



# The battle for our body and behaviour

**Our relationship with technology is becoming more and more intimate. Technology settles rapidly in us and between us, collects mountains of information about us and even simulates human behaviour. The Rathenau Instituut in the Netherlands has coined the term *intimate-technological revolution*, which is partly driven by smartphones, social media, sensor networks, robotics, virtual worlds, Big Data and soon also by computer glasses.**

This provides exciting opportunities for innovation, particularly in the Netherlands, with its strong electronics and creative industries. It is about products and services that give us a greater grip on our lives. Just think of a handy device able to predict a dangerous emotional attack in a mental patient, so that behaviour can be timely countered. However, intimate technologies can also be used by businesses, governments and citizens to obtain more control over our lives. Thus it raises many social issues and some examples are listed here.

Via sensors built into consumer products, massive amounts of biological data such as heart rate, emotions and sleep patterns can be collected. Sensors built into shoes may give companies information about our health. Based on that information, the user can be coached. But data on our walking pattern could for example also reveal early signs of dementia. How do we, in this sensor-filled society, maintain our own physical and mental integrity? Will we maintain ownership of our biological information, or are we going to hand it out, unwittingly, for free - like our social data - to big companies?

Specialists are working hard on emotion

recognition technology and apps able to recognize faces and linking it to Facebook profiles. If all three of those options would be available in Google Glass, in the future, every user may see who we are, what we do, who our friends are and how we feel. Companies can marshal this information to draw our attention, to give us information and influence our behaviour. This raises issues about autonomy and freedom of information; how do we maintain a grip on the information we receive? Do we have the right not to be measured, analysed and coached and how do we proceed to protect privacy in a world of social media, cameras and other sensors?

Technologies with human features, such as digital coaches, realistic avatars and robots yield the ability to influence human behaviour. How can we avoid being manipulated? Robots can be used to perform various human social tasks at a distance and with a certain degree of autonomy, ranging from killing people to performing health care responsibilities. Which social tasks can we humanely delegate to machines, and which not?

The above-mentioned questions already exist or are soon coming into play. The fast pace at which the intimate-technological revolution is taking place, challenges politicians and the administration to timely develop frameworks to socially embed this revolution. This could well be done, building on the strength of our experiences of dealing with the questions of privacy and ethical issues in biomedical technology. That experience is vital as IT becomes increasingly intertwined with the life and behavioural sciences, causing all sorts of biomedical technologies to be used in the public domain.

## SUMMARY

An intimate-technological revolution is taking place: technology settles rapidly between us and in us and collects lots of information about us and simulates human behaviour. This revolution is enabled by smartphones, social media, sensor networks, robotics, virtual worlds, Big Data and soon by computer glasses. This IT boom increasingly invades our privacy and leads to a struggle for our intimacy. This revolutionary development offers opportunities for innovation, but also contains the danger that, as we gain a more intimate relationship with technology, we are left with diminished intimate privacy. Important ethical questions touch on the basic rights and dignity of people, their right to privacy, physical and mental integrity, the right to live in a safe environment, the right to have private property, and freedom of thought and conscience. Thus the intimate-technological revolution challenges politicians and governments to guide this social revolution into the right channels. The Rathenau Instituut advises the Dutch Cabinet to formulate a government-wide policy and to set up a national committee to study the impact of this intimate-technological revolution on our basic rights, promoting technological citizenship, reconsidering the ratification of the *Council of Europe Convention for the protection of human rights and biomedicine* (1997) and putting this intimate information revolution on the European agenda.

### Further reading

Est, R. van, with the assistance of V. Rerimassie, I. van Keulen & G. Dorren (translation K. Kaldenbach)(2014). *Intimate technology: The battle for our body and behaviour*. The Hague: Rathenau Instituut.

Van Est, R., D. Stermerding, V. Rerimassie, M. Schuijff, J. Timmer & F. Brom (2014) *From bio to NBIC - From medical practice to daily life. Report written for the Council of Europe, Committee on Bioethics*. The Hague: Rathenau Instituut.

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Hof, C. van 't, J. Timmer, R. van Est (red.) (2012). *Voorgeprogrammeerd: Hoe het internet ons leven leidt*. Den Haag: Boom Lemma uitgevers.

Kool, L., J. Timmer & R. van Est (2013) *Keuzes voor de e-coach: Maatschappelijke vragen bij de automatisering van de coachingspraktijk*. Den Haag: Rathenau Instituut.

Royakkers, L., F. Daemen en R. van Est (2012). *Overall robots. Automatisering van de liefde tot de dood*. Den Haag: Boom Lemma uitgevers.

## Colofon

The Research Brief is published by the Rathenau Instituut. Editors: Rinie van Est and Virgil Rerimassie. The Research Brief is based on the essay *Intimate technology: The battle for our body and behaviour*, and other publications of the Rathenau Instituut that are mentioned alongside.



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