

SYMPOSIUM ON TRANSATLANTIC EU-US COOPERATION ON INNOVATION AND TECHNOLOGY TRANSFER

22 March 2011

Austrian Federal Economic Chamber (WKO), Wiedner Haupstrasse 63, Vienna, Austria









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About the project

The BILAT-USA project aims to increase awareness towards EU-U.S. Science and Technology cooperation through setting up a sustainable, knowledge-based and bi-regional dialogue platform between S&T key players as well as stakeholders from the EU-Member States, Associated Countries and from the U.S. The project is funded by the European Union's Capacities Programme on International Cooperation under the 7th Framework Programme for Research and Technological Cooperation.

More detailed information can be found on the project website:

http://www.euussciencetechnology.eu/bilat-usa





Executive Summary

On 22 March 2011 some 100 experts from the EU and the U.S. research and innovation community, representing major EU and US universities, research and technology transfer organizations, as well as policy experts and EC officials gathered in Vienna, to participate in the "Symposium on Transatlantic EU-U.S. Cooperation" in the field of innovation and technology transfer, with the aim to further increase mutual understanding and cooperation in Europe and in the U.S..

The Symposium was organised by the BILAT-USA Project with the support from the European Commission Directorate General for Research and Innovation, Directorate International Cooperation, Unit of International Cooperation Projects.

The BILAT-USA project aims to increase awareness towards EU-U.S. Science & Technology cooperation through setting up a sustainable, knowledge based, and bi-regional dialogue platform between S&T key players as well as stakeholders from the EU-Member States, Associated Countries and the U.S. The BILAT-USA project is funded by the European Union's 7th Framework Programme (FP7). More information is available at the project web-site: http://www.euussciencetechnology.eu/bilat-usa

European and U.S. experts in the fields of research, technology transfer, innovation and innovation policy met in Vienna on 22 March 2011 as participants of the "Symposium on Transatlantic EU-U.S. Cooperation on Innovation and Technology Transfer".

The full-day symposium, which was organized in 3 plenary and 3 parallel sessions, provided a platform for awareness raising and increasing mutual understanding towards up-to-date innovation and technology transfer experiences, Europe's reflections summarized in the Innovation Union strategic plan and its implications on EU-U.S. cooperation.

The Symposium was organized back to back with the MIT Europe Conference "Innovation in a Networked World: Technology, People and Places" in Vienna at the Austrian Federal Economic Chamber (http://ilp.mit.edu/conference.jsp?confid=18&show=overview), thus offering three highly inspiring days of insights, exchange and discussion on issues mentioned.

The key issues related to each specific topic were discussed in the parallel sessions.

The summary of each parallel session is included as follows. The list of speakers, moderators and participants as well as other useful information is included in the Appendixes to this report and is as well accessible though the Symposium's web-site:

http://www.euussciencetechnology.eu/home/ittsymposium





Discussions and Outcomes

Plenary Session 1:

Open Innovation (OI)

Chaired by: Sabine Herlitschka

Speakers: Phillippe Froissard, Elias Carayannis, Sven Schade

Issues Discussed and Outcomes:

As part of the "Europe 2020 Strategy" the new "Innovation Union" Flagship initiative – the strategic orientation for the fields of science, technology and innovation for the coming 10 years - was presented and discussed with respect to its implications towards transatlantic EU – U.S. cooperation. The "Innovation Union" indicates the direction towards "turning ideas into jobs, green growth and social progress", thus representing a further development by integrating open innovation principles and focusing on innovation at all levels.

Ten key elements of the "Innovation Union" have been defined¹, most notably

- European Innovation Partnerships to mobilise stakeholders European, national and regional, public and private - in areas which combine tackling societal challenges with potential for Europe to become a world leader.
- New measurements and indicators geared at innovation, innovation systems, fast-growing innovative companies and an independent ranking system for universities.
- Measures to improve access to finance will be set up, particularly with respect to cross-border venture capital, involvement of the European Investment Bank and strengthen cross-border matching of innovative firms with investors.
- Existing research initiatives will be stepped up, more coherence in European and national research policies will be sought, cutting red tape and removing obstacles to researchers' mobility, such as the lack of transferability of pension rights.
- A European Design Leadership Board and a European Design Excellence Label will be set up.
- The European Commission will launch in 2011 a major research programme on public sector and social innovation and pilot a European Public Sector Innovation Scoreboard. It will launch a European Social Innovation Pilot to provide expertise for social innovators and propose social innovation as a focus of European Social Fund programmes. It will consult social partners on spreading the innovation economy to all occupational levels.

¹ The "Innovation Union" – turning ideas into jobs, green growth and social progress, IP/10/1288, 6th October 2010; Europe 2020 Flagship Initiative Innovation Union COM(2010) 546 final; SEC(2010) 1161 final



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- Specific public procurement of innovative products and services by governments should be set up.
- The European Commission will make a legislative proposal to speed up and modernise standardsetting to enable interoperability and foster innovation.
- Agreement on the EU Patent will save business €250 million a year. The Commission will in 2011 make proposals for a European knowledge market for patents and licensing.
- Structural funding and state aid frameworks will be reviewed to boost innovation.

The globalisation at all levels demands that European research looks outward. Therefore, international science & technology cooperation represents an integral part of EU's science & technology policy.

