

Solutions for new trade-off model privacy-security

Current trends in nanotechnology, ICT, privacy and security

Interview with Dr Silvia Venier (Centre for Science, Society and Citizenship, Rome, Italy)

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Abstract

Dr Silvia Venier is responsible for four ongoing European projects related to ICT, privacy and security: HIDE on Homeland Security, Biometric Identification and Personal Detection Ethics, RISE on Rising Pan-European and International Awareness of Biometrics and Security Ethics, PRESCIENT on Privacy and Emerging Fields of Science and Technology and BEST, the EC Thematic Network on Biometrics. She has a background in political science. Under the header of Nanotechnology, ICT, privacy and security, ObservatoryNano aims to highlight technological and economic trends in nanotechnology for ICT and security applications with potential ethical and social implications. Simultaneously, current debates on relevant privacy and other ethical issues among ethicists and social scientists, policy making circles and stakeholders are analysed and confronted with the issues emerging from the technical and economic trends. This way, emerging issues not discussed sufficiently can be identified and brought to the attention of policy makers in the third annual report on nanotechnology, ICT, privacy and security to be published online in the spring of 2011. The series of interviews with opinion leaders is intended to be a compilation of different views on the relevant issues currently in debate from the perspective of a social scientist or ethicist, a natural scientist, and stakeholders from industry and civil society.

Interview

Ineke Malsch: What are the main issues currently in debate on privacy, security and fundamental rights aspects of ICT?

Silvia Venier: There are a lot of issues. Firstly, regarding privacy, ICT is modifying the boundaries between the public and private domains, and also the perceptions we have of them. Technology influences our perception of privacy and people's perception should have an impact on technology development. Emerging ICT has an impact on our personal space and privacy as well as on the public space and security. A crucial issue that is currently in debate is that the traditional trade-off model

between privacy and security is under discussion. We are searching for positive-sum solutions to replace this model. Privacy and respect for human physical and psychological dignity should be essential part of any security policy. This debate is part of the wider debate on citizen's rights versus government right. The technological revolution and globalisation contribute to modifying the balance between government and citizenship. The second issue is the cultural challenge posed by ICT, such as auto-exhibitionism. The definition of what is intimate is changing. People are giving up important parts of their privacy, not only because they are forced to for the public interest but also because they want to. The challenge is to reconstruct the boundary between the private and public spheres, because both have important different functions. The third issue is about fundamental rights related to technologies that impact the human body like biometrics and the body scanner. All technologies that impact the human body always have a symbolic value. E.g. nanotechnologies that can improve cognitive abilities and analyse brain activity patterns. This raises crucial ethical, legal and technical issues. The fourth point currently in debate is about personal data protection, another fundamental human right. New embedded technologies, ubiquitous surveillance or cloud computing have an impact on what is a cornerstone of the EU Data Protection Directive: the user's informed consent over the use of his personal data. Such technologies could affect the autonomy and freedom of choice of individuals. The main point is to empower people in human machine interactions. Furthermore there are issues of data protection in globalisation and the transfer of personal data. The last issue I would like to address is the digital divide. As the internet and ICT become more sophisticated, the inequality between social groups increases. Those groups that aren't digitally educated are left behind. In a global context, this also happens between world regions and will be among the main challenges of the "knowledge society".

Ineke Malsch: Do nanotechnology and other emerging technologies play a role in current discussions on these issues? E.g. in HIDE project D3.1a Ethical Brief on Technology Convergence, 15 June 2009, nanotechnology (smart dust) is mentioned as technology that may in the future be used in combination with biometrics, and in the PRESCIENT project privacy issues of the nanotechnology case study "technologies for Human Enhancement" will be examined. Are there more examples of such emerging technologies? How are they discussed?

Silvia Venier: Yes, they do. Interaction with technologies in our lives is inevitable. Our post-modern society is confronted by revolutionary and accelerating technological changes. These challenge our basic moral assumptions. Both sides to the coin are discussed. On the one hand, technologies deliver tools that empower individuals and make our lives easier. On the other hand, this raises big ethical and legal challenges to

traditional goals and systems. Legal instruments always follow technological development. Society needs to understand the role of technology and regulate certain aspects of it.

Take the example of the online environment, with internet available anywhere for anyone. According to the HIDE ethical brief on technology convergence you've mentioned, nanotechnology could be used in conjunction with biometrics. Sharing these personal data online will raise additional ethical and legal issues. For now we are still in a transition phase, but in the future there could be a need to regulate such converging technologies.

Ineke Malsch: Which societal groups are currently involved in the debate? Should other groups get involved?

