



GLOBAL FORUM ON THE KNOWLEDGE
ECONOMY



*Istanbul, Turkey
22-23 October 2013*

The Global Forum of the Knowledge Economy

Agenda

The Future of Science and Innovation

22-23 October 2013

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Background

The Global Forum on the Knowledge Economy provides a platform for exchange and networking among governments, business and civil society groups on the role that science and innovation policies should play in improving growth, sustainable development and the quality of life.

The 2013 Forum will explore the current state of science and innovation, address the key challenges for policy today and explore good policy practices at the national level as well as steps that should be taken at the international level. It will gather panellists both from developed and emerging countries. The Forum is intended to be highly interactive; it will be based primarily on panel discussions, and will provide ample room for networking and interaction among participants.

The overarching theme of the 2013 Forum is “the future of science and innovation (S&I) policies”. The role of S&I has never before been seen as important as now, for the economy, society, the environment. As OECD countries are confronted with a lasting post-crisis downturn, as emerging economies are experiencing a slowdown, innovation is one of the expected engines of sustained growth, beyond all the macroeconomic imbalances. Innovation is being mobilised also for addressing social challenges like health or ageing, or environmental challenges like climate change: whereas price adjustments (e.g. a carbon tax) and appropriate resource allocation (e.g. social contribution) are needed to manage and alleviate some of these problems, innovation is expected to bring the most sustained, durable solutions. While expectations for the role of S&I has been growing, the conditions in which S&I operate have changed drastically. S&I is now a global activity, it is not the preserve of rich countries anymore, as emerging countries are taking an increasingly active participation by performing research and other types of innovative activities. Information Technology (IT) has been changing many aspects of the way S&I operate, by increasing the productivity of research, allowing to connect more closely business labs with customers, facilitating global cooperation in research etc. Finally, the macroeconomic environment is having a significant impact on S&I. Business enterprise R&D has declined in OECD countries after the financial crisis of 2008 and it has not recovered yet its previous level; only thanks to government spending has total R&D recovered its pre-crisis level, but austerity budgets are now reaching on R&D expenditure as well and the perspectives are not positive in a number of OECD countries. Emerging countries have kept growing over the past years and their innovative activities have increased accordingly, but with the macroeconomic downturn now reaching them as well, the future of R&D might also become less certain.

The Global Forum will review these factors; it will discuss a number of longer term trends that have been affecting innovation policies in OECD and emerging countries; and it will take a forward looking perspective regarding coming policy transformations for S&I.

The objective of the GFKE will be to exchange on a number of key dimensions around these challenges, to identify issues and good policy practices across countries. All panels include a mix of OECD members and non members, with the view to assess the basic commonality of issues, interest and policy solutions for all types of countries.

Launching the Innovation Policy Platform and the 2013 STI Scoreboard

The GFKE will also be the opportunity to launch two key products of OECD, the new *Innovation Policy Platform (IPP)*, and the *2013 STI Scoreboard*

The IPP, a web-based learning system for science and innovation policy, has been in preparation since 2010. It has been developed under the aegis of the CSTP and the TIP within the OECD and in close partnership with the World Bank. The IPP will provide open and free access to a range of innovation policy material, from the OECD and the World Bank: policy notes and briefs, case studies, thematic reports and statistics. This material has been tagged and cross-linked, so that it is extremely well documented and allows users to navigate through it in an informed way. The IPP will offer a number of interfaces for users to access and use this content intuitively and efficiently (semantic search engine, menus, navigation maps, etc.). The IPP will offer value-added services to policy makers, analysts and practitioners of innovation policy, both in developed and emerging countries. It will operate as a one stop-shop for those interested in the OECD and World Bank studies.

The *STI Scoreboard* is a bi-yearly publication of DSTI that present a broad quantitative picture of world-wide trends in science and innovation activities and policies, often involving the development and use of a variety of new, innovative indicators. It is the most advanced and innovative statistical publication of OECD in the field. The 2013 edition covers science and innovation, but also industry and globalisation.

