

Proceedings of CONCORD 2010:

2nd European Conference on corporate R&D
An engine for growth, a challenge for European policy

Policy Makers' Forum – Summary Report

edited by
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CONCORD 2010 – POLICY MAKERS FORUM

Summary and conclusions

The European Conference on *Corporate R&D – An engine for growth, a challenge for European policy* ([CONCORD 2010], 3-4 March 2010, Seville, Spain) was presented as one of the highlights of the Spanish Presidency in the area of research and innovation. It aimed at paving the way to the elaboration of a new European strategy in this domain, the Innovation Union initiative, as one of the central elements of the Europe 2020 strategy for smart, sustainable and inclusive growth.

The Conference was the result of a fruitful collaboration between the European Commission and the Spanish Presidency¹.

With the continuing of comparative growth of the Asian economies, ever more research will be carried out outside the European Union. Europe needs therefore to consolidate the development of the knowledge-based society, fostering the European Research Area and launching a renewed effort on innovation. For these reasons the 2010 Spanish Presidency of the EU Council promoted the *three Is'* priorities: *Integration, Involvement and Inclusion*.

Thus, by *Integration* it is meant placing R&D and innovation policies at the centre of the European project and improving the ERA governance structures and synergies. By *Involvement* it is meant that research and innovation programmes – whether being Community-wide, national, or intergovernmental – should get into action quickly to respond in an efficient way to the Grand Challenges we face, namely energy and climate change, pressure upon natural resources, healthcare and ageing population, thus simplifying the work of researchers and companies. By *Inclusion* it is meant that science and innovation should have a more high-profile role in the promotion of social cohesion and the fight against poverty. These elements are intended to be also at the heart of the EU 2020 Strategy to put Europe on the path of recovery and sustainable growth.

Within this context, CONCORD 2010 – being one of the Spanish Presidency highlights in the area of research and innovation – aimed at identifying policies that may increase the positive impact of R&D on business performance and employment. Particular attention was paid to policies that could help SMEs to grow and become the large companies of the future and to policy approaches for meeting the internationalisation of corporate R&D challenge.

¹ The organizers were: from the European Commission side, the JRC's Institute for Prospective Technological Studies ([IPTS](#)) in cooperation with the Directorate General for Research and Technological Development (RTD) and from the Spanish Presidency side the Spanish Centre for Development of Industrial Technology ([CDTI](#)), Spanish Ministry of Science and Innovation.

The Conference was held over two days, with the first day being a forum for academics and practitioners and the second devoted to the policy dimension of corporate R&D. The most relevant outcomes of the first day (see the detailed proceedings [here: http://iri.jrc.ec.europa.eu/concord-2010/Concord_2010_%20Summary_%20Academic_%20Forum.pdf](http://iri.jrc.ec.europa.eu/concord-2010/Concord_2010_%20Summary_%20Academic_%20Forum.pdf)) were the subject of the discussion in course of the second day by high level policy makers and CEOs from leading companies. Economist Prof. Eric S. Maskin, 2007 Nobel Laureate, participated as key note speaker, opening speeches were given by Commissioner Maire Geoghan-Quinn and Minister Cristina Garmendia: [see *Conference website* for more details concerning the programme, presentations, etc.: <http://iri.jrc.ec.europa.eu/concord-2010/>].

The evidence and the main messages from the CONCORD Conference were presented to the Competitiveness Council and were reflected at their meeting conclusions of 26 May 2010 on "Creating an innovative Europe" http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/intm/114637.pdf:

The Council recalls "the 3-4 March 2010 conference in Seville [CONCORD] with the aim to review the performance of corporate R&D in Europe and its policy conclusions oriented to an integrated approach of R&D&I policies by removing barriers to the restructuring of EU industry towards sectors with growth potential and to the growth of young innovative firms into tomorrow's global players;"

The Policy Makers Forum of CONCORD held on 4 March was structured around a series of policy relevant questions, seeking to understand the policy implications of the main scientific findings of the academic forum. The summary that follows present the main questions addressed in each of the sessions, the main evidence discussed² and the way these may feed into the preparation of the EU Innovation Plan.