Silvia Venier: As per our research projects, we aim at involving the wider community of stakeholders into the debate. The main mission of the HIDE and RISE projects is to create a permanent dialogue platform where they can discuss freely. We promote extensive and democratic scrutiny of new ICT. In previous events, many government bodies, policy makers, natural scientists and engineers, legal experts, social scientists, philosophers and industry were represented. The dialogue on governance of emerging ICT must be multidisciplinary and global. The first conferences we organised on ethics of biometrics were limited to the US and Europe. More recently the RISE project also includes three Asian partners - one Indian and two Chinese who will be in charge of the organisation of conferences and workshops on ethics of emerging technologies in Asia. Maybe more civil society representatives could be involved to raise awareness. It is important to reach lay people as well, because they are crucial for the way new technologies will be used.

Ineke Malsch: What are the aims of the projects HIDE, RISE and PRESCIENT? What results have been achieved yet?

Silvia Venier: The HIDE and RISE projects aim to give continuity to the international debate on ethics of emerging ICT and security technologies in a permanent dialogue platform and to include Asian countries as well as the EU and USA. The HIDE project has led to identifying and reframing technical issues in ethical briefs on four different technological areas. These have been addressed in focus groups, meetings and problem solving workshops organised during the past three years. The final conference of HIDE next December will present the structure of the international platform. The RISE project has opened up the debate to Asia by organising events in India and Hong Kong. The meeting in New Delhi, India focused on differences and communalities in data protection and privacy between India and the EU. The discussion occurred timely since India is initiating one of the biggest identification programmes ever put in place, with the introduction of a biometric-based ID card for over 1 billion citizens. During the first year of the RISE project we welcomed a new

Chinese partner, the National ChengChin University of Taiwan which will organise one event in Taiwan next October and one in Beijing next year. As per the European context, during a workshop in Brussels last March on ethical implications of global mobility and security, European Transport Commissioner Siim Kallas was a keynote speaker. We officially presented a policy paper on Body Scanners to him¹. Next September we will organise a RISE multi-stakeholder conference jointly with the HIDE final conference. Information on these and other events organised in the scope of the projects can be found on their websites². Finally, the Prescient project aims for early identification of privacy and other ethical issues of emerging technologies. The first deliverable, a reconceptualisation of privacy with reference to emerging fields of science and technology will be published by the end of this year and discussed in the first expert workshop in December. It includes legal, ethical, economic and social perspectives.

Ineke Malsch: How do the technologies studied in these projects relate to current regulations in Europe and elsewhere? (E.g. regulations regarding privacy, data protection, charter of fundamental rights)

Silvia Venier: The Charter of Fundamental Rights is the general framework of Rights that should be taken into account while dealing with the development and introduction of new technologies. Articles 1 on Human Dignity, 3 on Integrity of the Person, 6 on Liberty and Security, 7 on Private and Family Life and 8 on Personal Data Protection should be taken into account. Although, having said so, new technologies constantly emerge and it is difficult for regulators to keep up. The current debate on reform of the 1995 European data protection directive has been addressed by the HIDE and RISE consortia through a joint opinion³ last December. The directive is only partly adequate to face the challenges of new technologies. The directive imposes strong principles, but some definitions are out of date and it has a cumbersome system for evaluating data protection rules in third countries.

Ineke Malsch: What proposals are being discussed for privacy or security enhancing technologies? Do emerging technologies such as nanotechnology play a role in these discussions?

Silvia Venier: The European Commission should continue its support for developing Privacy Enhancing Technologies (PETs) in order to build up a

¹ The Policy Report is available at <http://www.riseproject.eu/fileupload/ETHICS%20OF%20BODY%20SCANNER%20POLICY%20REPORT%20NEW.pdf>

² www.hideproject.eu and www.riseproject.eu/

³ Available at http://ec.europa.eu/justice_home/news/consulting_public/0003/contributions/organisations_not_registered/hide_rise_consortia_en.pdf

sustainable and trustworthy ICT environment. In the HIDE focus group on PETs, we distinguish two main technical approaches. Both give rise to several ethical issues. The first considers PETs as a means for allowing anonymous interactions online (e.g. proxy servers). Critical issues include a lack of trust, the possible exclusionary nature due to the technical complexity of the solutions, and a threat to data protection and possible use for other purposes.

The second approach sees PETs as data minimization system (e.g. privacy by design). In these systems the amount of personal data collected is minimal; however important decisions on their development are taken by data controllers dealing with the design and implementation of their systems. In the ethical brief on PETs we make proposals for improving both approaches. This will be finalised by end of 2010, discussed during the final conference of HIDE and made available via the website. Specific technologies such as nanotechnologies are not discussed.

