our case studies (synthetic biology, nanotechnology and

ICT), how can we involve industry and end users in our debates, how can we collaborate with our EU-funded sister projects and how we disseminate our findings most effectively. The meeting ended with commitments from Progress and UNESCO to continue working together fruitfully.



Partners news

ProGReSS, bioethics, and Cambridge University Press (Paris)

Roger Chennells (SASI) and Doris Schroeder (Uclan) gave a presentation entitled "From Bench to Bedside - The Global Angle" in June 2013. The paper introduced ProGReSS to an audience of 40+ bioethicists from around the world. The event, held at Reid Hall in Paris, was an invite-only occasion organised by Cambridge University Press. In addition to providing information on the project, Roger introduced a success story of bringing a pharmaceutical to market based on indigenous knowledge. The product is called Zembrin and is based on the anti-depressant and anti-anxiety properties of the Sceletium plant. Comments from the audience revolved around the case study and a professor from the USA stated that it is an excellent idea to examine different approaches to RRI globally.

RRI Unbound, Twente

Doris (Co-ordinator) and John (Australian partner) both presented invited papers at the RRI Unbound Conference in Holland in October 2013. Doris argued for the addition of a Rawlsian Difference

Principle to RRI when tax payers' funds are used. John analysed the concept of nature as relevant to RRI. The conference organisers, the internationally known 3TU Centre for Ethics and Technology (<http://ethicsandtechnology.eu/>), asked to be kept in touch about PROGRESS and will invite Doris to the kick-off meeting of their latest EU project, due to start in 2014.

Recent ProGReSS

Following the Paris Kick-off meeting in March, the ProGReSS project started moving forward in full steam, with partners getting actively involved with the project's first activities. We here provide a summary of most recent achievements.

National Innovation Agendas

The first ProGReSS deliverable (D2.1), prepared by Benjamin Schremppf and Doris Schroeder, was completed in early May 2013. It discusses European and National Innovation Agendas in a selection of European countries (Ireland, Germany, United Kingdom, Spain and Italy). This background document will serve as common knowledge and ground material for further ProGReSS activities. The full report can be downloaded here: www.progressproject.eu/deliverables

ProGReSS brochure

The ProGReSS brochure (deliverable D6.2), prepared by UCLAN, has been finalised. It provides an inviting and useful summary of ProGReSS objectives. It is meant to be printed on glossy thick paper and distributed physically, but is now available to all in electronic format. Should you wish to receive a physical copy, please don't hesitate to contact us directly.

Online activity

We are happy to announce that the progress website is now fully operational, inclusive of extensive ProGReSS description, relevant material, partner profiles, external links, secure members' access, and links to social media activity. Please visit www.progressproject.eu ProGReSS social media accounts have been activated and have gone live. The project thus carries its voice in a wide array of networks and arenas: Twitter, Facebook, LinkedIn, Google+, YouTube, etc. This will allow us not only to reach different publics, but most importantly to engage with stakeholders in innovative ways, reminiscent of a more integrative vision of Science in Society. We are excited about building and sustaining a vibrant community interested in Responsible Research and Innovation.

Interproject RRI workshop

Brussels, September 12-13

Delegates of the 4 recently funded EC projects on Responsible Research and Innovation (RRI) met at REA headquarters in Brussels, on September 12-13. The objective of this two-day workshop was to explore potential complementarities and scope for coordination between these 4 projects. Indeed, GREAT, ProGReSS, Res-AgorA, and RESPONSIBILITY share not only a common funding source (under the Programme "Science in Society/ SiS", 7th Framework Programme of the European Commission), but also research objectives and an interest in furthering awareness and understanding of Responsible Research and Innovation.

Introduced by the project officer, Karen Fabbri, the workshop provided ample opportunity for presentations, group discussion, exchanges of argument, topical breakout session, and informal meetings. All this in a very positive and cheerful atmosphere, though conflicting viewpoints were not shied away from.

Project coordinators presented recent progress, decisions, and current puzzles, finding a receptive and reactive audience for intellectual exchange. It was very promising to see that so much has been developed only 6 months into the projects, but also how cohesive the existing network already is.

The ProGReSS delegation was constituted of Doris Schroeder (UCLAN), Roger Chennells (SASI), Michael Davis (IIT), Petra Ahrweiler (EA), Bruno Turnheim (CSSC), and Amy Dean, a film student who recorded a series of interviews with participants that we will be releasing soon.



Latest RRI news

US Research funding controversy

US Republican Congressman Lamar Smith (Texas), Chair of the Committee on Science, Space, and Technology has started a debate about the use of National Science Foundation funding. His view suggests not only that science funding should be used for public benefit, but should be used for US citizen benefit.