Day I (22 October)

09.30-10.00	Opening
	<ul style="list-style-type: none">• Nihat Ergün, Minister of Science, Industry and Technology, Republic of Turkey• Yves Leterme, Deputy Secretary General, OECD• Andrew Wyckoff, Director, Directorate for Science, Technology and Industry, OECD

10.00-12.00	Session I: What can science and innovation contribute to global economic growth?
	<p>Chair: Cavit Dağdaş, Deputy undersecretary, Treasury, Republic of Turkey</p> <p>Moderator: Dominique Guellec, Head of Division, Country Studies and Outlook Division, Directorate for Science, Technology and Industry, OECD</p> <ul style="list-style-type: none"> • Aysegül Ildeniz, Intel, BIAC Technology Committee Vice Chair • Pierre Vigier, Head of Unit, DG Research and Innovation, European Commission • Park Hang Sik, Deputy Minister for Science & Technology Coordination, Ministry of Science, ICT and Future Planning, Korea • Mariana Mazzucato, Professor of Economics, SPRU, UK • Cevahir Uz Kurt, Director General, Ministry of Science, Industry and Technology, Republic of Turkey • Colin Latimer, Professor, Department of Physics and Astronomy, The Queens University of Belfast, United Kingdom <p>Global economic growth has been slowing down over the recent period. Most OECD countries are still struggling to recover from the financial crisis of 2008; that has accelerated the trend for emerging economies to increase their share in the global economy; however emerging economies themselves have been faced with a downturn more recently. High tech industries seem not to be hurt as much as the rest, and R&D and innovation are still active: due to strong consumer demand, to competitive forces and to the maintained business strategic orientation of knowledge-based investment. Hence innovative activities seem to be resilient in this context. If the downturn were to continue for some time and the financial position of industry to deteriorate accordingly innovation might suffer in turn. At the same time, weak economic growth has put under threat government budgets for science and innovation in a number of countries. Previously planned increases have been revised downward, or expenditures have been plainly reduced. In this context, the role of science and innovation as sources of economic growth has to be re-asserted and even strengthened. Sustained productivity growth and new products launch are the major sources of investment and consumer demand, they all require innovation and science. This session will discuss both the evolving role of science in innovation in this changing economic context, and the impact of difficult macroeconomic conditions of innovation.</p> <p>Main questions that this session will address:</p> <ul style="list-style-type: none"> • <i>What changes has the financial and economic crisis generated in science and innovation performance, both in OECD and in emerging countries?</i> • <i>Which technologies, what industries, and which countries, might lead in terms of science and innovation in the coming decade?</i> • <i>How is the current expansion and geographical diversification of the global research community impacting science and innovation?</i> • <i>What are the conditions for science and innovation to contribute to a sustained, global economic recovery?</i>
12.00-13.00	Launch of the Innovation Policy Platform
13.00-14.30	Lunch

