

A man with glasses, wearing a light-colored suit jacket over a striped shirt and tie, is smiling and talking on a mobile phone. He is outdoors, with a blurred background of green trees and foliage. The lighting is bright, suggesting a sunny day.

René von Schomberg on responsible innovation

# See ethics as a stimulus and not as an obstacle



*Responsible Research and Innovation*, in short RRI. This term is increasingly finding its way into European policy texts. The core of RRI is that all stakeholders draw up joint research agendas to provide a better balance between the promises and expectations of research. We can no longer ignore this approach, and that is a good thing, explains René von Schomberg, policy maker of the Directorate-General for Research and Innovation of the European Commission. >

Von Schomberg is one of the driving forces behind the development and implementation of Responsible Research and Innovation (RRI) in European research policy. In his office in Brussels he explains the objectives of RRI. Before we discuss the usefulness and necessity of RRI, we first asked what it actually is and whether it is really a new approach and mainly a new name for ELSA (Ethical Legal and Social Aspects of Life Sciences). Von Schomberg nods understandingly. He has become used to these questions. “What’s new about RRI is that we no longer see the ethical aspects of new technologies as constraints, as restrictions. Instead, we look at the aims of technology development. Which positive contributions do you wish to obtain from research and innovation?”

#### PUBLIC VALUES

This positive basic attitude is an important difference in comparison with the ELSA approach. RRI rebels against the traditional sets of benefits and risks used to assess technology development. These sets define benefits especially as that which is eventually marketed and the economic yield as a result. In this way, risk analysis is the only relevant dimension that remains for technology assessment. RRI wants to go beyond this approach of ethics as a ‘checklist’, Von Schomberg explains. Not just see whether a development has undesired effects, but rather use the possible positive contributions of (the development of) a technology as an assessment criterion. In this regard, RRI, unlike ELSA, considers the entire innovation process, from research and development to production and distribution. But who or what decides whether the contribution of a technology is positive? To do this, technology development should be seen in the light of the realization of widely supported public values, thinks Von Schomberg. He uses the 1992 European Convention as a starting point. “This convention outlines the normative anchor points of the EU, such as the principle of equality and the precautionary principle. In addition, Horizon 2020, the upcoming European

research programme, identifies the main societal challenges, including climate change and food security. If one wants to use technologies to contribute to this then you need to look at how you can use those public values as a decisive force. Within RRI we no longer want to see normative principles as constraints, but rather use them as design principles.”

#### SOCKS

This explanation of course raises the question if there are any examples of irresponsible research and innovation. After some insistence, Von Schomberg mentions the failure surrounding the implementation of the electronic patient file (EPD) in the Netherlands. “The design of the EPD paid insufficient attention to privacy. It was a mainly technology-driven project in which the social aspects were not addressed until the final stage and that is why it failed.” According to him, it cannot have come as a surprise that privacy was a crucial theme. Make use of this and use a possible problem immediately as a design principle, instead of a constraint to manoeuvre around as much as possible. In his view, the former would have been the RRI approach. Another example is the irresponsible hype that can arise in regard to new technology. As an example, Von Schomberg mentions nanotechnology: “Worldwide, billions have been spent on nanotechnological research. We were promised quite a few things, such as nanorobots that clean our arteries, but what did we get? Socks with nanosilver you can wear for ten weeks.”

#### CONVERGENCE

In *Horizon 2020*, RRI applies to all three pillars: fundamental research, industrial innovation and societal challenges. The examples mentioned by Von Schomberg relate in particular to concrete product development. Is RRI less relevant for basic research? “RRI is best enunciated around societal challenges, because it is not immediately transparent how fundamental research can be linked to positive impacts. The whole idea of fundamental research is indeed that you do not want to think about that impact, because otherwise it would no longer be curiosity-

“No longer do we want to regard normative principles as limitation but rather use them as design principles”

#### RRI\* versus ELSA\*\*

##### The RRI approach

- does not view normative principles as a constraint, but rather as a point of departure in the design process
- looks beyond benefits & risks
- encompasses the entire innovation process: from research to production and distribution