Human stem cell research

Following the publication of potential ground-breaking results in human stem cell research, the debate on human cloning have been re-opened – namely on the use of human eggs and the destruction of human embryos. The controversial and serious nature of the consequences highlights the need for democratically-granted research evaluation.

56 ways to measure research impact

Members of the Center for the Study of Interdisciplinarity at the University of North Texas have identified 56 ways to measure research impact. The group was brainstorming without serious intent, but has meanwhile published their thoughts in a Nature comment. They argue that one should consider “negative metrics” for those who are being cited for reasons, which have nothing to do with merit.

EU and industry join forces to invest €22 billion in research and innovation

The European Commission, EU Member States and European industry will invest more than €22 billion over the next seven years in innovation for sectors that deliver high quality jobs.

Most of the investment will go to five public-private partnerships in innovative medicines, aeronautics, bio-based industries, fuel cells and hydrogen, and electronics. These research partnerships will boost the competitiveness of EU industry in sectors that already provide more than 4 million jobs.

More info: http://europa.eu/rapid/press-release_IP-13-668_en.htm?locale=en

Harnessing Science and Technology to Alleviate Poverty

With 400 million people earning less than \$1.25 a day, many Indian scientists and engineers are focusing their research on ways to improve the lives of individuals living in poverty, including designing affordable tablet computers, cheap vaccines, and the use of biometrics to help individuals tap into India’s welfare system. India is also pioneering new methods for getting scientists and engineers involved in development and poverty alleviation through funding initiatives like the National Innovation Fund and programs supported by the Ministry of Rural Development.

Senator’s Demands Freeze NSF Political Science Grants

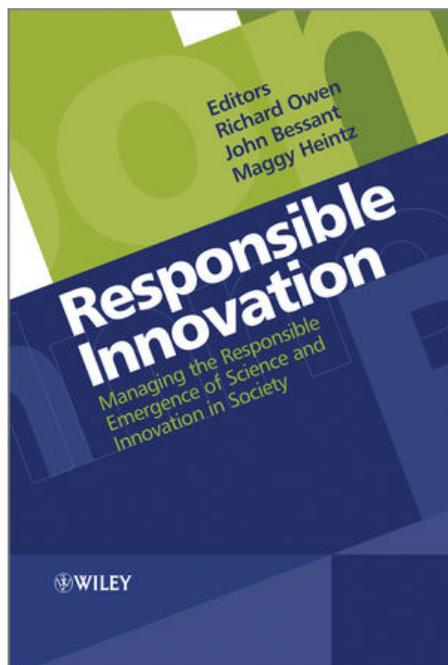
The U.S. National Science Foundation has had to freeze its \$10 million a year political science program in order to find a way to comply with an amendment to a 2013 spending bill passed in March by the U.S. Senate that allows NSF to fund political science only when a project is deemed vital to national security or the country’s economic interests.

More info: <http://www.sciencemag.org/content/341/6147/703.summary>

Journal of Responsible Innovation

Doris was invited by David Guston to join the editorial board of the new Journal of Responsible Innovation. With three issues beginning in 2014, the Journal of Responsible Innovation (JRI) will provide a peer-reviewed forum for discussions of the normative assessment and governance of knowledge-based innovation. It will offer humanists, social scientists, policy analysts and legal scholars, and natural scientists and engineers an opportunity to articulate, strengthen, and critique the relations among approaches to responsible research and innovation, thus giving further shape to a newly emerging community of research and practice.

Recent publication



Owen, R., Bessant, J., Heintz, M., (Eds.), 2013. Responsible Innovation: Managing the Responsible Emergence of Science and Innovation in Society, Wiley: Chichester.

A timely publication, echoing the recent growth of interest in Responsible Innovation (RI), this edited volume brings together a comprehensive set of perspectives in this vibrant new field.

The direction of socio-technical trajectories and the means to (re-)orient them towards desirable ends – in this case under the flagship of responsibility – are questions that scholars of science and innovation policy are increasingly concerned with. Responsible Innovation, we are told, promises to address the systemic irresponsibility associated with innovation, to put grand societal challenges at the heart of innovation efforts, and to allow for a deep reflection on purposes and motivations, through values rather than rules.

The book comprises of multidisciplinary contributions ranging from Philosophy to Business Studies, through Sociology and Technological Studies. It is articulated

around addressing an ambitious challenge: how can we collectively and democratically orient science and innovation efforts towards societally desirable goals? This volume offers both theoretical reflections (chap.1-8) and real-world accounts of efforts being made to address the aspirations of Responsible Innovation (see especially chap.9-13). Contributions complementarily attend to the challenges and motivations of Responsible Innovation (chap 1-3), user perspectives, interaction and deliberation (chap 5, 12), societal aspirations (chap 1, 3, 13), governance arrangements and tools (chap 2, 8, 4, 9), and ethical reasoning and practice (chap.7, 6, 11).

