STOA-NEWS

Im Rahmen der von der European Technology Assessment Group (ETAG) für STOA durchgeführten Projekte ist in der Regel die Durchführung von Workshops vorgesehen, die der Diskussion von Zwischenergebnissen dienen und vor allem den Abgeordneten des Europäischen Parlamentes Gelegenheit bieten sollen, ihre Fragen und Perspektiven in die Projektarbeit einzubringen. Von Workshops, die im Januar und Februar dieses Jahres im Rahmen folgender Projekte abgehalten wurden, wird hier berichtet:

- RFID and Identity Management,
- Alternative technology options for road and air transport,
- Future Developments of Cancer Therapy.

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Workshop

RFID in the Everyday Life of Europeans: A Citizens' Perspective on Ambient Intelligence

European Parliament, Brussels, January 24, 2007

Organised as part of the project "RFID and Identity Management. Case studies from the frontline of the development towards Ambient Intelligence" commissioned by STOA and carried out by ETAG

"Europe may not be leading in setting the technical standards for RFID, but we should be leading in setting the ethical standards for applying this technology". With these concluding remarks MEP Jorgo Chatzimarkakis demonstrated that the STOA project on RFID is clearly one of Technology Assessment. The workshop did not contain business presentations on growth markets or demonstrations of the latest exciting features. Indeed, this workshop addressed the impact of RFID on society at large, on applications and the kind of information its users display about themselves. Among the 50 participants in attendance at this workshop were representatives from the European Commission, as they are preparing a communication on RFID for both the Parliament and the Council.

Project leader Christian van't Hof of the Rathenau Institute began this workshop with a presentation entitled: "What do RFIDs tell about you? A citizens' perspective on Identity Management". He took the participants through a series of scenarios which occur on a daily basis, for instance: taking public transport, driving your car, going to work, shopping, taking part in recreational activities and crossing borders. In all of these situations, RFIDs primarily serve to gain access to information or perform payment transactions. However, the databases in RFID networks register much more information than the aforementioned examples, they also fulfil other valuable functions in terms of time registration in the office, evacuation management, customer loyalty programmes and also in the police investigation procedure. Van't Hof claimed that it is time for users to be more aware of the profiles they build up and start to manage them accordingly.

Lara Srivastava of the International Telecommunication Union (ITU) continued this discussion by examining the issue of identity in smart environments from a more general perspective, taking other technologies into account and projecting towards the future of this phenomenon. She began by reviewing some of the buzz words which inevitably seem to appear in the context of RFID: ubiquitous, pervasive, ambient and smart, to name but a few. She then proceeded to demonstrate how electronic devices, more specifically, how networks converge into one internet of things and how these environments build up identities of users. Fabian Bahr of BITKOM illustrated that RFID can also be useful to identify the authenticity of products and materials in his speech entitled: "Is this product what I think it is?" and thus addressed the issue of counterfeiting in pharmaceuticals. Finally, Maarten Botterman of GNKS Consult reported on the European Commission's consultation on RFID in his presentation entitled: "What can the EU do for you?" According to the broad host of participants involved in this consultation, data protection is one of the most important issues for the EU to address.

In the discussion which followed, participants stressed the need for data protection. However it is worth noting that the majority of RFID users do not appear to be perturbed by being tracked or rather they are simply not aware of it. RFID has been implemented in our society at a rapid pace. Businesses and governments are all too aware of this, while users perceive RFID merely as key or wallet, while there is much more to RFID than its initial perception. The opportunity for the EU to raise awareness of these other potential opportunities and threats appears to be one of the core conclusions drawn from this workshop.

(Christian van't Hof)

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Workshop

Alternative Technology Options for Road and Air Transport

European Parliament, January 30, 2007

Organised as part of the project "Alternative technology options for road and air transport" commissioned by STOA and carried out by ETAG

To offer a sound and concise overview of "Alternative Technology Options for Road and Air Transport" (such as hydrogen, biofuels, natural gas), is the aim of this STOA project. Relevant options are described technically and assessed with regard to their economic perspectives, their contribution to substitute fossil fuels in transport and their potential to reduce greenhouse gas emissions as well as other pollutants. The overall objective of this workshop, chaired by Malcolm Harbour, MEP and STOA Vice-chairman, was to discuss relevant technological options with MEPs and experts. In doing so, the catalogue has been validated and enriched. The discussion in the workshop was structured by the following presentations:

- Jens Schippl (ITAS / ETAG) presented a pre-final version of the catalogue on "Alternative technology options for road and air transport", highlighting the pro's and con's of technology options, important controversies as well as the most relevant technological trends. He illustrated that there are far more than 200 source-fuel-drive-infrastructure combinations discussed in this context which implies an immense complexity. For the purpose of the catalogue, about 20 most relevant pathways were selected and clustered in five technological mainstreams: Hydrogen and fuel cells, battery electric vehicles, hybrid-technology, biofuels and natural gas. It appears to be clear that new technologies will become faster implemented and established in the road sector than in air transport where tight security standards set limits to innovations. In the long-run, hydrogen combined with fuel cells seems to be a promising technology, whereby decisive technological problems remain unsolved, amongst them for instance questions concerning the performance of fuel cells, or sources for large amounts of "clean" hydrogen. Biofuels might serve as a relatively clean "bridging" or "additional" technology whereas the same could be perceived to be true in the case of Natural Gas. However, all the individual technologies face difficulties in terms of serving the complete future fuel demand of the EU27.
- Matthias Altmann (Ludwig-Bölkow-Systemtechnik – Secretariat for the European Hydrogen Technology Platform) introduced his presentation entitled: "To what extent is the generation of 'clean' H2 feasible?" He illustrated that there are various ways to produce clean hydrogen from domestic resources. An examination of "H2 harvest" demonstrated that from one hectare of land impressive results can be achieved by using renewable energy sources such as photovoltaic technology, wind or biomethane. However, the costs for such pathways (still) prove to be immense; yet the possibility of hydrogen produced via electricity might be a promising pathway for the future.
- Peter Boisen (European Natural Gas Vehicle Association) emphasised the advantages of natural gas and discussed its bridging function: Increased use of natural gas as a vehicle fuel will extend the time to find suitable renewable substitutes for fossil fuels used in the transportation sector, help to limit fuel costs, limit emission problems, and reduce the reliance upon oil supplies from politically unsta-