The "Open Innovation" paradigm and its options for EU - U.S. cooperation were discussed from the U.S. point of view by Elias Carayannis building on his ideas of "Open Innovation Diplomacy: linking research with development via entrepreneurship and innovation for sustainable and robust competitiveness and peace through prosperity"².

Describing the context for modern universities, their challenges, new disciplines, and the principles for managing modern universities, he presented what he called "21st century University model in an open and fractal research, education and innovation ecosystem perspective" by the trend of moving from "tactical fragmentation to strategic integration in Europe and beyond".

² Carayannis et al, Open Innovation Diplomacy: Linking Research with Development via Entrepreneurship and Innovation for Sustainable and Robust Competitiveness and Peace through Properity, Forthcoming, Springer Journal of the Knowledge Economy (JKEC), Spring 2011



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Plenary Session 2:

Open Innovation and its effect at entrepreneurial, global, national and regional level

Chaired by: Errol Levy

Speakers: James Pooley, Dirk Meissner, Tonia Damvakeraki, Lena Tsipouri

Issues discussed and Outcomes:

Based on Chesbrough's concept of Open Innovation, "it is a paradigm that assumes that firms can and should use external ideas as well as internal and external paths to market, as the firms look to advance their technology". Based on the presentation of Mr Pooley, WIPO supports this concept as they consider it to develop:

- Accelerated product cycles
- More global competition
- Increasingly mobile workforce
- Shift in geographical distribution of innovation
- Shift in geographical distribution of publications
- Enabling technologies

On the other hand, legal issues and developing countries' differentiation on innovation infrastructures, business and IP knowledge and issues of marginalisation can be considered as important hindrances on the way of globalisation and Open Innovation.

As far as global networks are concerned, Dirk Meissner introduced how the increasing complexity of the innovation process affects the Science, Technology, Innovation (STI) policy formulation; the innovation process shows a trend towards multi-partner relationships (outside-in Open Innovation versus inside-out Open Innovation). Open Innovation can be treated as a global topic.

Prof. Tsipouri introduced Erawatch (EW), a European policy tool and its role in the Open Innovation paradigm shift. The main question posed is whether policy has a role to play in this paradigm shift. Erawatch is a policy tool, which among others, collects and classifies policy measures of the member states and the EW network countries all over the world utilising a specific categorisation. Through this classification and categorisation one can monitor measures supporting Open Innovation, countries that have applied such measures, specific sectors introducing these measures (and several assessments and results from their application), etc. Overall, the EW policy tool is very important, as it provides broad and up to date information on labour market for researchers, on research infrastructures, on research organisations, on knowledge transfer, on cooperation, coordination and opening up of national research programmes within ERA, but also for international S&T cooperation. With regard to Open Innovation, EW is also important as:





- It provides unified instruments for analysis of different countries
- It offers a much broader scope of comparison between different RDI policies
- It offers more learning opportunities

The phenomena of globalisation and adoption of a more open approach to innovation, i.e. Open Innovation, are challenging, establishing policies and instruments for stimulating research and innovation, from clusters and industry-science relations, to IPR protection. Both issues transcend firm and national boundaries and pose particular problems for the design of policies in the context of geographically bound knowledge-based activities or of vertically integrated value-chains for firms.





Plenary Session 3:

Open Innovation as seen from different users' perspectives

Chaired by: Raimund Broechler

Speakers: Alberto di Minin, Frank T. Piller

Excused: Jeff Cope

Issues Discussed and Outcomes:

Alberto Di Minin presented a case study on FIAT Group Automobiles, and how they managed to reach worldwide excellence, in the middle of a worse than expected economic downturn. Fiat partnered with Chrysler, not because of their abundant cash flows or the cost-efficiency of its production system, but because of the superiority of the Italian carmaker's clean, fuel-efficient engine technologies. The Centro Reserche Fiat (CRF), the Fiat Group company, in charge of the R&D and technology development maintained and expanded its research and innovation activities despite the heavy downturn in the industry; they have further built and enlarged their networking capabilities within the automotive sector and across different industries. CRF simply moved into providing competitiveness instead of just selling research.

Their strategy was about selecting customers that could be turned to long-term customers; they preferred more informal relationships than performing market research and developed the following operations in the area of **competitiveness transferring**:

- A matrix structure and Research Promotion Function
- Human Resources Center to manage competences and high turnover
- R&D project portfolio management: cool &risky ideas + plug & play
- The concept of "micro-clients"
- Intellectual property management

When it comes to R&D projects, the strategy they followed took into perspective that clients in several cases may not know what they want and how to price it; and also the CCCP (Competitiveness for Customers at Competitive Prices) factor. The operations followed are:

- Bottom up planning and evaluation
- A new type of lab employee (researchers, project managers, marketers, etc)

Finally, when innovation on a downturn, CRF's strategy includes a clear (sometimes extreme) mandate which takes time to implement, and of course entrepreneurial spirit! The operations followed are:

- Leadership and commitment
- Creative resource management (EU, clients)





- Pressure on the organisation, and stress levels
- Central role of planning: know what is transferred

By closing his presentation, Mr di Minin concluded on some indicative remarks, relevant to strategic planning.