This publication provides a welcome overview of the current approaches and activities in the field. As such, it is enlightening read that doesn’t shy away from critical tensions and challenges (see particularly chap 1, 7, 8).

Responsible Research and Innovation

By René von Schomberg

The institutional and societal learning processes with the introduction of new technologies since World War II have culminated in specific large-scale initiatives to promote the 'responsible development' of a new technology under public policy. Nano science and nanotechnologies constituted the first historic case in which a technology, in its infancy, is being addressed by such large-scale, multi-billion dollar/euro, mid to long-term programs at both sides of the Atlantic. Since 2001, The National Nanotechnology Initiative (NNI) is the U.S. Federal Government's interagency program for coordinating research and development and enhancing communication and collaborative activities in nanoscale science, engineering, and technology. Among its four major goals features the support of 'responsible development of nanotechnology' (NNI, 2001). The European Commission has adopted a European strategy and action plan which emphasizes the 'safe, integrated and responsible' development of nanosciences and nanotechnologies (Commission of the European Communities, 2009). The 'responsible development of nanotechnology' is under both the American and the European initiative addressed by:

- Identification and management of ethical, legal, and societal implications
- Incorporation of safety evaluation of nanomaterial into the product life cycle and allocation of budgets for identification and study of risks
- Identification of knowledge gaps and regulatory needs
- Involvement of stakeholders and engagement in international dialogue

Reflections on an appropriate governance framework for the responsible development of technologies have led to the call for specific requirements of such a governance process:

- Anticipatory governance: an adequate governance framework should anticipate the intended and unintended impacts of new technologies in economic, environmental, social and ethical terms. This requires extensive use of technology foresight and technology assessment (Karinen and Guston, 2010).
- Deliberative governance: This implies inclusive governance, one based on broad stakeholder involvement and early public intervention in research and development leading to responsive public policies (Owen et al, 2013) or even a required commitment of stakeholders (Von Schomberg, 2013).
- An ethics of co-responsibility: The outcomes of research and innovation are the result of institutional and collective actions which often lead to consequences which can hardly be traced back to the actions or intentions of any individual. Both for the intended and unintended outcomes societal actors and innovators have to assume shared responsibility (Von Schomberg, 2007).

- The systematic use of normative principles for the design of technologies. Ethics becomes a driving force for innovation rather than a constraint. "Privacy by Design" is the most prominent example of such a normative principle (Stahl, 2011).
- Whenever appropriate, the integration of social science and humanities within interdisciplinary research practices to increase reflexivity (Fisher et al, 2006).

However, Responsible Research and Innovation has been articulated not only with a view on the anticipation and good management of possible risks of new technologies but also with a view on the 'right impacts of research'. In other words: what do we want to get out of (publically) funded research and innovation? In the European Union this has been articulated by a call to direct research and innovation towards the Grand Challenges of our times: climate change, food security, ageing populations etc. Even more broadly formulated, responsible research and innovation can be seen to be responsive to basic public values or benefits for humanity (Ozolina et al, 2012) or fundamental rights and constitutional normative anchor points (Von Schomberg, 2013), thus driving innovations towards social desirable outcomes.

Von Schomberg (2013) has proposed the following definition consistent with an ambitious vision of innovation governance:

"Responsible research and innovation" is 'a transparent, interactive process by which societal actors and innovators become mutually responsive to each other regarding the ethical acceptability, sustainability and social desirability of the innovation process and its marketable products.'

'Responsible research and innovation' shifts the focus from research and development of particular technologies and or particular risks towards the whole innovation process, and its governance which is neither technology-specific, nor solely risk-focused.

Coupling the Grand Challenges and RRI seems to be an obvious choice. However, to identify what is a "Grand Challenge", and which are the accompanying Research and Innovation priorities, is in the global context anything but consensual: "Healthy Ageing" is an issue for many Asian, European and American states, but not for Africa. For the most populated countries in the world, China and India, "Internal Grand Challenges" may be prioritized. China, for example, sees "Urbanization" as a Grand Challenge facing the arrival of a 13 million new urbanites each year. India has impressed us with 'inclusive innovation': doing more with fewer resources for more people, such as providing a 120 dollar artificial foot. Possibly, innovation may come increasingly from the "South".

The ProGReSS project will inevitably need to dig into the global dimension of innovation and how innovation can be shaped responsibly in a context with sometimes diverging ethical standards and priorities. I look forward to the outcomes of ProGReSS.

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Dr. Dr.phil. René von Schomberg is an agricultural scientist and philosopher. Author/(co-)editor of 12 books. He holds Ph.D's from The University of Twente, the Netherlands (Science and Technology Studies) and J.W.Goethe University in Frankfurt am Main, Germany (Philosophy).