14.30-16.00	Session II: Monitoring science and innovation policies with IT and data
	<p>Chair: Mustafa Kaplan, President, KOSGEB (SME Agency), Republic of Turkey</p> <p>Moderator: Fernando Galindo-Rueda, Senior Economist, Economic Analysis and Statistics Division, Technology and Industry, OECD</p> <ul style="list-style-type: none"> • Julia Lane, Senior Managing Economist, Institutes for Research, United States • Juan Corro, Director of cabinet, State Secretariat for telecommunications and Information Society, Spain • Ahmet Mete Çakmakçı, General secretary, Technology Development Foundation of Turkey (TTGV), Republic of Turkey • Shinichi Abe, Managing Director, Google Japan <p>Monitoring and evaluation are about gathering and processing information, both qualitative and quantitative, hence the increasing use of IT tools in such exercises. Several countries (including the United States and Japan) and the European Commission are currently developing projects aimed at using IT for better monitoring and evaluation of science and innovation policies. These initiatives, sometimes labelled “SciSIP”, or “Science of science and innovation policies”, consist of several components, like: mapping the science system at a highly detailed level, down to individual researchers, publications, institutions and grants and relating that information to the funding agency, with a view to monitoring and understanding scientific achievements; mapping the business sector in a similarly granular way; mapping policy measures and analysing their impact; etc. Hence IT is mobilised not only to collect and process quantitative data but also qualitative information, which offers new opportunities for more diversified and sophisticated used in policy analysis, design and assessment. For emerging countries that are engaged in setting up a national research and innovation system, these new tools offer a unique opportunity to monitor the efficiency of their system from the outset.</p> <p>Main questions to be addressed:</p> <ul style="list-style-type: none"> • <i>What types of impact do science and innovation policies have, and how can they be monitored and assessed?</i> • <i>What can IT do, and cannot do, to help monitoring and evaluating science and innovation policies?</i> • <i>What types of models, quantitative and qualitative, should be used to interpret the data, taking into account the diversity of countries?</i> • <i>How can SciSIP initiatives complement existing evaluation systems?</i>
16.00-16.30	Coffee Break

16.30-18.00	Session III: Open science: the new frontier?
	<p>Chair: Yücel Altunbaşak, President, TÜBİTAK (Research Council), Republic of Turkey</p> <p>Moderator: Mario Cervantes, Senior Economist, Country Studies and Outlook Division, Directorate for Science, Technology and Industry, OECD</p> <ul style="list-style-type: none">• Geoffrey Boulton, Edinburgh University, United Kingdom• Richard A. Johnson, Chairman, BIAC Technology Committee; CEO Global Helix LLC• Habip Asan, President, Patent Institute, Republic of Turkey• Liu Chuang, Professor, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, China <p>While science has always been open and subject to open debate, the term “open science” relates to new trends mainly associated with the Internet, like “open data” or “open access”. Both scientific results, notably journal articles, and scientific inputs (raw or elaborated data) are potentially available very widely at negligible cost via the Internet. That gives researchers new opportunities and access to a broader pool of knowledge, and it facilitates research co-operation between distant teams. It also raises new issues related to the funding of research, to standards, and to Intellectual Property Rights (IPR). Open science creates specific opportunities for emerging countries as it might facilitate their quick entry and integration into world-wide scientific networks. One major reason for government to have interest in open science is the possibility that easier access to various types of data and knowledge might foster innovation; both new companies and established ones might rush to these newly opened reservoirs of ideas and transform them into new goods and services. Open science might also specifically impact certain industries like the publication, pharmaceutical and software sectors, where business models will have to adapt.</p> <p>Main questions to be addressed:</p> <ul style="list-style-type: none">• <i>What are the main benefits and costs of open science?</i>• <i>What are the major obstacles to open science?</i>• <i>Should IPR adapt to the new context of open science?</i>• <i>What new funding models are there for scientific publishing?</i>• <i>How can emerging and developing countries seize the opportunities created by open science?</i>

Day II (23 October)