Frank Piller presented three cases of pilot application of Open Innovation (OI) methodologies and approaches. The first one concerned the VDMA-FVA project, aimed to pilot Open Innovation in the German Driving systems industry. The second one was a pilot for Open Innovation via broadcast search as an innovative measure of technology transfer (university-firm technology transfer). The third one was a pilot on how to use OI for technology transfer, on a project for the German National Academy of Science.

In the second part of his presentation, Prof. Piller discussed Open Innovation Accelerators (OIA), as a new class of service providers facilitating open innovation. The question posed is: why do firms face difficulties in going outside for innovation? The reasons are:

- Innovation intermediaries are actors specialised in the articulation and selection of new technology options;
- Open innovation accelerators are innovation intermediaries that operate on behalf of organisations seeking to innovate in cooperation with external actors from their periphery.
- Open innovation accelerators offer one or several methods of Open Innovation and complimentary services for the innovation process

Services offered by OIAs may be structured into three different clusters: Community managers, software providers, and consultants. On the other hand, from the client perspective, there is a list of success factors for selecting an OIA to ensure that they will be appropriate and will achieve their goals!





Parallel Session 1:

Name of the Session: Innovation and Technology Transfer Financing

Moderator: Georg Buchtela

Speakers:

Hubert Cottogni, Rick Wielens, Dr Marshall Hsia

Issues Discussed

Based on the presentations the following ideas and topics have been discussed:

- Financing Innovation and the role of the European Investment Fund (EIF), history and success of instruments like JEREMIE (Joint European Resources for Mictor to Medium Enterprises)
- Differences in legal setting eg. limitation given by state aid rules in Europe in designing support instruments (this might limit profit share models; reference was made to ongoing ideas like the European patent funds)
- Reciprocity of support schemes in and outside EU and U.S. (reference was made to studies showing difficulties specially with Third Countries)
- Drivers, business models, Unique Selling Point (USP) and value added by intermediaries (e.g. comparison with Nine Sigma and support provided by other Enterprise Europe Network partners)
- Influence of cultural development and expertise in organization on the success of knowledge transfers (a strong correlation was proposed, which influences business models of commercial service providers

Potential Areas for Cooperation identified

- Possibilities to enhance performance of Enterprise Europe Network in cooperation with commercial service providers
- Use of social networks for knowledge transfer and access to finance





Parallel Session 2:

Name of the Session: Open innovation and the human capital perspective

Moderator: Tonia Damvakeraki

Speakers:

Aris Kaloudis, Denis Gray, Drew Rivers

Issues Discussed

Open innovation, human resources in research, collaboration within and beyond the value-chain/mobility patterns, career paths, knowledge circulation, HR in R&D indicators, human capital impacts in research, cooperative research centres, triple helix approach, social capital, networks, mobility of researchers from EU to U.S. and vice versa, funding patterns for researchers mobility

Potential Areas for Cooperation identified

All three speakers have shown interest in the BILAT-USA project activities and have requested to be kept informed on activities and events relevant to their area of expertise where they would be willing to collaborate with us.

Next Steps relevant

The summary of the presentations will be sent to the European Commission, more specifically to the BILAT-USA project officer. The participating speakers of the session are willing and eager to present their work in more detail if asked, and would be happy to answer questions or feedback to any interested parties.

Further assistance required from BILAT-USA?

They would like to be kept informed about relevant events and activities undertaken by the project as they want to become more involved in the area of transnational cooperation, especially where it concerns patterns for researchers' mobility and joint research efforts from organizations and institutes from the EU and the U.S.





Parallel Session 3:

Name of the Session: Academia - Industry Collaboration

Moderator: Sabine Herlitschka

Speakers:

Cemil Arkan, Martin Woerter, Laura Schultz

Issues Discussed

Presentation, demonstration, discussion of practical examples as well as a theoretical model for effective industry – academia cooperation

Potential Areas for Cooperation identified

Potential fields for input with respect to policy-related advice would be the study of Martin Woerter which highlights areas of policy measures based on the combination of innovation and competition policy. This would be of specific interest to the European Commission at this point in time as the new research and innovation programme is under preparation. Furthermore, practical cases as the ones presented – both the example of Sabanci University as clearly entrepreneurial university as well as the Nano collaborative research centers – should be further disseminated as motivating examples.

Next Steps relevant

The summary of the presentations will be sent to the European Commission, more specifically to the BILAT-USA project officer as well as to Sven Schade from DG Enterprise and Industry.

Furthermore, follow-up should include more detailed discussions between academics studying these topics and the policymakers working to prepare the new framework. Policymakers with better understanding of the theoretical foundations for their efforts and the best practices in S&T policy will be able to create more effective programs and incentives for university-industry collaboration. The presenters in the session could be asked for more detailed information in the form of working papers, publications or discussions. The presenters may also be willing to provide feedback on relevant sections as the new framework is drafted.





Further assistance required from BILAT-USA?

Potential for further active participation of the BILAT-USA project could be interesting with respect to providing input for policy advice based particularly on the contributions by Martin Woerter and Laura Schultz.





