

Joint statement on behalf of:

European Research Area Board

Business Panel on Future EU Innovation Policy

Expert Group on the Role of Community Research Policy in the Knowledge-Based Economy

European Technology Platforms – Expert Group

Science|Business Innovation Board

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Needed: A new approach for research and innovation in Europe

A joint statement of 5 expert groups on research, development & innovation policy

To the European Parliament:

The world has changed. Markets are global. Science is an increasingly competitive endeavour. Innovation is becoming the most important engine of growth and jobs in an emerging knowledge-based economy. But in the European Union, many policies governing research, development and innovation need radical improvement, and better long-term planning.

As a new Commission and Treaty come into play, now is the opportunity for change. We are a diverse set of expert groups, some officially appointed and some self-selected, but all working independently of one another for many months on reviews of existing RDI policy. We now find, on the basis of our experience, that common sense speaks out for the urgent adoption of five clear but vital concepts for reform. We note some promising signs of change – such as the recent Lund Declaration¹, promulgated under the Swedish Presidency, and President Barroso's announcement of plans for a chief scientific advisor and the appointment of a climate-change commissioner.

Now, as the Parliament prepares for hearings on the new Commission, we call on EU leaders to heed calls for more-rapid change – so that EU science and technology can play its full part in solving the world's greatest challenges, and we can at last fulfill the unmet expectations of the Lisbon Agenda to create the most competitive, innovative society in the world.

To this end, we identify the following five recommendations:

1st Recommendation: Focus on our greatest societal challenges

Research and innovation has always been about solving great problems. But in Brussels, the support systems haven't always worked efficiently. EU efforts have been a series of disconnected, horizontal RDI programmes supporting different types of collaborations, ventures and research projects, but with

inconsistent attention paid to what, exactly, they are to accomplish for society. It's now time, as one of the expert groups² has put it, to shift the policy focus from the pace of technological change to the direction of that change – to focus RDI on coherent programmes to solve urgent societal issues. These include climate change, alternative energy, healthcare for an aging population, security and social cohesion. We also need a more systematic approach in the European institutions to analysis of long-term trends, in order to understand such problems and guide policy development. Thus, we urge a fundamental reorientation of EU RDI policies and programmes towards solving these challenges.

Our reports include specific recommendations to address this principle:

- By 2030, “a third of public, non-military research is (to be) geared to grand societal challenges, with a multi-disciplinary approach. 30% of all scientists, including humanities and social sciences, are (to be) trained in research fields relevant to the Grand Challenges. Multi-disciplinary academic training is (to be) generalised to educate our research community into the complexity of the Grand Challenges, without diminishing the importance of discipline-based expertise.”

-European Research Area Board³

- Societal challenges “represent systemic challenges, which few – if any – countries have either the experience or resources, or indeed the possibility, to tackle successfully on their own. In Europe in particular, the current compartmentalisation of research resources hampers the development of the critical mass of effort needed. In the final analysis, orienting EU policies towards the resolution of societal problems holds the promise not only of successfully confronting these challenges but also of nurturing the development of the ERA and creating a new growth engine for economic development.”

-Knowledge-Based Economy

- “We propose to base EU action around compelling social challenges; to finance social innovation funds; to incentivize large scale community level innovations; to transform the public sector with a budgetary innovation target; and to engage the young and the old in new types of partnerships.”

-Business Panel on Future EU Innovation Policy⁴

- European Technology Platforms “should continue to exist and join forces in temporary clusters to work towards solutions to a particular grand/societal challenge. The clusters should adopt variable geometry as necessary. The vision, strategic agenda, implementation plan and deployment strategy developed within the cluster will represent EU-wide agreement on priorities between academia, business and national authorities, and should be used as a basis to align priorities between the EU and the Member States.”

-ETP Expert Group⁵

2nd Recommendation: Encourage new networks, institutions and policies for open innovation

Science and invention cannot be performed in isolation. Throughout the world, the dominant mode of research and innovation is through open collaboration – among small and large companies, university and industry, public and private sector, clusters and trading blocs. This requires an open environment for knowledge, talent and services to flow, and for critical mass to build where needed. Yet the EU policy

focus has not yet adapted to this reality. We have more than 2,000 innovation clusters in Europe, few of global significance. Despite 30 years of trying, we still have no common, EU-wide patent system. Mobility of researches remains limited. To change this, we need policies that encourage new networks, knowledge institutions and mobility to integrate European innovation into global value creation.