Ineke Malsch: Is there a need for particular new regulation or voluntary measures to govern responsible development of the ICT and security technologies you are discussing in these projects? At which level should such measures be taken (national, EU, global)? (e.g. Commission Communication on Body Scanners, 15 June 2010)

Silvia Venier: New regulation and governance measures should be taken on all three levels, national, EU and global. There is a need for new international legal instruments, and national laws. In addition, voluntary instruments such as codes, best practices and guidelines should be encouraged. There should also be particular attention to public awareness raising initiatives.

Ineke Malsch: How do you see your own role in the developments and discussions?

Silvia Venier: Our own contribution is on two levels. The first is research. We make theoretical contributions to the international conversation on ethics and governance of emerging technologies. These include new policy solutions and creative problem solving. Examples are HIDE and RISE works on body scanners and on reframing European legal framework on privacy and data protection. The second is networking. We encourage wider stakeholder dialogue at a global level, including all stakeholders in Europe, USA and Asia.

<p>Name: Function: Organization:</p> <p>Country: Website: Role in debate on nanotechnology, ethics and society:</p>	<p>Dr Silvia Venier Research assistant Centre for Science, Society and Citizenship Italy www.cssc.eu</p> <p>Dr Silvia Venier is responsible for four ongoing European projects related to ICT, privacy and security: HIDE on Homeland Security, Biometric Identification and Personal Detection Ethics, RISE on Rising Pan-European and International Awareness of Biometrics and Security Ethics, PRESCIENT on Privacy and Emerging Fields of Science and Technology and BEST EC Thematic Network on Biometrics. She has a background in political science, MSc in international diplomatic sciences, specialization in international and development cooperation (University of Trieste). CSSC is member of the platform of the EU Fundamental Rights Agency. They lead the sector group on Biometrics of the Italian Association of Education and Knowledge Companies.</p>
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Relevant recent publications and projects

Venier, Silvia, "Global Mobility and Security," in Biometric Technology Today, Volume 2010, Issue 5, May 2010, pp 8-10

HIDE project D3.1a Ethical Brief on Technology Convergence, 15 June 2009,

HIDE: Homeland Security, Biometric Identification and Personal Detection Ethics 2008-2011 <http://www.hideproject.org/>

RISE: Rising Pan-European and International Awareness of Biometrics and Security Ethics 2009-2012, <http://riseproject.eu/>

PRESCIENT: Privacy and Emerging Sciences and Technologies 2010-2012, <http://www.prescient-project.eu/>

BEST project: Biometrics European Stakeholder Networks 2009-2011, <http://www.best-nw.eu/>

About ObservatoryNano

The observatoryNANO project is funded under FP7 for four years from April 1st 2008. Its primary aim is to support European decision-makers with information and analysis on developments in nanoscience and nanotechnology (N&N). It will collate and analyse data regarding scientific and technological (ST) trends (including peer-reviewed publications, patents, roadmaps, and published company data) and economic realities and expectations (including market analysis and economic performance, public and private funding strategies). The ST and economic analysis will be further supported by assessment of ethical and societal aspects, impacts on environment, health and safety, as well as developments in regulation and standardisation. Although much of this work will be performed within the consortium, the project is working cooperatively with other initiatives to ensure that effort is not duplicated and that resource sharing and output are maximised. To date liaisons have been established with international organisations including the EPO, OECD, and ISO, and will continue to be established with other relevant organisations such as European Technology Platforms (ETPs), ERA NETs, and other EUfunded projects.

The observatoryNANO project is led by the Institute of Nanotechnology (IoN) (UK), and includes: VDI Technologiezentrum (DE), Commissariat à l'énergie atomique (CEA) (FR), Institute of Occupational Medicine (IOM) (UK), Malsch TechnoValuation (MTV) (NL), triple innova (DE), Spinverse (FI), Bax and Willems Consulting Venturing (B&W) (ES), Dutch National Institute for Public Health and the Environment (RIVM) (NL), Technical University of Darmstadt (TUD) (DE), Associazione Italiana per la Ricerca Industriale (AIRI) (IT), Nano and Micro Technology Consulting (NMTC) (DE), Swiss Federal Laboratories for Materials Testing and Research (EMPA) (CH), University of Aarhus (DK), MERIT - Universiteit Maastricht (NL), Technology Centre AS CR (CR).

For further information please contact the project coordinator Dr Mark Morrison (mark.morrison@nano.org.uk) or visit the project website:

www.observatorynano.org

observatoryNANO is funded by the European Union under FP7. Contract number 218528.