Conference Documentation

Appendix A: Agenda

AGENDA

Symposium on Transatlantic EU-U.S. Cooperation on Innovation and Technology Transfer

22nd of March 2011

Venue: Austrian Federal Economic Chamber

Wiedner Hauptstraße 63, 1040 Vienna

09:15 - 9:30 **Welcome Address**

Walter Koren (Austrian Federal Economic Chamber) and Henrietta Egerth (Austrian Research Promotion Agency)

9.30 – 10.30 Plenary Session 1 – Open Innovation

<u>Moderator:</u> Sabine Herlitschka, Austrian Research Promotion Agency, Division of European and International Programmes,

Introduction

The Innovation Union and its implications on EU-U.S. cooperation

Phillippe Froissard, European Commission, DG Research and Innovation, Directorate International Cooperation

The Open Innovation Paradigm and options to EU-U.S. cooperation

Elias Carayiannis, George Washington University

SME support to innovation activities, innovation in emerging industries and the impact on EU-US collaboration

Sven Schade, European Commission, DG Enterprise and Industry

Q&A

Break (15 min)





10:45– 12.00 Plenary Session 2 – Open Innovation and its effects at entrepreneurial, global, national and regional level

Moderator: Errol Levy, European Commission DG Research and Innovation,

Directorate International Cooperation

Open Innovation and Intellectual Property

James Pooley, World Intellectual Property Organisation (WIPO)

Open Innovation and Global Networks

Dirk Meissner, National Research University "Higher School of Economics" (HSE), Moscow

National and regional policies for globalization and open innovation

Tonia Damvakeraki, INNO-Policy TrendChart Coordinator, Intrasoft International

Policy tools for opening up research and innovation: the case of Erawatch

Lena Tsipouri, National and Kapodistrian University of Athens

Q&A

12.00 Lunch

13:15 Greeting from Christopher Hoh, Deputy Chief of Mission, US Embassy in Vienna

13:30 -14:30 Plenary Session 3 – Open Innovation as seen from different users' perspectives

Moderator: Raimund Broechler, Intrasoft International S.A.

Panel Discussion

Open innovation seen from the large companies' perspective

Alberto di Minin, Management and Innovation Laboratory, Scuola Superiore Sant' Anna - Pisa

Open Innovation seen from the R&D Centres' perspectives

Jeff Cope, RTI International

Open Innovation and Intermediaries – Technology Transfer methods

Frank T Piller, Aachen University





14.30 - 16.00 Parallel Sessions

Session 1: Innovation and technology transfer financing

Moderator: Georg Buchtela, AWS (Austria Wirtschaftsservice GmbH)

EIF JEREMIE Initiative

Hubert Cottogni, European Investment Fund

Technology Transfer Case studies from the US

Rick Wielens, NineSigma Inc.

Enterprise Europe Network: presentation of work on technology transfer

Marshall Hsia, DG Enterprise and Industry, Business cooperation and support network

Session 2: Open innovation and the Human Capital perspective

Moderator: Tonia Damvakeraki, Intrasoft International

MORE Project: Mobility of Researchers

Aris Kaloudis, NIFU

Human Capital: An overview of studies performed in the US

Denis Gray, NC State University

Developing scientific and technological leadership and human capital: impact of NSF Industry/university cooperative research centre (IUCRC) directorship on career paths and achievements

Drew Rivers, NC State University

Session 3: Industry - University Collaboration

Moderator: Sabine Herlitschka, Austrian Research Promotion Agency

Competition and Industry-University Cooperation

Martin Woerter, ETH Zurich, Swiss Economic Institute (KOF)

Assessing the level of collaboration in university – industry research centers

Laura I. Schultz, University of Albany, CNSE

The role of the entrepreneurial university in knowledge and technology transfer

Cemil Arikan, Sabanci University





16:00 Break (30 min)

16.30 Findings from Parallel Sessions & Discussions

Reports from the Moderators

- Results from Session 1: innovation and technology transfer financing
- Results from Session 2: open innovation and the human capital perspective
- Results from Session 3: Industry University Collaboration

17:00 Concluding Remarks and Actions for Concrete Follow-up

Bilateral Meetings and Networking

18:30 Round Table Discussion, organised by WKO (Julius – Raab - Saal)

"Our world 2.0 - How Companies Manage the Future"

Pre-event to the 2011 <u>MIT Europe Conference "Innovation in a Networked World: Technology, People and Places"</u>





Appendix B: Presentations

All symposium presentations can be accessed from the following website:

http://www.euussciencetechnology.eu/home/ittsymposium#ITT presentations





Appendix C: List of Speakers and Moderators

		Plenary Session Speakers	s and Moderators		
First name	Last Name	Organisation	Email	Session Name	
Phillippe	Froissard	DG Research and Innovation, Directorate for International Cooperation	philippe.froissard@ec.europa.eu		
Elias	Carayiannis	George Washington University	caraye@gwu.edu	Open Innovation	
Sven	Schade	European Commission, DG Enterprise and Industry, Directorate Industrial Innovation and Mobility Industries	sven.schade@ec.europa.eu		
Sabine	Herlitschka	FFG - Austrian Research Promotion Agency, Division of European and International Programmes –	sabine.herlitschka@ffg.at		
Errol	Levy	DG Research and Innovation, Directorate for International Cooperation	Errol.LEVY@ec.europa.eu		
James	Pooley	World Intellectual Property Organisation (WIPO)	james.pooley@wipo.int	Open Innovation and its effects at	
Dirk	Meissner	National Research University "Higher School of Economics" (HSE), Moscow	dirk.meissner@gmail.com	entrepreneurial, global, national and regional level	
Tonia	Damvakeraki	Intrasoft International S.A.	tonia.damvakeraki@intrasoft- intl.com		
Lena	Tsipouri	National and Kapodistrian University of Athens	tsipouri@econ.uoa.gr		
Alberto	Di Minin	Management and Innovation Laboratory, Scuola Superiori Sant' Anna, Pisa	alberto.diminin@sssup.it	Open innovation as seen from	
Frank T.	Piller	Aachen University	piller@tim.rwth-aachen.de	different users'	
Jeff	Соре	RTI International	jcope@rti.org	perspectives	
Raimund	Broechler	Intrasoft international S.A.	raimund.broechler@intrasoft- intl.com		
		Parallel Session Speakers	s and Moderators		
First name	Last Name	Organisation	Email	Session Name	
Georg	Buchtela	Austria Wirtschaftsservice GmbH	g.buchtela@awsg.at	Innovation and	
Hubert	Cottogni	European Investment Fund	cottogn@eif.org	Technology	
Rick	Wielens	NineSigma	wielens@ninesigma.com	Transfer	
Marshall	Hsia	DG Enterprise and	marshall.hsia@ec.europa.eu Financing		





		Industry, Business cooperation and support network		
Aris	Kaloudis	NIFU	aris.kaloudis@nifu.no	Open innovation
Denis	Gray	NC State University	denis_gray@ncsu.edu	and the Human
Drew	Rivers	NC State University	dcrivers@ncsu.edu	Capital
Tonia	Damvakeraki	Intrasoft International	tonia.damvakeraki@intrasoft- intl.com	perspective
Sabine	Herlitschka	FFG - Austrian Research Promotion Agency, Division of European and International Programmes	sabine.herlitschka@ffg.at	Industry – university Collaboration
Martin	Woerter	ETH Zurich, Swiss Economy Institute (KOF)	woerter@kof.ethz.ch	
Laura	Schultz	University of Albany	LSchultz@uamail.albany.edu	
Cemil	Arikan	Sabanci University	cemil@sabanciuniv.edu	





Appendix D: Biographies of Speakers and Moderators

(In alphabetical order)

Cemil Arikan received his BSc (1964), MSc (1966), and PhD (1971) degrees in Electrical Engineering at Middle East Technical University (METU) where he worked until 1982. Between 1982 and 1995, he worked first in ASELSAN, then as general manager in Roketsan, and finally, as a general coordinator in Barmek Group. After serving as the vice-president of the Scientific and Research Council of Turkey (TUBITAK) for 4 years, he joined Sabanci University in January 2000 as Director of Research and Graduate Policy.

Elias G. Carayannis is Full Professor of Science, Technology, Innovation and Entrepreneurship, as well as co-Founder and co-Director of the Global and Entrepreneurial Finance Research Institute (GEFRI) and Director of Research on Science, Technology, Innovation and Entrepreneurship, European Union Research Center, (EURC) at the School of Business of the George Washington University in Washington, DC. Dr. Carayannis' teaching and research activities focus on the areas of strategic Government-University-Industry R&D partnerships, technology road-mapping, technology transfer and commercialization, international science and technology policy, technological entrepreneurship and regional economic development.

Jeff Cope is a Senior Advisor in RTI's Innovation Advisors practice. He is based at RTI headquarters in Research Triangle Park, North Carolina. Mr. Cope has been advising clients on innovation-related topics for over 10 years. His practice at RTI includes working closely with commercial clients, leading Open Innovation activities such as technology scouting, technology landscaping and strategic advising. For universities, he helps optimize the effectiveness and efficiency of technology transfer practices and economic development activities. He also works with regions and states to help identify innovation assets and build targeted economic development strategies. Mr. Cope has over 20 years of experience in innovation and new product development. Prior to joining RTI, he spent 10 years working in new product development in the construction equipment and telecommunications industries. Mr. Cope frequently speaks at engagements worldwide on topics related to Open Innovation. He holds a Master's degree in business management and a Bachelor's degree in mechanical engineering, both from North Carolina State University.

Hubert Cottogni is the Head of the Regional Business Development team for the European Investment Fund (EIF). He is responsible for developing and implementing Fund of Funds and the JEREMIE initiative throughout Europe. Prior to this position, he was a Director of Telekom Austria in Vienna, where he spent over 6 years as a Head of Strategy and Business Development, and later as Director of Mergers and Acquisitions. He also spent more than 12 years working as a Senior Banker in Institutions such as EIB and Creditanstalt AG. Mr Cottogni holds a Degree in Business Administration from the University of Innsbruck. He also holds an MBA from the University of Insbbruck as well as an Executive Degree from INSEAD.

Tonia Damvakeraki, BSc in Economics (Aristotle University of Thessaloniki, 2000) is a senior consultant focusing on Research and Innovation Policy Studies, Impact Assessment, Evaluation and Foresight activities. She was for three years the Coordinator of INNO Policy TrendChart (PROINNO Europe Initiative, DG Enterprise) and has worked in several studies and projects focusing on policy research and analysis. Since 2007, she holds the position of Policy Studies Manager in Intrasoft International S.A.