Our reports include specific recommendations to address this principle:

- By 2030, “mobility of researchers between the public and private sector is (to be) high, and industrial funding of academic research accounts for 1/3 of the overall research budget. Mobility triples, with up to 20% of EU doctoral candidates working outside their home country – a three-fold increase from today. Our universities must attract the brightest brains from around the world, and our markets the best-of-class competitors; a global research space requires ‘brain circulation.’”

-European Research Area Board

- “We propose to create and network innovation labs; invest in cultural and creative institutions, organisations and networks; reinforce the role of brokers and intermediaries; develop a major prize for innovative localities; and stimulate universities and public research centres to be more open and international.... Develop an EU wide market for trading and sharing Intellectual Property.”

-Business Panel

- “Unleash the potential of the knowledge triangle. The ETP clusters should take a wider role and extend their scope to include education and the complete innovation chain. The clusters will need to be overseen and supported from a higher-level central office to allow for coordination across different Directorate-Generals and Member States.”

-ETP Expert Group

- BE OPEN. Encourage the best people, wherever in the world they may be, to work in Europe’s clusters. Promote open competition, among universities, companies and regions, for funding. Promote border-crossing – among people, ideas, scientific disciplines, and industries. There should be greater international review of unnecessary or anomalous barriers to mobility, that would benefit all. Break the barrier between business and technical universities. Organise researchers to work across scientific disciplines.

-Science|Business Innovation Board⁶

3rd Recommendation:

Spend more on research, education and innovation, in part through bolder co-investment schemes

For most technology entrepreneurs in the EU, access to finance remains the number one obstacle to innovation; there is less risk-capital around, and it’s harder to get at. At the same time, there’s also less public money available for research, education and innovation in the EU on average than in the US or Japan. This must change. Especially in these difficult economic times, it is the responsibility of government to support public innovation: A new Lisbon strategy should embrace a more-comprehensive target than R&D intensity alone, encompassing several key inputs to the knowledge economy. At the same time, through enlightened fiscal policies and bold experimentation in public-

private co-financing, we must make it easier for our researchers, engineers and entrepreneurs to find the cash needed to get their ideas to market.

Our reports include specific recommendations to address this principle:

- “Innovative financing models: Europe needs a radical new approach to financing innovation with new partnerships to share risk and more intelligent ways to combine funding between instruments. Innovation should be core to financial institutions, with the European Investment Bank (EIB) becoming a European Innovation Bank. We propose a major development of the European Investment Fund (EIF) to create a pan-European Innovation Fund.”

-Business Panel

- By 2030, “2% of public procurement ERA-wide is (to be) earmarked for innovative and pre-commercial technologies, and is open to European-wide competition. The share of the EU budget devoted to research triples to 12%. At least 30% of the structural funds are used for RTD, including fostering partnerships, supporting pre-commercial procurement and investing in large-scale research infrastructures where needed – double the current allocation.”

-European Research Area Board

- “Set a new EU 3% knowledge investment target [for public-sector funding]. Obtain Member States’ commitment to increase their investments in knowledge and set national targets so as to achieve that by 2020 1% of Europe’s GDP is spent from public funds on research and development and 2% of Europe’s GDP on higher education. Allocate a greater proportion of structural funds to the development of research and innovation capacity. In particular, make the provision of structural funds conditional upon the development of smart specialisation strategies.”

-Knowledge-Based Economy

- “It’s time to scale up, on a European stage, some of the successful schemes for public/private partnership in seed financing that have been pioneered across Europe. Examples include Britain’s University Challenge Scheme of 1999, which provided matching funds for private investment in university spin-out companies; and the Flemish Investment Board whose co-funding has made the university at Leuven a potent biotechnology incubator. Also, European governments need to lighten the tax burden for our young, innovative companies. An example is a French government programme, begun in 2004, that has provided temporary tax breaks to more than 1,700 new tech companies.”