A. RELATION BETWEEN R&D, BUSINESS PERFORMANCE, AND EMPLOYMENT EFFECTS

One of the most important priorities of Europe's growth and jobs agenda is to invest more – and more effectively – in R&D, innovation and information society. Furthermore, investment in R&D is considered to be a fundamental tool for company's survival and sustainable growth in a competitive environment. In this regard Parallel Session IV of CONCORD, was centred on questions as: How

² A comprehensive review of the evidence concerning corporate R&D in Europe is given in a separated Summary Report of the Academic Forum of CONCORD. See: http://iri.jrc.ec.europa.eu/concord-2010/Concord_2010_%20Summary_%20Academic_%20Forum.pdf

different companies organise their innovation process? How to quantify the impact of investments in R&D and other innovation factors on company performance? What is the impact of R&D and innovation on employment within companies and within the economy?

The evidence

- There is an increasing body of evidence documenting the positive impact of corporate investment in R&D on business performance. This includes evidence related to positive impacts on productivity, profitability and market growth
- Of particular interest are the findings that:
 - o In high R&D intensity sectors (e.g. ICT, Pharma & Biotech), the return to R&D investment is as high or higher than the profitability of investment in physical capital.
 - o The impact of R&D investment on firms Total Factor Productivity is significantly higher in high-tech sectors than it is in low-tech sectors. Thus, the mechanism how corporate R&D activities affect firms' performance differs between high- and low-tech industries. In high-techs both the applied technology (technological progress) as well as the technical in-efficiency (amount of wastes) are affected; in low-techs only the latter.
- Evidence also suggests that investment in R&D leads to long-term increases in employment levels, though in the short-term positive impacts on productivity can lead to labour saving before these impacts are compensated for in the longer-term.
- Despite these potential benefits of investing in R&D, private sector R&D investment as a proportion of GDP in Europe is lower than in the US. However, when examining the top corporate R&D spenders in Europe evidence shows that they invest as much as the top spenders in the US. In fact, the R&D intensity gap can be explained almost entirely by structural differences between the two economies. On one hand, there are fewer top spenders in Europe than in the US. On the other hand, since the US specialises more in high R&D intensity sectors (e.g. IT hardware, electronics, software, Pharma & Biotech), Europe specialises more in low and medium R&D intensity sectors (e.g. oil & gas, food, automobiles and automobile parts, chemicals).

Policy messages

- Continue to emphasise the need to increase R&D intensity in Europe in the private sector.

- Intensify efforts to restructure the industrial landscape of Europe via attempts to increase the share of high R&D intensity sectors in the economy, thus maximising the resultant benefits that R&D can have on business performance and employment.
- Acknowledge that increased investment in R&D and innovation is likely to lead to long-term employment growth, but accept that policies may be needed in the short-term to cushion the impact of short-term job losses before the positive effects of structural restructuring kick in.

B. PUBLIC SERVICES TO SUPPORT R&D AND INNOVATION IN SMALL AND MEDIUM ENTERPRISES (SMEs)

Innovative SMEs are important for the economy as they represent a large number of companies and comprise an engine for job creation and technological progress. Young innovative companies that grow big also play a critical role in changing the industrial structure of an economy. Accordingly, CONCORD's Plenary Session V, tackled questions such as: Which public policies are necessary to leverage the growth of innovative and R&D performing SMEs? Which are the main barriers to growth of innovative companies?

The evidence

- The divergence of money spent by corporations on R&D in US vs. EU shows important issues for young new technology based firms (NTBF). In fact, EU corporations are less willing to adopt new technologies early and, in general, spend less on innovative technologies, which results in greater difficulties of EU SMEs / NTBFs to grow than in the US.
- There are fewer firms in Europe than in the US that manage to grow from a start-up (NTBF / SME) and finally become a globally leading company. A more difficult access to finance and, particularly, access to risk / seed capital by EU firms is signalled as one of the main reasons for this phenomenon (beside a number of other determinants, such as entrepreneurial spirit).
- Limited access to finance and therefore to the resources needed for performing corporate R&D hampers investments in R&D (and this apparently is more relevant in Europe than e.g. in the US). Although there is evidence for this across all company size classes, the limiting factor appears most striking for young, fast growing companies, in particular for those relying on significant investments in R&D (knowledge intensive firms, high-techs, NTBF).
- Venture Capital could help in this regard, but availability of VC in Europe is proven to be lower than e.g. in the US, which in turn makes it more difficult

for European firms to benefit from it / get access to the funds needed for growth.³

