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Content

- > ['An idea whose time has come'](#)
- > [Food for the many mouths of Africa](#)
- > [Confidence in your e-coach](#)
- > [Regulate 'robo-wars'](#)
- > [Who is responsible for healthy food?](#)
- > [Broad support for Responsible Innovation research](#)
- > [Final outcome new call to be announced in January](#)

Interview

'An idea whose time has come'

The Responsible Innovation programme is now entering its sixth year. In January a fourth round of research projects will start. Jeroen van den Hoven, professor of ethics and technology at Delft University and chair of the programme committee, reflects on the past five years and takes a look forwards. Kees Linse, a member of the programme committee and board member of Technology Foundation STW, adds his comments. Linse speaks from the perspective of his extensive international experience in industry.

Van den Hoven: 'It's great that Responsible Research and Innovation are seen as an important concept all over the world. Obviously it is an idea whose time has come. The challenge for NWO now is to compensate for the inevitable watering down of the concept. We need to keep our focus on design, values and innovation. Perhaps even exaggerate. Plus we need to focus on the most serious societal problems, which have real owners and real stakes.'



Linse: 'As far as I'm concerned the relevance of the programme is that it brings to the surface the societal and ethical questions that need to be asked about technological innovation. Companies can take advantage of this to enhance their licence to innovate and their licence to operate and, ultimately, to enhance the positive effects of the innovations they realise.'



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Research results

Food for the many mouths of Africa

In Africa the population is growing faster than anywhere else in the world. According to the latest figures, the number of people inhabiting the continent will have quadrupled by the end of the century. How can all of those mouths be fed in rapidly expanding metropolises such as Lagos, Khartoum or Accra?

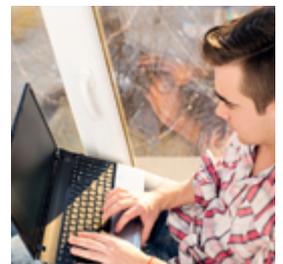


And more difficult still: how can they be provided with healthy fresh fruit and vegetables? African countries need intellectual property rights to encourage plant breeding, but they should not take away from the masses of small farmers the right to exchange seeds, as they have done for thousands of years. To achieve this, NWO researcher Bram de Jonge is diligently searching for a way out of a political minefield.

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Confidence in your e-coach

Blood pressure, blood coagulation, blood sugar level, heart rate, breathing rate, galvanic skin reaction or everything at once... there is scarcely a bodily function that we cannot continuously monitor ourselves at home or wherever we might be with a small device.



And if we enter the measurement data into our app, our e-coach tells us what to do: which medicine we must take, that it is time to do some exercises, or even that we should register for the group fitness session that has been organised in our neighbourhood. E-coaching is a care application that is still in its infancy, but that with better measurement methods and refined software could really take off in the future. However, medical apps

cannot be introduced on a large scale without ethical reflection at an early stage.

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Regulate 'robo-wars'

Robotic weapons are here to stay and they will play a growing role in future armed conflicts, states Alex Leveringhaus, postdoctoral researcher at Delft University of Technology and fellow at the Oxford Institute for Ethics, Law and Armed Conflict. Neither a blanket endorsement nor condemnation of robotic weapons is feasible.



Instead, regulation should be conducted on a case-by-case basis. Leveringhaus is lead author of a policy paper based on his Responsible Innovation research. The paper was published on December 1 and proposes steps towards suitable regulation of robotic weapons.

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Research in progress

Who is responsible for healthy food?

Unhealthy food causes obesity, diabetes and heart problems and costs society money. But who is responsible? Consumers who overeat or use too much fat, salt and sugar? Or producers who make all of that unhealthy food and market it? The two parties seem to have a stranglehold on each other.



For NWO's research programme Responsible Innovation an innovation scientist, a health expert and a social psychologist are trying to unravel this complex chicken-and-egg problem. They are charting how food producers can be persuaded to change their behaviour and at the same time how consumers perceive measures aimed at letting them eat more healthily. The foresight studies have now been completed. The researchers hope to come up with concrete recommendations in a year's time.

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News

Broad support for Responsible Innovation research

These past few months several initiatives underscored that the concept of Responsible Research and Innovation is gaining momentum. In November the *Rome Declaration* was signed, a statement that emphasises the importance of Responsible Research and Innovation (RRI) and that calls upon stakeholders to take action to embed RRI in everyday practice.

In the Netherlands the 2025 Vision for Science published by the Dutch ministry of Education, Culture and Science mentions the 'successful research programme Responsible Innovation coordinated by NWO'. Also, the Dutch Sustainable Growth Coalition (consisting of AkzoNobel, DSM, FrieslandCampina, Heineken, KLM, Philips, Shell and Unilever) acknowledges NWO's Responsible Innovation programme as a vital element of a cross-sector innovation strategy that addresses ethical and social dilemmas and involves stakeholders at a very early stage in the design process.

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Calls and grants

Final outcome new call to be announced in January

12 September was the deadline for full proposals of the Responsible Innovation programme. Until that date, research groups could submit interdisciplinary projects in which societal and ethical challenges are investigated and included right from the start of the innovation process. A total of 25 full proposal was submitted, all realised as a public-private partnership (PPP) in which a private partner must match part of the NWO funding. Currently the proposals are being evaluated by (international) experts on scientific quality and societal relevance. The final outcome will be announced in January 2015.

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Responsible Innovation

Technological developments may fail if their ethical and social consequences are not considered in time. NWO's Responsible Innovation programme funds and encourages research that considers the ethical and social aspects of new technology from the design phase onwards. Researchers from different scientific disciplines collaborate in this programme, such

Contact

- › Dr J. Roodenburg
- › tel.: +31 (0)70 344 08 06
- › e-mail: j.roodenburg@nwo.nl

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