Dirk Meissner is currently Deputy Head and Research Professor at the Research Laboratory for Science and Technology Studies at the Higher School of Economics – National Research University – Institute for Statistical Studies and Economics of Knowledge in Moscow, Russian Federation. Dirk has over 10 years experience in top-level consulting to key decision makers in industry and public policy. He has strong background in innovation management, especially intellectual property and risk management and innovation/ technology policy consulting and technology and research strategies. Dirk has worked with and led elite teams on a body of case work that includes market studies and industry analysis, intellectual property management audits, R&D portfolio management, research strategies, R&D in –and outsourcing, market entry strategies, innovation and technology





policy evaluation and design, innovation campaign design and client coaching. His responsibilities included building and management of teams as well as project management and client interaction. Prior becoming research professor, Dirk worked for Arthur D. Little International, the presidential office of the Swiss Science and Technology Council, established a business unit industry 'studies and research for process intensive industries' with a German asset performance consultancy.

Alberto Di Minin is Assistant Professor (Ricercatore) of Strategy (Economia e Gestione delle Imprese) at the Institute of Management - Scuola Superiore Sant'Anna (Pisa, Italy – www.sssup.it), Visiting Professor at the Department of Operations, Organization and Human Resources – Twente University in The Netherlands, and Research Fellow with the Berkeley Roundtable on the International Economy (BRIE, University of California Berkeley http://brie.berkeley.edu/). Alberto's research and teaching deals with the appropriability of innovation. In particular he focuses on open innovation and business model innovation. He also works on technology transfer, intellectual property and R&D management. His latest publications appeared on California Management Review, J. of Interantional Business Studies, R&D Management J., Research Policy. In 2006 he got his Ph.D. with a dissertation on the internalization of R&D from U.C. Berkeley, which was recognized with a Dissertation Award by the Industry Studies of the Alfred Sloan Foundation. Alberto has received a M.S. in Public Policy from the Georgia Institute of Technology, Atlanta and a B.A. in Economics from the Scuola Sant'Anna and the Università Statale of Pisa.

Philippe Froissard graduated in nuclear engineering in Grenoble (France) in 1988 and completed his PhD in nuclear physics in 1992. He worked on nuclear fusion research and particularly on radio frequency heating first at the JET Joint Undertaking in Oxfordshire (UK) and then at the Commissariat à l'Energie Atomique (CEA) in Cadarache until 1999. He joined the Directorate-General for Research in 2000 and has held since several positions in the Human Potential and International Cooperation Programmes. He participated to the development and implementation of several programmes and activities in the area of mobility and international Cooperation. He is presently the Deputy Head of the International Cooperation Projects Unit, which manages projects supporting and structuring the cooperation in Science and Technology between the European Union and different regions of the world as well as with strategic partner countries.

Denis O. Gray is Alumni Distinguished Graduate Professor, Psychology in the Public Interest Program, Department of Psychology, North Carolina State University. Dr. Gray's research focuses on science and technology policy issues, particularly the outcomes and implications of cooperative research centers. For the past twenty years he has led a unique, multi-faceted 'improvement-focused' evaluation of the National Science Foundation's (NSF) longestrunning cooperative research center program, the Industry-University Cooperative Research Centers (IUCRC). Dr. Gray has published extensively on academic science and cooperative research. His books include: Innovation U.: New university roles in a knowledge economy (co-author); Managing the industry/university cooperative research center (Battelle Press) and Technological innovation: Strategies for a new partnership (Elsevier) (senior editor). A native of New York City (and former taxi cab driver), Dr. Gray received his B.S. in Psychology from Manhattan College. He received his Ph.D. and M.S. degrees in Ecological/Community Psychology from Michigan State University.

Sabine Herlitschka is Director of the Division of European & International Programmes in the Austrian Research Promotion Agency (FFG) and Austrian Coordinating National Contact Point for the 7th EU Framework Programme. With a team of 45 experts, her responsibilities and tasks comprise a broad spectrum of services in order to strengthen the Austrian participation in competitive European and International research & technology programmes. Educated as Food-and biotechnologist with an MBA in general management, her professional background includes research in international biotech industry and International RTD cooperation at BIT-Bureau for International Research and Technology Cooperation. After an internship in the US National Science Foundation, the American Association for the Advancement of Science (AAAS) and cooperation with the First Science Advisor in the U.S. Department of State, she was founding Vice-Rector for Research Management and International Cooperation at the newly founded Medical University of Graz, for which she received the Austrian Higher Education Management Prize 2007. Since 1996 Sabine Herlitschka has been involved in a broad range of activities at European and International level, including acquisition and coordination of EU projects, National Contact Point activities, participation in proposal evaluation on behalf of the European Commission, Initiator of the "Trust Researchers" Petition towards Simplification of European research funding, and membership in Advisory as well as various European and international Expert Groups. These include Rapporteur of the "High-level Expert Group on





Frontier Research" that contributed to the development of the European Research Council, Rapporteur to the INCO Advisory Group, and chaired the Expert Group on "Diversified Funding Streams for University-based Research" and Moderator of the Stakeholder Platform on "Common Funding Principles for responsible external Research Funding".

Marshall Hsia is an Administrator in the Enterprise and Industry Directorate-General at the European Commission in Brussels. He is currently based in the Directorate for SMEs and Entrepreneurship where he is responsible for international aspects of the Enterprise Europe Network and small business support policy. Dr Hsia has also held positions in the Directorate-General for Research and Innovation within the European Commission, and in industry and academia prior to joining the Commission.