He has been a European Union Fellow at George Mason University, USA in 2007 and has been with the European Commission since 1998. Before joining the Commission he was teaching at Twente University and Tilburg University in the Netherlands.

Disclaimers

The views expressed here reflect the contents of various publications, but they are 'under development': therefore I look forward to any comments on my webpages: <http://renevonschomberg.wordpress.com/>

The views expressed here are those of the author and may not in any circumstances be regarded as stating an official position of the European Commission.

Upcoming events

S.NET 2013 Conference, School of Law, Northeastern University, October 27-30, 2013.

5th Annual meeting of the Society for the Study of Nanoscience and Emerging Technologies (S.NET). A specific track on "Perspectives on Responsible Research and Innovation (RRI)" is included.

More info: <http://www.northeastern.edu/nsrg/?p=657>

STI policy conference, Vienna, November 14-15, 2013

"Evaluation of STI policies, instruments and organisations: new horizons and new challenges"

More info: <https://conference.zsi.at/index.php/STI/ESTIPIONHNC>

Interdisciplinary conference on cooperation in innovation, Paris, December 2, 2013

"Cooperating for innovation: devices for collective exploration"

More info: <http://www.i-3.fr/conference-2/>

Associated projects

ProGReSS is associated with the Group of Four (Go4) RRI projects, recently launched FP7 Science in Society projects dealing with Responsible Research and Innovation (RRI) Governance. Together, we make up a critical mass of researchers taking forward RRI Governance in Europe, and beyond.

Res-AGorA: <http://res-agora.eu/news/>

Responsibility: <http://responsibility-rr.eu/?lang=en>

GREAT: <http://www.great-project.eu/>

Project summary

Delivering European renewal relies heavily on the advancement of Responsible Research and Innovation (RRI) - that is, research and innovation which:

- is ethically acceptable,
- is sustainable by avoiding significant adverse effects, and
- drives towards the common good, i.e. societal desirability.

Especially the third aspect - societal desirability - is an underexplored aspect of RRI and it is the aim of the project to develop a strategy for fostering the convergence of regional innovation systems at the global level. The project aims to advocate a European normative model for RRI globally, using constitutional values as a driver to inform societal desirability.

ProGReSS concentrates on the underexplored and least converging part of RRI, namely achieving societal desirability. The project will link existing international networks of RRI from all continents with European partners and societal actors to achieve the following objectives:

1. Link existing international networks of RRI with relevant societal actors on a global scale to focus innovation on societal desirability.
2. Complete a major fact-finding mission comparing science funding strategies and innovation policies in Europe, the US, China, Japan, India, Australia, and South Africa.
3. Advocate a European normative model for RRI globally, using constitutional values as a driver to inform societal desirability.
4. Develop a strategy for fostering the convergence of regional innovation systems at the global level.

WORK PACKAGES	KEY OBJECTIVES
WP1: Management	To ensure the smooth and effective running of the project in order to achieve the main objectives.
WP2: Innovation Systems	To ensure that the network's deliberations and outputs are informed by and compatible with cutting edge research on innovation systems
WP3: Innovation for Society	Complete a major fact-finding mission comparing science funding strategies and innovation policies in Europe, the US, China, Japan, India, Australia and South Africa.
WP4: Outreach	To ensure that industry and end-user views are taken into account in the convergence roadmap.
WP5: Case Studies	To provide input to deliberations from three case studies with practical relevance for the notion of and the need for responsible research and innovation (RRI).
WP6: Dissemination	To communicate widely the findings and outcomes of the project while allowing stakeholders and policy makers to inject their perspective into the project.
WP7: Convergence roadmap	Develop a strategy for fostering the convergence of regional innovation systems at the global level.

ProGReSS consortium

**Centre for Professional Ethics
University of Central Lancashire (Uclan)**
<http://www.uclan.ac.uk/>



**Center for the Study of Ethics
in the Professions (CSEP)
Illinois Institute of Technology (IIT)**
<http://ethics.iit.edu/>



**Centre for Science, Society
and Citizenship (CSSC)**
<http://www.cssc.eu/>



**Centre for Applied Philosophy
and Public Ethics (CAPPE)
Charles Sturt University (CSU)**
<http://www.cappe.edu.au/>



Tecnalia Research & Innovation (TRI)
<http://www.tecnalia.com/>



**Environmental Evaluation Unit (EEU)
University of Cape Town (UCT)**
<http://www.eeu.org.za/>



**Science & Technology Studies
Europäische Akademie (EA)**
<http://www.ea-aw.org/>



South African San Institute (SASI)
<http://www.sasi.org.za/>



**Institute of World Economics & Politics (IWEP)
Chinese Academy of Social Sciences (CASS)**
<http://en.iwep.org.cn/>



**Research and Information System
for Developing Countries (RIS)**
<http://www.ris.org.in/>



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