FOREWORD

Developments in science and technology have potential implications for many policy areas. The role of STOA, the Science and Technology Options Assessment body of the European Parliament, is to provide - in a neutral and independent way - studies assessing the widest possible range of options to underpin policy decisions. These options should ensure that MEPs are provided with state-of-the-art knowledge to reflect upon when carrying out their policy tasks, whilst at the same time considering other factors, such as their individual political and ethical values.

The STOA Panel, that I had the honour to chair during the first two-and-a-half year period of this legislature, worked towards a number of priority objectives, such as eco-efficient transport, sustainable management of natural resources and security of the Internet, including e-government systems and social networks.

STOA ensures that European policy-making is underpinned by sound scientific evidence. Ongoing projects were continued and new ones were launched on e-Democracy, bio-engineering, nanosafety, smart energy grids, European technology assessment practices and effective technology transfer.

Furthermore, in 2011, STOA started a closer collaboration with the Joint Research Centre (JRC) which is making its expertise available to help STOA check the quality of project deliverables and develop technical specifications for new projects.

Another objective was to enhance STOA's visibility, which was started by redesigning the STOA website (www.europarl.europa.eu/stoa).

As a further way towards increased interaction between policy-makers and scientists, STOA implemented the 'MEP-Scientist Pairing Scheme', which brought together MEPs and practising scientists for a short period of time. In addition, workshops and other events, including the STOA Annual Lecture, also helped to foster connections between MEPs and stakeholders.

At the same time STOA is active on the international level. As a founding member of the European Parliamentary Technology Assessment (EPTA) Network, STOA maintains strong connections and actively cooperates with European organisations such as the European Commission, EuroScience (organisers of the EuroScience Open Forum - ESOF) and ESF (European Science Foundation), and on a global level with the World Science Forum and the STS (Science and Technology in Society) forum.

Further targeted initiatives are scheduled for the coming years, such as large-scale projects on cloud computing, alternative fuels and technology options for feeding 10 billion people.

Finally, I was particularly happy to cooperate within the STOA Bureau with STOA Vice-Chairmen António Correia de Campos and Malcolm Harbour, as well as with former EP Vice-Presidents Giles Chichester and Sylvana Koch-Mehrin, whose commitment and determination crucially helped me ensure the fulfilment of STOA's ambitions for the 7th legislative period. I take the opportunity to offer my best wishes for success to my successor, António Correia de Campos, who takes over the STOA Chair for the second half of the Seventh Legislature.

Paul Rübig
STOA Chairman during the first two-and-a-half period
of the Seventh Legislature

EXECUTIVE SUMMARY

STOA mainly provides studies that assess the impact of introducing or promoting new technologies, and identify from a technological point of view the best possible options for action.

This report describes STOA's activities during 2011, along the following six lines:

1. '**Towards a sustainable society'.** STOA carried out studies and organised events concerning societal challenges, such as the sustainable management of natural resources, climate change and the ageing population.
2. '**e-volution' and ICT futures.** STOA was particularly active in the areas of e-Democracy, e-Voting and e-Participation, and also dealt with the ethical implications of emerging ICT's.
3. '**Moving European transport forward'.** STOA currently has ongoing studies on Europe's eco-efficient transport futures and on technology options for urban transport. Furthermore, a workshop was held that aimed at paving the way for quieter European transport.
4. '**Developing modern energy solutions'.** Projects on smart grids / energy grids and CO_2 as a future chemical fuel.
5. **'Shaping our technological society'.** STOA has many ongoing actions related to the impact of technological developments on society. These cover 'Making perfect life': Bio-engineering in the 21st century; Nanosafety: Risk governance of manufactured nanoparticles; and the activities in the frame of the Brain Awareness Week, during which a session on the ethical dilemmas in brain research took place.
6. **'Progress in modern knowledge and policy'.** This is the area in which STOA deals with issues such as copyright in the EU; the technological impacts of knowledge transfer from public research organisations; and technology across borders - a study on parliamentary technology assessment. Events on gender equality in research, on challenges regarding access to scientific data and on astronomy and space sciences are also covered in this area.

In 2011, STOA further developed the **MEP-Scientist Pairing Scheme**. The effect of this scheme was two-fold

- Firstly, policy-makers gained a deeper understanding of the scientific process, the practicalities of undertaking research and the potential of scientific knowledge.
- Secondly, practising scientists learnt about the role of science in policy-making, the policy-making process itself and how to interact effectively with politicians.

In 2011, STOA started a systematic cooperation with the Joint Research Centre (JRC) on newly launched projects to help STOA check the quality of the project deliverables and develop technical specifications for the new projects.

Apart from the activities in the context of the European Parliament, STOA has a wide range of networks on the global scene. STOA is an active member of the EPTA network (European Parliamentary Technology Assessment) and is in permanent dialogue with other technology assessment agencies. STOA actively participates in relevant international events.