ble regions. A promising route might also be the production of biomethane from waste of different quality. Given that hydrogen combined with fuel cells is less practical for long-distance freight transport, natural gas will be an interesting alternative for the purpose.

- Thomas Gameson (Abengoa Bioenergy / representing eBio) gave an overview on the development of "European targets for biofuels". He pointed out that biofuels are a comparatively new technology that has been strongly promoted in recent years. The biofuels industry is still in its formation phase. A co-existence of first and second generation biofuels may be expected in future. Abengoa Bioenergy is in the process of constructing a plant in Spain that will be able to use both corn and straw for the production of ethanol.
- Vincent Mahieu (European Commission – DG Joint Research Centre, Ispra, Italy) analysed "The consequences of 'Well-to-Wheel'-studies" by illustrating the work that has been done for the comprehensive Well-to-Wheel-study of the European Commission's Joint Research Centre and its partners: The study's overall objective was to establish, in a transparent and objective manner, a consensual well-to-wheels energy use and greenhouse gas emissions assessment of a wide range of automotive fuels and power trains relevant to Europe in 2010 and beyond. The results could be the basis for policy instruments such as global fuel certification schemes or a sustainability-index for fuels.
- Klaus Bonhoff (DaimlerChrysler AG) posed the question: "Is a diversification of technologies emerging?" He stressed the need for a diversification of the energy portfolio. There are a variety of promising technological alternatives for transport. But there is no "silver bullet" visible since all technological options have their limits and restrictions. In the future, we will witness a broader portfolio in fuels and propulsion technologies on the market. "Lighthouse projects" are important for establishing new technologies. Hydrogen and fuel cells are the most promising options in the long run and should be fostered by establishing a Joint Technology Initiative on EU level. This would provide a stable framework for all stakeholders.

The presentations were followed by a question and answer session and by a more general discussion towards the end of the workshop. A variety of perspectives concerning important issues such as the potential of certain technologies (in particular plug-in hybrids), the role of transition technologies, relevant technological alternatives for the aviation sector and the implications of developments on global scale for the European patterns of energy supply and consumption were observed. Economic growth in countries like China and India will lead to increasing demand for energy, foods – together with water – and also mobility. In particular the dynamics of the global agricultural system might have significant implications for the biofuels sector. In a final statement, Malcolm Harbour summarised the most important issues and stressed that we will probably have a number of parallel technologies working together.

(Jens Schippl, Torsten Fleischer)

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Workshop

New Therapies for Cancer: Prospects, Promises and Problems

European Parliament, February 7, 2007

Organised as part of the project "Future developments of cancer therapy" commissioned by STOA and carried out by ETAG

Malcolm Harbour, MEP and STOA Vice-chairman, opened the proceedings, welcoming the participants and in particular the experts and presented the topics outlined in the programme. The project entitled "Future Developments of Cancer Therapy" is under his supervision and led by Volker Reuck and Arnold Sauter (ITAS / ETAG). The first expert to rise to speak, Burghardt Wittig (Freie Universität Berlin and Mologen AG, Berlin, Germany), addressed the subject of gene therapy. The second presentation by Inge Marie Svane and Per Thor Straten (Centre for Cancer Immunotherapy at the Herlev University Hospital,

Denmark), explored vaccine therapy. The subsequent presentation by Michael Untch (Helios Kliniken Berlin, Germany), discussed antibody therapy. A general discussion followed, in which some of the MEPs present took part, as well as other participants, including experts and representatives from cancer patients associations, and staff members from the European Commission. They addressed various key topics encompassed in this complex and vast field, including research priorities, obstacles to innovation and drug development, as well as the financing and regulatory framework of clinical trials. Finally, the prospects and challenges of a future comprehensive technology assessment study were sketched by Arnold Sauter, serving the purpose of adjusting the final product that will result from this exercise.

(Arnold Sauter)

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Als federführende Institution einer Gruppe von fünf europäischen Einrichtungen, der European Technology Assessment Group (ETAG; http://www.itas.fzk.de/etag), berät ITAS das Europäische Parlament in Fragen der sozialen, ökonomischen und ökologischen Bedeutung neuer wissenschaftlich-technischer Entwicklungen. Der im Oktober 2005 unterzeichnete Vertrag hat eine Laufzeit von zunächst drei Jahren. Direkter Adressat der Arbeiten von ITAS ist das so genannte STOA-Panel („Scientific and Technological Options Assessment") – ein aus Mitgliedern verschiedener ständiger Ausschüsse des Parlamentes zusammengesetztes parlamentarisches Gremium zur Technikfolgenabschätzung (http://www.europarl.eu.int/stoa/default_en.htm). ITAS (als federführende Einrichtung) kooperiert mit folgenden Partnern:

- Rathenau-Institut, Niederlande,
- Parliamentary Office of Science and Technology (POST), Großbritannien,
- Danish Board of Technology (Teknologirådet), Dänemark,
- Flemish Institute for Science and Technology Assessment (viWTA), Belgien.

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