9.00-10.30	Session IV: Promoting and funding research excellence: new approaches
	<p>Chair: Yılmaz Tuna, General Director of Social Sectors and Coordination, Ministry of Development, Republic of Turkey</p> <p>Moderator: Svend Remoe, Special adviser, Research Council of Norway, Seconded policy analyst to the OECD</p> <ul style="list-style-type: none"> • Ulrich Schüller, Director General of the Directorate Science Systems in the Federal Ministry of Education and Research, Germany • Arvid Hallén, Director General, Research Council, Norway • Venkata Krishna, Professor, Centre for Studies in Science Policy, Jawaharlal Nehru University, New Delhi, India • Mehmet Sarıkaya, Washington University, Bio-Nano Technology, United States <p>Higher Education Institutions (HEIs) and Public Research Institutions (PRIs) increasingly compete in an international market for talent and funds. Many must also meet multiple goals, including conducting long-term research that is broad enough to build the knowledge-base for future challenges, conducting cutting-edge research on current issues, and training research and development personnel. Governments fund a large share of research and development (R&D) in the public sector. Given the size of this expenditure, and the desire to ensure that public funding is efficient and effective, the methods used to allocate these resources have become more important and call for new ways of distributing public funding for research. Issues there include the mix of institutional vs. competitive project funding, selection based on scientific excellence/peer review, freedom of research and teaching, focusing on centers of excellence vs. ensuring equal support to all, etc. Some OECD countries have adopted innovative schemes for several years and those can now be assessed. Emerging countries are in a very good position to experiment directly with new models as they are setting up new research structures. This session will aim at identifying schemes which are more suited to promoting excellent research.</p> <p>Main questions to be addressed:</p> <ul style="list-style-type: none"> • <i>What types of new funding schemes are being used?</i> • <i>Why are countries adopting research excellence funding schemes?</i> • <i>How are new schemes implemented, how do they co-exist with more traditional modes still in place?</i> • <i>Are these funding schemes strengthening the national research landscape for OECD and emerging countries alike?</i>
10.30-11.00	Coffee Break

11.00-12.30	Session V: Industry-Science relationships: What's new?
	<p>Chair: Ersan Aslan, Undersecretary, Ministry of Science, Industry and technology, Republic of Turkey</p> <p>Moderator: Goran Marklund, Deputy Director General, External Matters, VINNOVA, Sweden</p> <ul style="list-style-type: none"> • Alvini Pranoto, deputy assistant of science and technology, Ministry of Science and Technology, Indonesia • Erkki Ormala, Aalto University, formerly Vice-President, Business Environment, Nokia, Finland • Yongsuk Jang, Research Fellow, Science and Technology Policy Institute (STEPI), Korea • Durmuş Günay, Member of the Higher Education Council, Republic of Turkey <p>Industry-science relationships are a major policy issue in all countries, both because of their potential impact on the economy and society, and because of the difficulties they raise. Science and industry have different goals, they follow different rules, they have different incentives and cultures, and organising their interaction is not straightforward. However, such interaction is key to ensuring the continuous flow of market implemented inventions that modern economies need. Academia is an important source of successful high tech companies founded in the past decades and academic research is at the origin of many successful innovations in all industries. The channels between the two worlds are quite variegated, and instruments currently neglected by policy makers, e.g. measures to help students found enterprises, may have an important role to play in the future. Previously piecemeal policy approaches are now getting better integrated (e.g. IP policy with contractual research); and technology transfer offices are getting more market oriented and professional. In setting up and expanding their public research systems, emerging countries have an opportunity to create and embed innovative linkages with industry</p> <p>Main questions to be addressed:</p> <ul style="list-style-type: none"> • <i>How have industry-science relations evolved over recent years?</i> • <i>What are the major obstacles to developing industry-science relations, in the academia, in industry and at their interface?</i> • <i>What are the main types of industry-science relationships and what is their relative importance?</i> • <i>What are the most recent local innovations and experiments in national policies for developing industry-science relationships; to what extent can they be diffused to other countries?</i> • <i>What are recent experiences in developing industry-science relationships in emerging countries and how do they compare to OECD experiences?</i>
12.30-14.00	Lunch presentation: Launch of the 2013 STI Scoreboard