STOA is enhancing its visibility. In 2011 the STOA website was fully renewed and information on studies, events etc. is now more readily accessible on www.europarl.europa.eu/stoa. Further efforts to increase awareness about STOA reports and events within and outside the European Parliament will be undertaken in 2012.

1. PRESENTATION OF THE STOA PANEL

1.1 STOA mission

STOA is an official organ of the European Parliament. Its main mission is to provide - in a neutral and independent way - studies that assess the impact of introducing or promoting new technologies, and identify from a technological point of view the best possible options for action.

1.2 The STOA Panel

The STOA Panel is politically responsible for STOA's work. It is composed of 15 MEPs:

- the Vice-President of the European Parliament responsible for STOA;
- four members appointed by the Committee on Industry, Research and Energy (ITRE);
- two members appointed by the Committee on Employment and Social Affairs (EMPL);
- two members appointed by the Committee on the Environment, Public Health and Food Safety (ENVI);
- two members appointed by the Committee on the Internal Market and Consumer Protection (IMCO);
- two members appointed by the Committee on Transport and Tourism (TRAN);
- two members appointed by the Committee on Agriculture and Rural Development (AGRI).

The STOA Bureau runs the activities of STOA and prepares the Panel meetings. It is composed of four members, namely the EP Vice-President responsible for STOA, the STOA Chairman and the two Vice-Chairmen.

The STOA Secretariat executes the decisions of the STOA panel with the assistance of external experts (more details on the work with external contractors are available in the chapter 'Budget Implementation').

The members of the STOA Panel are appointed at the beginning of each parliamentary term for a renewable two-and-a-half-year period. A constituent meeting is held at the beginning and the middle of each parliamentary term, in which the Chair and two Vice-Chairs are elected by the Panel members.

QR code to the STOA Panel members webpage:

STOA PANEL AND STOA BUREAU MEMBERS (end of 2011)					
	Panel Member	Committee		Panel Member	Committee
	Paul RÜBIG (EPP, AT) Chairman STOA Bureau member	ITRE		Giovanni LA VIA (EPP, IT)	AGRI
	Giles CHICHESTER (ECR, UK) STOA Bureau member	EP Vice-President		Ria OOMEN RUIJTEN (EPP, NL)	EMPL
	António F.CORREIA DE CAMPOS (S&D, PT) 1st Vice-Chairman STOA Bureau member	IMCO		Vittorio PRODI (S&D, IT)	ENVI
	Malcolm HARBOUR (ECR, UK) 2nd Vice-Chairman STOA Bureau member	IMCO		Teresa RIERA MADURELL (S&D, ES)	ITRE
	Antonio CANCIAN (EPP, IT)	TRAN		Csaba Sándor TABAJDI (S&D, HU)	AGRI
	Françoise CASTEX (S&D, FR)	EMPL		Salvatore TATARELLA (EPP, IT)	ENVI
	Kent JOHANSSON (ALDE, SE)	ITRE *from 09/2011 onwards*		Silvia Adriana ȚICĂU (S&D, RO)	TRAN
	Philippe LAMBERTS (Greens/EFA, BE)	ITRE	**ITRE:** Industry, Research and Energy **EMPL:** Employment and Social Affairs **ENVI:** Environment, Public Health and Food Safety **IMCO:** Internal Market and Consumer Protection **TRAN:** Transport and Tourism **AGRI:** Agriculture and Rural Development		

2. STOA ACTIVITIES IN 2011

In 2011, STOA's activities concentrated on the following 6 areas:

1. Towards a sustainable society

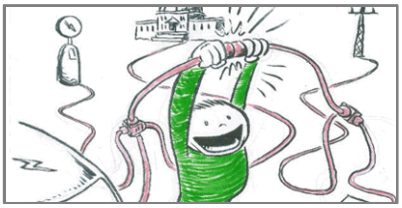
(Tackling Societal Challenges)
Sustainable management of natural resources; Climate change; Ageing society.

2. e-volution and ICT futures

e-Democracy; e-Voting; e-Participation; Ethical implications of emerging ICT's.

3. Moving European transport forward

Eco-efficient transport futures from Europe; Technology options for urban transport; Paving the way for a quieter Europe.



4. Developing modern energy solutions

Smart grids / Energy grids; CO_2: a future chemical fuel.

5. Shaping our technological society

(The impact of technological developments on society)
'Making perfect life': Bio-engineering in the 21st century; Nanosafety; Risk governance of manufactured nanoparticles.

6. Progress in modern knowledge and related policy

Copyright in the EU; Technological impacts of knowledge transfer from Public Research Organisations; Technology across borders; Measuring scientific performance, and several ad-hoc workshops.