

Research Brief

WWW.RATHENAU.NL • 2014, number 8

Struggle for our intimacy

Human beings and technology are merging quickly, resulting in an intimate-technological revolution. The Rathenau Instituut in the Netherlands finds this revolution may offer many opportunities but may also cause a multitude of problems. As such, the Rathenau Instituut makes a call to politicians and the administration to develop, in a timely manner, frameworks to properly guide this merger.

Our lives are becoming increasingly intertwined with technology. By allowing technology into our private world, it collides with the most crucial issues of our humanity. It leads to a struggle for our intimacy.

On one hand intimate technology opens up opportunities for innovation and offers opportunities to people for personal development, including gaining more control over their lives. On the other hand, governments, businesses and other citizens may also deploy intimate technologies in order to influence or even coerce us.

By using smart phones, social media, cameras and biosensors, more and more information about our body and behaviour becomes digitally available. Governments and companies can use this wealth of

data to create individual user profiles and tailor information provision accordingly in order to influence our behaviour. The rapid fusion of computer, camera and glasses will allow in the near future that this influence increasingly takes place in real-time, almost unobtrusively. Through the application of human-like technology, such as digital coaches, realistic avatars and robots, the boundaries between humans and technology blur even further. This intimate-technological revolution raises many social issues and challenges politicians and administration to timely develop frameworks for properly embedding this revolution in society. This harnessing process could build on our former experiences in the fields of privacy protection and ethically sensitive biomedical technology.

The Rathenau Instituut promotes the formation of political and public opinion on science and technology. To this end, the Instituut studies the organization and development of science systems, publishes about social impact of new technologies, and organizes debates on issues and dilemmas in science and technology.



Rathenau Instituut

RECOMMENDATIONS

- **Initiating a broad, government-wide approach**

The questions pertaining to the intimate-technological revolution affect many sectors. In order to avoid fragmentation, a government-wide approach and coordination between departments is called for.

- **Set up a government-wide national committee**

The intimate-technological revolution has major implications for fundamental rights. Just as the 1999 policy with the advent of the Internet, it is therefore important that a government-wide national committee will report on its reflections.

- **Promote technological citizenship**

Intimate technology affects everyone. It is important that the government promotes media literacy, or technological citizenship, so that citizens can properly enter into discussions about how technology is influencing their body and private world.

- **Review ratification of the Convention on Human Rights and Biomedicine**

The Convention on Human Rights and Biomedicine (1997) protects the rights and dignity of man in the application of biology and medicine. The Netherlands has signed this Convention, but has not yet ratified it. A review of ratification is called for, since this convention may also offer a good basis for protecting human dignity in the application of medical technology in the public domain.

- **Set the agenda at European level**

The revolution of intimate information technology is an international issue. The Dutch government should therefore put this issue on the European Commission agenda, among other in the EU research program Horizon 2020, the European Group on Ethics in Science and New Technologies and the Council of Europe's Committee on Bioethics.

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.

Est, R. van & D. Stermerding (eds.) (2012). *European governance challenges in bio-engineering - Making perfect life: Bio-engineering (in) the 21st century. Final report*. Brussels: European Parliament, STOA.

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.

Rooyackers, 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.



Rathenau Instituut