\* Responsible Research and Innovation

\*\* Ethical Legal and Social Aspects of Life Sciences



## CV

Rene von Schomberg (1959) graduated in Agricultural Sciences at Wageningen University in 1984. In 1994 he acquired his PhD as a Doctor of Philosophy at the Johann-Wolfgang Goethe University in Frankfurt am Main and in 1997 he took his second PhD in argumentation theory and science & technology studies at Twente University. In 1992 he became a lecturer in philosophy at the University of Tilburg. Since 1998 he has worked at the European Commission, since 2001 for the European Commission, Directorate-General for Research and Innovation. The scope of his field of expertise includes research and innovation policy, RRI, engineering philosophy, ethics of emerging technologies and societal dimensions of science and technology.

driven research. I see the RRI dimension more in the division of resources between fundamental research and working on societal challenges. Not control of the fundamental research itself. When working on societal challenges, this is different, constructive collaboration is required between all stakeholders.” This brings us to a second characteristic of RRI. It is not only about the product dimension, the demand for the desired results of research and innovation. Equally important is the process dimension, the question how you can work towards the envisaged result. “You need a smart innovation process in which you do not focus too much on one specific technology, because technology development is unpredictable. Bring all the social parties together and let them decide together what they expect from the research process. Subsequently, research agendas can be drawn up, which can be coordinated to achieve the desired end result.”

### JOINTLY RESPONSIBLE

The interaction between researchers and stakeholders is the key to RRI and the connecting factor for researchers to implement RRI in their daily practice. Von Schomberg has no concrete examples ready of processes that have been completed based on the RRI approach. “The concept is still visionary. That is one of the reasons that the current call in the Science in Society programme, invites parties to submit proposals for a RRI demonstration project. We want to show how researchers and stakeholders can collaborate to develop a technology or a research process on the basis of a widely supported ultimate objective. “The role of stakeholders will go beyond acting as a sounding board. RRI also requires their commitment. Von Schomberg: “The question asked to stakeholders is not just: “If we cover these or those risks, will you let us go ahead with our plans?”, but especially: “Suppose there were no risks, what



“Innovation as a social process is a research field that deserves more attention”

➤ would you want to achieve?” That would have to be the next step, ideally with the stakeholders involved developing joint responsibility. “This is not without risks, because this can terminate their engagement,” admits Von Schomberg. “That is why the interactive process between all the parties is so important. What are they willing to commit to?”

**NOT COMPULSORY**

Practical implementation of RRI - that much is clear - has not yet fully crystallized. RRI is now known as a so-called cross-cutting issue embedded in Horizon 2020. “Researchers can develop RRI further in all areas of research, from nanotechnology to climate change.” For the time being, the initiative still lies with the scientific and technical researchers. Von Schomberg hopes that they are willing to align their research to societal challenges via an RRI process. The RRI approach as a compulsory working method does not apply (yet), assures Von Schomberg. Due to the wide scope of RRI, the dependence of social parties and the dynamics of the respective scope, a generally valid, deterministic framework for RRI is not feasible. Perhaps this is not necessary either, says Von Schomberg: “That is the idea behind RRI as a cross-cutting issue. It is relevant everywhere, but in the ICT sector, RRI will look very different than in environmental technology. What matters now is that we start up the RRI process.” Researchers from the science and technology can start using RRI, but how can philosophers

and ELSA researchers use RRI? Von Schomberg thinks RRI will certainly be suitable for them as well. “RRI includes different elements from the Science in Society program, e.g. public participation. Moreover, ELSA research as we know it today also plays a role in Horizon 2020. But I advise ELSA researchers to consider their own role. In Horizon 2020, the emphasis shifts to innovation processes. ELSA researchers should therefore focus more on what innovation is and how it is conducted. Innovation as a social process is a research field that deserves more attention.”

The views presented here are those from Von Schomberg and may under no circumstances be construed as an official position of the European Commission. The interview presents the same contents as a text previously published by him: ‘Prospects for Technology Assessment in a Framework of Responsible Research and Innovation.’ In: Technikfolgen abschätzen lehren: Bildungspotenziale transdisziplinärer Methoden, Wiesbaden: Springer VS Verlag, 2011. He has also published on RRI: (ed.). Towards Responsible Research and Innovation in the Information and Communication Technologies and Security Technologies Field, October 2011, DG Research and Innovation, European Commission. “A vision of Responsible Research and Innovation.” In: R. Owen, M.Heintz & J. Bessant (eds.) Responsible Innovation. London: John Wiley, forthcoming.



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