-Science|Business Innovation Board⁷

4th Recommendation: Coordinate and plan RDI programmes better – within Brussels and among the member-states

Europe’s diversity is a strength; but in the case of EC and national programmes for research, development and innovation, we are strong to a fault. All too often, there are unnecessary duplications, needless contests over administrative territory, and confusing bureaucracy. We have at our disposal limited reserves of capital, talent and legal tools, and they must work together to simplify and support the process of discovery and innovation across the EU. We urge greater coordination among all the EU

capitals, a reduction in paperwork, and synchronization of all aspects of RDI funding, regulation, and standard-setting to achieve our aim of solving society's Grand Challenges. At the same time, we urge a reform in the way policy is developed: scientific and technical foresight, advice and planning – coupled with wider public education and debate about the technical issues we face – must become the norm rather than the happy exception in political decision-making.

Our reports include specific recommendations to address this principle:

- “Speed and scale are everything in innovation. More is needed to speed up the uptake of innovative solutions and technologies, especially in the public sector. Funding programmes and innovation support must be synchronised with development of standards, public procurement and regulations. We propose that the EU sets clear innovation targets; launches ambitious European initiatives with synchronised actions around major challenges; ensures EU directives and regulations support innovation; changes public procurement to support innovation; and opens up government owned data to facilitate a knowledge infrastructure, where European citizens can help transform public services. “

-Business Panel

- “Our complex societies need scientific research to support long-term evidence-based decision-making in society. We need a “people exchange” so researchers and policymakers can spend time in each other’s worlds. [Goals include:] Half of all scientists and research policy maker, across all disciplines and at all levels of the science system, are women. Half of the adult population has achieved tertiary education – double today’s rate. A universal code of scientific ethics is adopted by the whole European research community, enunciating social responsibilities as well as intellectual freedoms. Communications training must become part of standard research training. A communications plan should be a prerequisite for research grant applications.”

-European Research Area Board

- “Strengthen and expand the remit of the ERC; and the Knowledge and Innovation Communities of the EIT; continue the Europeanization of research infrastructures including the exploitation of new legal frameworks for their establishment; and launch a new Joint Research Initiative scheme. Encourage the design of smart specialization policy mixes capable of nurturing and capturing the capabilities of entrepreneurial entities within regions. Reduce investment risk. Lower the uncertainty surrounding expected rates of return on private R&D investments by improving coordination between the policy domains responsible for nurturing research, stimulating innovation and regulating market development.”

-Knowledge-Based Economy

- “Involve the key stakeholders for each particular challenge. The stakeholders in societal challenges are many. The ETP clusters will have to broaden participation to include not only researchers, but also funding institutions, policy makers at both EU and Member State levels, business communities, and organisations representing the interests of the citizen. A foresight exercise might be a way to achieve this broad stakeholder base. Seed money should be provided by the European Commission to fund a series of initial interactions and preparation for deeper cooperation, including the mobilisation of other funds.”

-ETP Expert Group

5th Recommendation: Open competition should be standard in EU programmes

Excellence must be the watchword of EU research, development and innovation programmes. This is not to diminish the importance of EU cohesion or regional development; these are vital efforts, for which many specialized programmes do and should exist. But RDI programmes must focus scarce resources on the best. Only in this way can we compete globally.

Our reports include specific recommendations to address this principle:

- “The EU institutions can play a unique role in striving for excellence. European-wide competition enhances the quality of research – and the bigger the contest, the better the winner. The European Research Council points the way. This is the ideal mechanism: The EU institutions become the ‘gold standard’ to which all may aspire, but only the best succeed. We hope this model will extend to the newly created European Institute of Innovation and Technology, and see it could be replicated in other EU research programmes, such as for large-scale research infrastructure. “