- There are imperfections in the VC market at both ends: hesitation to provide loans to the very small companies (risk averseness of VC, especially vis-à-vis small firms) as well as with regard to lacking exit options for the venture capitalist seeking to step out of the investment once the supported company has reached a certain size and/or the overall amount of investment has reached the limits set by the VC fund rules.
- Evidence suggest that Europe's financial markets (in their current form) are lacking the capacity to absorb this kind of rising companies (NTBF, SMEs, etc.) and provide them with the fresh money needed to continue their growth path.⁴
- However, it is not only about financial capital; access to human capital and, in particular, to scientific talent is as vital for any R&D based company. In fact, knowledge and especially scientific knowledge, becomes a key source of global competitiveness. In this regard, university research and education are key instruments, not just for social, cultural, and political values, but also to attract corporate R&D.
- To develop effectively as an instrument to complement and attract R&D, the contemporary university has to add to its core of traditional basic research disciplines, such as physics and chemistry, a set of applied fields. While the basic core disciplines address knowledge for its own sake, the applied fields, such as biochemistry and informatics, tend to be interdisciplinary and are motivated by the demand for solutions to 'real world' problems.

Policy messages

- More "smart and patient money" is needed in Europe. In this regard, the importance of a unified / functioning exit market for venture capital and 'breeding money' in general has been stressed.

³ Why is VC so important for NTBF / SME? VC reduces the time needed to establish in the market / commercialize ideas. Evidence suggests that 1 € VC can generate 3 times more patents than 1 € corporate R&D. In the US, VC R&D finances only 3% of corporate R&D BUT 10% of US industrial innovation.

⁴ In course of the Conference debate, an illustrative example has been provided: A European small company has received already € 30 million Euro VC and needs now more money to continue their growth paths. All company indicators look promising, but there is no investor who wants to step in at this stage. According to the presenter, the most likely scenario will be that finally a non-European investor will step in and take over the business. The question was raised why European tax payers' money was used to breed such a promising company if it is foreseeable that non-Europeans may reap the benefits in the end.

- Reduce barriers to invest in VC funds in Europe and ensure new regulations in financial markets are not un-intentionally hurting VC (AIFMD, Basel II, Solvency II).
- Following the example of the US, the use of tax incentives should be considered in order to stimulate large (European) institutional investors (like pension funds) to invest parts of their funds on NTBF, start ups and in particular on R&D intensive companies. This would provide an exit option for the VC money and allow keeping the investment circle on-going in supporting new promising start-ups.
- The transfer of knowledge from universities to society needs to be facilitated through enhanced cooperation with the business community. Examples of mechanisms to be established for this purpose include technology transfer offices, incubators, and university based science parks.
- Universities' modernisation should progress and their agendas should allow them fully contributing to the search and implementation of new solutions to the existing grand societal challenges, and thus be in close cooperation with business.
- Foster an education system that is pro tech innovation and pro entrepreneurship.

C. STRATEGIES AND POLICIES TO ATTRACT PRIVATE R&D SPENDING IN THE EU IN THE LIGHT OF A GLOBALIZING WORLD

The EU has the goal of increasing the knowledge intensity of its economy and the investments in R&D in Europe, but many companies are becoming global and can/do invest in R&D and access knowledge anywhere in the world. Various surveys indicate that the quality of the research base, availability of qualified human resources and proximity to production sites are amongst the most important factors determining the location decisions on new R&D investments by business. Therefore, the final Plenary Session VI of CONCORD was dedicated to address questions such as: Which public research strategies are appropriate in a context where companies are increasingly global and knowledge is more readily accessible?

The evidence

- Companies around the world are internationalising their R&D activities in order to tap into new knowledge capabilities as well as to adapt existing knowledge to new markets. Typically this means that R&D locations are increasingly chosen on the basis of the availability of relevant skills and the quality of the science base as well as on the proximity to new growth markets.

