Supportive devices or unnecessary surveillance?

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In the near future, every manufactured product – our clothes, money, appliances, the paint on our walls, the carpets on our floors, our cars – will be embedded with intelligence, networks of tiny sensors and actuators, which some have termed “smart dust” or an “Internet of Things”. The world of ambient intelligence (AmI) is not far off. We already have surveillance systems, biometrics, personal communicators, machine learning and more. Ambient intelligence will provide personalised services – and know more about us – on a scale dwarfing anything hitherto available.

Safeguards in a World of Ambient Intelligence, a new book written by a European consortium of researchers, serves as a warning. It aims to warn policymakers, industry, academia, civil society organisations, the media and the public about the threats and vulnerabilities facing our privacy, identity, trust, security and inclusion in the rapidly approaching world of ambient intelligence.

In the AmI vision, ubiquitous computing, communications and interfaces converge and adapt to the user. AmI promises greater user-friendliness in an environment capable of recognising and responding to the presence of different individuals in a seamless, unobtrusive and often invisible way. While most stakeholders paint the promise of AmI in sunny colours, there is a dark side to AmI as well.

This book illustrates the threats and vulnerabilities by means of four “dark scenarios” and then identifies safeguards to counter the foreseen

threats and vulnerabilities. The authors make recommendations to policymakers and other stakeholders about what they can do to maximise the benefits from ambient intelligence and minimise the negative consequences.

Emile Aarts, Vice President of Research at Philips, said, “This book is mandatory reading for anyone who is professionally active in the field of ambient intelligence, as it can be seen as a landmark contribution to the discussion on AmI. After almost ten years of development, ambient intelligence can now live up to its expectation that it can change peoples’ lives for the better through its novel user-centric technology. In the end, however, this will only work if we can settle the ethical issues that are connected to it.”

Gary Marx, Professor Emeritus at the Massachusetts Institute of Technology, said, “The book is the most informative and comprehensive policy analysis of new information and surveillance technologies seen in recent decades. Those wishing to praise a book often say, ‘essential reading for anyone concerned with …’ But I would go beyond that strong endorsement to say Safeguards in a World of Ambient Intelligence should be required reading for anyone concerned with public policy involving new communications and surveillance technologies.”

Safeguards in a World of Ambient Intelligence has been prepared by a consortium of partners from five European countries following several years of research on the emerging brave new world of ambient intelligence. It is based on a project sponsored by the European Commission, although the views expressed in the book are those of the authors alone and are not intended to reflect those of the Commission.

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