Aris Kaloudis is Deputy Head of Research in the Nordic Institute for Studies on Innovation, Research and Education (NIFU). His main research activities include statistics and indicators, research and innovation policy, R&D programmes and evaluations, EU research policy and analysis of RTD Framework Programmes. Research Interests include: skills, innovation and labour markets, innovation policy in Norway, in the Nordic countries and within the EU, Impact of R&D and innovation in the economy and welfare. Some indicative projects in progress include: ERAWATCH R&D specialisation, SYSTEMATIC, Recruitment of researchers.

Errol Levy is a Policy Officer in the Directorate-General for Research of the European Commission, responsible for Science and Technology Relations with the USA and Canada. He has 20 years of experience in both the private and public sectors. This includes roles in spacecraft and instrument systems engineering for British Aerospace plc and product manager and public affairs roles for the European Aeronautical Defence and Space Company (EADS Astrium Ltd). He joined the European Commission in 2001, working mainly on European space policy and international Earth observation activities. During 2007-2008, he was the speechwriter for the Commissioner for Science and Research (2004-2009), Mr Janez Potočnik. Adding to a Bachelor of Science degree in Physics and a Master of Science degree in Remote Sensing, Errol completed in 2009 a Master of Public Policy degree (International Relations) at the Woodrow Wilson School of Public and International Affairs, Princeton University, NJ.

Frank Piller is a professor of management and the director of the Technology & Innovation Management Group at RWTH Aachen University, Germany. He also is a founding faculty member and co-director of the MIT Smart Customization Group at the Massachusetts Institute of Technology, USA. Before, he worked at the MIT Sloan School of Management (2004-2007) and TUM Business School (1999-2004). He graduated summa cum laude with a Ph.D. in Operations Management from the University of Wuerzburg, Germany in 1999. His recent research focuses on innovation interfaces: How can organizations increase innovation success by designing and managing better interfaces within their organization and with external actors. This stream of research includes topics like value co-creation between businesses and customers/users, strategies to increase the productivity of technical problem solving by open innovation, and models to cope with contingencies of the innovation process. At RWTH Aachen, Frank Piller has established one of Europe's largest research groups on technology and innovation management, supported by grants from the European Commission, the DFG, BMBF, and other institutions. He has consulted and delivered executive workshops for many Dax30 and Fortune500 companies. As an investor, member of the Board of Directors or as a scientific adviser of several technology companies, he transfers his research into practice.

James Pooley is the Deputy Director General for Innovation and Technology at the World Intellectual Property Organization in Geneva. WIPO is one of the specialized agencies of the United Nations, and Mr. Pooley is responsible for overseeing operation of the international patent system, as well as programs directed at the development of patent laws and of innovation infrastructure, particularly in developing countries. Before coming to WIPO, Mr. Pooley spent over 36 years as a private lawyer in Silicon Valley. Most recently he was a senior partner in Morrison & Foerster, where he represented clients in patent, copyright and trade secret litigation. He has also served as an adjunct professor of law at the University of California, Berkeley, as President of the American Intellectual Property Law Association, as President of the National Inventors Hall of Fame, and as a member of the National Academies of Science Committee on IP Rights. Mr. Pooley is an author of several major works in the IP field, including his treatise *Trade Secrets* (Law Journal Press) and the *Patent Case Management*





Judicial Guide (Federal Judicial Center). Mr. Pooley graduated from Columbia University Law School as a Harlan Fiske Stone Scholar in 1973, and holds a Bachelor of Arts, with honors, from Lafayette College.

Drew Rivers, Ph.D. is currently serving as a postdoctoral research scholar under the guidance of Dr. Denis Gray in the Psychology department at North Carolina State University. He is involved in two research studies supported by the National Science Foundation's Industry-University Cooperative Research Center (IUCRC) program in the United States. The first study is investigating faculty career trajectories of IUCRC directors, and the human capital and social capital impacts associated with the director position. The second study is exploring methods for estimating the economic impacts of ideas and technologies emerging from IUCRCs. Prior to receiving his Ph.D. in 2009, Dr. Rivers worked on the IUCRC program evaluation team, based in Dr. Gray's Innovation Studies Lab at North Carolina State University. In addition, Dr. Rivers has worked as a consultant to industry for more than a decade, in the areas of organizational research, human resource program evaluation, and marketing research. He lives in the Raleigh-Durham area of North Carolina with his wife.

Sven Schade was trained as Environmental Scientist and concluded a PhD on rapid social and environmental change processes at the University of Bayreuth, Germany. He received additional training as specialist consultant to SMEs in European matters and programs. In that role we worked for the Bavarian technology agency in the field of international technology transfer for environmental technologies and funded expert for technology transfer and incubation at the Northtown Technology Park in Vilnius Lithuania. In 2006 he joined the European Commission services in the unit for 'Support to Innovation' in DG Enterprise and Industry. Focus of his work is the development of better technology transfer and innovation support services for SMEs as well as the international aspects of innovation support.