- This in turn means that foreign-owned companies are only likely to locate R&D capacity in Europe if skill levels remain high and market access is unfettered, and that EU companies can be expected to locate some R&D capacity abroad if they want to access new knowledge capabilities in other countries.
- Apart from factors known to affect location decisions, many other factors are affecting company R&D investment behaviour. These include:
 - o The opportunity for companies to interact with other R&D actors, e.g. universities, PROs and RTOs;
 - o The strength of public sector research infrastructures and the science base generally (regional / sectoral / national systems of innovation);
 - o The existence of direct and indirect R&D support instruments;
 - o The existence of favourable framework conditions for both R&D and innovation, e.g. favourable IPR regimes; access to capital for high-risk activities; strong market demand and demand stimulation instruments such as R&D and innovation friendly public procurement policies

Policy messages

- Complement efforts to increase R&D intensity in the private sector by efforts to both increase R&D investment in the public sector and raise excellence levels, thus improving the prospects for healthy interactions with the private sector and attracting footloose R&D capacity from abroad.
- Continue efforts to create a strong single market, again in order to make Europe attractive to foreign R&D investors.
- Support indigenous companies in their efforts to access and exploit new knowledge capabilities abroad.
- Reduce companies' administrative burden, particularly for SME's (unified and simple regulatory framework) and improve conditions for business research and innovation activities, supporting a unified IPO platform and an unified European Patent System. Use public procurement to promote innovation in particular from SMEs and NTBF (compensate size-disadvantage, i.e. favour innovative / emerging technologies).

CONCORD 2010 - Programme of the Policy Makers' Forum

09:30 – 10:30

Plenary Session III

Opening of the Policy Makers' and Practitioners' Forum

- Cristina Garmendia, Spanish Minister for Science and Innovation
- Máire Geoghegan-Quinn, Commissioner for Research, Innovation and Science, European Commission
- Antonio Ávila, Regional Minister for Presidency of Andalucía Region
- Martín Soler Márquez, Regional Minister for Innovation, Science and Enterprise of Andalucía Region
- Eric S. Maskin, Nobel Prize Laureate, A.O. Hirschman Professor of Social Science, Institute for Advanced Study, Princeton (USA)

10:30 – 11:00 Coffee Break

11:00 – 12:30

Plenary Session IV

Relation between R&D, business performance, and employment effects

Chair: J.M. Silva Rodriguez, Director General, Directorate-General for Research, European Commission

- R. Veugelers, Katholieke Universiteit Leuven and ex-member of BEPA Conclusions of the academic forum (1st day of the Conference) -
- J. M^a Fernández Sousa-Faro, CEO Zeltia Group
- J. Martínez Barea, General Secretary for innovation of Andalucía Region
- P. Pouletty, CEO of Truffle Capital

12:30 – 14:00

Plenary Session V

Public services to support R&D and innovation in Small and Medium Enterprises (SMEs)

Chair: Maurici Lucena, Director General CDTI, Spain

- U. Fricke, CEO Triangle Venture Capital Group Management
- R. Wright, Director Sustainable Development, First Solar EMEA
- C. Bastioli, CEO of Novamont and European Inventor of the Year 2007 in the category "SMEs/Research"
- L.M. Rebelo Fernandes, President of the Brazilian Innovation Agency (FINEP)

14:00 – 15:00 Lunch Break

15:00 – 17:00

Plenary Session VI

Strategies and policies to attract private R&D spending in the EU in the light of a globalizing world

Chair: Manuel Campo Vidal, Research Chair on Professional and Corporate Communication, Universidad Europea de Madrid, and Journalist, Spain

- E. Schnee, Member of the Executive Board of Merck Group, Head of the Pharmaceuticals business sector
- G. Ruffini, CEO Starlab living Science
- D. Audretsch, Max Planck Institute of Economics, Jena

Closure: Main messages from the Conference and expected follow up in the European Council

- M. Lucena, Director General of CDTI, Spain
- A. Valverde, Director General of Andalusian Agency for Innovation and Development

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European Commission

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