14.00-15.30	Session VI: The role of Technology Foresight in formulating future science and innovation policies
	<p>Chair: Hasan Mandal, Deputy Chancellor of Sabancı University, Republic of Turkey</p> <p>Moderator: Michael Keenan, Senior Policy Analyst, Country Studies and Outlook Division, Directorate for Science, Technology and Industry, OECD</p> <ul style="list-style-type: none"> • Wolfgang Polt, Director, Joanneum Center, Austria • Grégoire Postel-Vinay, Head of the Observatory of Industrial Strategies, ministry of the Economy, France • Mu Rongping, President, institute of policy and management, Chinese Academy of Sciences, China • Banu Onaral, H. H. Professor, Drexel University and Senior Advisor - Strategic Partnerships, Teknopark Istanbul <p>The current context is best characterised as being turbulent: economic turbulence in a context of macroeconomic slowdown and shifting worldwide balances; and technological turbulence as IT and other generic technologies are transforming the way we produce and consume. In this context, it has become more difficult, and more crucial, for businesses and governments to anticipate the events and emerging tendencies that might affect economic and social life and the development and welfare of nations in the future. One response is to mobilise technology foresight techniques when formulating long-term national science, technology and innovation policies. Such foresight exercises are used to orientate public policies (on education, science and technology, investment in infrastructure, etc.) and are of intrinsic interest to industrial and other stakeholders since they help nations to converge to a common vision of their future. At the same time as it makes foresight exercises more urgent, the increasingly turbulent environment makes them more difficult, calling for innovative approaches. As many of the trends to be address in technology foresight are global, be they technological or socio-economic, international cooperation in this field is potentially most beneficial.</p> <p>Main questions to be addressed:</p> <ul style="list-style-type: none"> • <i>What is the role and importance of technology foresight in the formulation of science, technology and innovation policies?</i> • <i>What are the fields and issues which, in view of their expected future importance in innovation and in the economy, should be particularly addressed in foresight studies?</i> • <i>How are technology foresight techniques adapted to specific country characteristics?</i> • <i>How can best practices be identified in countries and diffused to other countries?</i>
15.30-16.00	Coffee Break

16.00-17.15	Closing Session: the future of Science and Innovation Policies
	<p>Moderator: Andrew Wyckoff, Director, Directorate for Science, Technology and Industry, OECD</p> <ul style="list-style-type: none"> • Davut Kavranoglu, Deputy Minister, Ministry of Science, Industry and technology, Republic of Turkey • Hu Zhijian, Executive Secretary General and Vice President, Academy of Science and Technology for Development, China • Zakri Abdul Hamid, Adviser to Prime Minister, Malaysia • Goran Marklund, Deputy Director General, External Matters, VINNOVA, Sweden • Maria Luisa Poncela Garcia, Secretary General, General Secretariat for Science, technology and Innovation, Economy and Competitiveness Ministry, Spain • Gerardo Corrochano, Director, Europe and Central Asia Region (ECA) and Innovation, Technology and Entrepreneurship Global Practice (ITE), Financial & Private Sector Development (FPD), The World Bank Group. <p>A multitude of factors are driving scientific, technological and innovative activity and the way that these shape the world in which we live. These include external developments in the broad social, economic and political environments in which research and innovation occur (the financial crisis, globalisation; regional disparities; demographic shifts; political instability; and global challenges). They also include changes within the S&T milieu that are opening up exciting new opportunities (new discoveries, big data, the onset of open science and open innovation etc.). All these developments pose new challenges for policy formulation, which is itself shaped by political drivers such as social need, the promotion of national competitiveness and the desire to satisfy cultural imperatives concerning knowledge acquisition, and by pragmatic considerations such as the need to tackle many scientific and societal challenges at a global level. And critically, all these challenges, drivers and policy solutions differ from one country to the next.</p> <p>Main questions to be addressed:</p> <ul style="list-style-type: none"> • <i>What drivers of change are likely to have the biggest effect on policy development?</i> • <i>What are the most important challenges for policy in different parts of the world?</i> • <i>How are policies likely to change in different environments?</i> • <i>Are there common challenges and policy solutions across countries</i> • <i>How can global responses to global challenges be initiated and supported?</i>
17.15-17:30	Closing speech
	Davut Kavranoglu , Deputy Minister, Ministry of Science, Industry and technology, Republic of Turkey