-European Research Area Board

- “Focus on excellence. Money isn’t enough, unless it’s spent wisely – and that means making choices. Research grants in most European countries are spread wide and thin. There are more than 2,000 industry “clusters” in Europe, fostered by hundreds of conflicting and competing regional, national and European policies. This egalitarian approach, using education and research as tools for regional development, must stop. Funding agencies have to recognise that not all universities are created equal, nor can all regions create world-class clusters of innovation. We urge the EU to designate a few – and we mean just a few – existing clusters to benefit from a new legal status as special innovation zones. They would get special, temporary dispensation from rules that hamper free movement of people and ideas, such as immigration and labour policies that make it hard for small companies to hire or fire. They could tap seed funding, supported by the EU and managed by investment professionals. They could earn a new, low-tax status reserved for young, innovative companies, and access low-cost, high-quality office space and support services. “

-Science/Business Innovation Board

- “Introduce merit-based competition at EU level in support of individual institutions and in ways that enable stronger differentiation among universities and RTO’s. Greater autonomy and accountability are also needed to support increased diversity. Focus support to collaborative research. Use selection criteria that emphasise research excellence, the potential for radical innovation and the capacity to operate globally. Support young innovative companies beyond their start-up phase. Launch EU-wide ‘excellence through competition’ schemes encouraging young innovative companies to undertake high-risk projects and pursue radical innovations.”

-Knowledge-Based Economy

The 5 panels represented in this joint statement:

The European Research Area Board – 22 leaders in academia, industry and policy convened by EU Science and Research Commissioner Janez Potočnik to make recommendations on the long-term future of the ERA. First report, “Preparing Europe for a New Renaissance: A Strategic View of the European

Research Area”, released in October 2009. Further reports are planned with more-detailed recommendations. Contact: Chair, Prof. John Wood, Imperial College London: j.wood@imperial.ac.uk. Web link: <http://ec.europa.eu/research/erab>

Business Panel on future EU innovation policy - 5 business leaders appointed by the European Commission’s Director-General for Enterprise and Industry to provide inputs from a business perspective on priorities for future EU innovation policy. Report, “Reinvent Europe through Innovation”, published October 2009. Contact: Chair, Diogo Vasconcelos, Cisco Systems: dvasconc@cisco.com. Web link: <http://ec.europa.eu/enterprise/policies/innovation/future-policy/business-panel>

Expert Group on the Role of Community Research Policy in the Knowledge-Based Economy – 17 economists and other experts convened by the European Commission’s Directorate-General for Research to make short-term recommendations for R&D programmes. Report, “The Role of Community Research Policy in the Knowledge-Based Economy,” released November 2009. Contact: Chair, Prof. Luc Soete, UNU-MERIT: soete@merit.unu.edu.

European Technology Platforms Expert Group – 10 experts - five with ETP experience, two from civil society, three from authorities/member-states, convened to report to the EU’s DG Research. A preliminary summary of their findings, “Strengthening the Role of European Technology Platforms in Addressing Europe’s Grand Challenges,” was published in October 2009. Contact: Chair, Horst Soboll, ERTRAC: horst.sobol@web.de. Web link: ftp://ftp.cordis.europa.eu/pub/technology-platforms/docs/i652-etp09-flyers_en.pdf

Science|Business Innovation Board AISBL– An independent, non-profit panel of 10 leaders in European industry, academia and policy that make semi-annual recommendations on EU innovation policy. Reports include: “Stimulating Innovation,” December 2009; “Towards a More Innovative Europe,” June 2009. “Clustering for Growth,” December 2008. Contact: Director, John Wyles, Science|Business: john.wyles@sciencebusiness.net. Web link: <http://www.sciencebusiness.net/info/innovationboard.php>

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REFERENCES

- ¹ Lund Declaration: “European Research Must Focus on the Grand Challenges.” July 2009.
- ² Expert Panel – Knowledge-Based Economy. “The Role of Community Research Policy in the Knowledge-Based Economy.” October 2009.
- ³ European Research Area Board. “Preparing Europe for a New Renaissance: A Strategic View of the European Research Area.” October 2009.
- ⁴ Business Panel on Future EU Innovation Policy. “Reinvent Europe Through Innovation.” October 2009.
- ⁵ ETP Expert Group. “Strengthening the Role of European Technology Platforms in Addressing Europe’s Grand Challenges.” November 2009.
- ⁶ Science|Business Innovation Board. “Clustering for Growth.” December 2008.
- ⁷ Science|Business Innovation Board. “Towards a More Innovative Europe.” June 2009.