Laura Schultz is an asst. professor of nanoeconomics at NY's College of Nanoscale Science and Engineering. The primary focus of her research is tracking the development of emerging technologies and measuring their economic impacts. She has studied in particular on the role of government and industrial investment has played individually and collaboratively in the creation of these technologies. Before accepting a faculty position Dr. Schultz was a researcher in the U.S. Department of Commerce. She worked at a national lab assessing the impact of their R&D investment and at a statistical agency measuring the role R&D investment plays in the national economy. She has a PhD in economics from George Washington University.

Lena J. Tsipouri is Associate Professor at the University of Athens, Department of Economic Sciences. She studied Economic Sciences at the Universities of Athens and Vienna, completed her PhD (Doctorat d' Etat), selected as best thesis of the year in economics, at the University of Paris II and postdoctoral research with a Fulbright Fellowship at MIT, Cambridge, Massachusetts. She teaches European Economics, Integration, Technology Management and Theory of the Firm. Her scientific research focuses in the economics of technological change, information society, regional development, as well as corporate governance and corporate social responsibility. Ms Tsipouri is professionally involved in consulting work for the EU, the OECD and the UN in the same topics as her scientific research. She is currently working on projects in the areas of research and innovation policy, indicators, labour market, migration and economics of education.

Rick Wielens joined NineSigma in 2010 and is responsible for NineSigma Europe. Previously, Rick worked with his own company in open innovation and expert services mainly in the High Tech area in The Netherlands and Germany. The group he founded engaged (pre)retired top R&D people supporting clients like Philips, DAF and ASML. With a background in supply chain management and traffic engineering, Rick has experience in business development, open innovation and innovation management, business strategy and large organizational change and ICT implementation programs. Rick brings international experience working in Germany for SAP and in The Netherlands for Royal Philips Electronics in various roles and industries. Rick holds a M.Sc. in Transport Planning and Management from the Westminster University in London and a BA in Traffic Engineering from the University of Applied Science in Tilburg.

Martin Woerter, joined the ETH Zurich, Swiss Economic Insitute KOF in May 2002. He holds the position of a senior lecturer and project leader. His research focuses on areas such as market structure, adoption/ diffusion of new technologies (ICT), knowledge and technology transfer, employment studies and evaluation of research funds. In total he has about 10 years experience in applied research in the field of economics with a strong emphasis on empirical studies. His PhD investigates cooperation in research and development. Prior to joining ETH Zurich he





worked as a researcher at the Scientific Institute of Communication Services GmbH (WIK) in Germany, he carried out and led projects in the field of information and communication technologies aiming also at consulting policy makers. Furthermore, during his work as a research assistant in economics at the University of Innsbruck (1997-2000) he was part of a research team at the Austrian Academy of Sciences focusing on policies for media and ICT. He also was carrying out parts of his PhD at SPRU in Brighton, UK.





Appendix E: List of Non-speaker participants

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Appendix F: Evaluation results

GENERAL

Evaluation results show that the majority of participants found the Symposium useful and well organized in terms of content and other perspectives. Most common criticism was related to plenary sessions lacking of real life examples having more focus on theoretical perspectives. Plenary Session 3 has received the most positive evaluations and comments. On the other hand parallel sessions were found interesting in terms of presentations, interaction and discussion opportunities. International profile (of speakers) and networking among the participants (and with speakers) was a common most useful point.

Due to very low level return rate on evaluations of the parallel session 2, related statistics can not be provided. Nevertheless, the Parallel Sessions 1 and 3 have been evaluated very positively.

DETAILS

Participation Rate: %22,9

Content

	Excellent	Good	Average	Poor
Whole event	28%	56%	16%	
Plenary 1	16%	48%	36%	
Plenary 2	20%	40%	40%	
Plenary 3	60%	32%	8%	
Parallel 1	9%	81%	9%	
Parallel 2	n/a	n/a	n/a	n/a
Parallel 3	66%	34%		
Parallel Session Reports & Concluding Remarks	n/a	n/a	n/a	n/a

Overall Organization

Overall organization (venue, food and refreshments, promotion and administration prior to the event, organization on the day, etc) was positively evaluated.





Appendix G: List of abbreviations

Abbreviation	Full-Term
AAAS	American Association Advancement of Science and Technology
BILAT-USA	Bilateral Coordination for the Enhancement and Development of S&T Partnerships between the European Union and the United States of America
BMS	Biological and Medical Sciences
BMSTWG	Biological and Medical Sciences Thematic Working Group (ESFRI)
СССР	Competitivesness for Customers at Competitive Prices
CRF	Centro Reserche Fiat
DG	Directorate General
DoE	Department of Energy
EC	European Commission
EIF	European Investment Fund
EU	European Union
ERA	European Research Area
ESFRI	European Strategy Forum on Research Infrastructure
EW	ERAWATCH
FFG	Austrian Research Promotion Agency
	(Oesterreichische Forschungsförderungsgesellschaft mbH)
FP(7)	(Seventh) Framework Programme for Research and Technological Development





IP®	Intellectual Property (Rights)
LSRI	Large Scale Research Infrastructures
NIH	National Institute of Health
NSF	National Science Foundation
OI	Open Innovation
OIA	Open Innovation Accelerator
RDI	Research Development and Innovation
RI	Research Infrastructures
R&D	Research & Development
RTD	Research and Technological Development
S&T	Science & Technology
TWG	Thematic Working Group
USP	Unique Selling Point
U.S.	United States of America
USA	United States of America
WIPO	World Intellectual Property Organisation

