

Universities and innovation: the challenge for Europe

Summary

The Challenge

- The increasingly open and competitive global economy and the shift to high value production based on information and knowledge requires a strong and rapid response from Europe if it is not to fall behind economically, with profound consequences for its social and cultural dynamism.
- Higher education and research are vital ingredients in the European response to these challenges. The quality of both must be of the highest international standard, the university system needs to be diverse to respond to the great diversity of demands upon it, and the innovation processes that exploit new knowledge and highly trained people must be efficient and effective. With notable exceptions and national variations, Europe must be judged as deficient in all three areas. These deficiencies must be remedied as a matter of urgency.
- In **quality**, the level of investment in universities is low by international standards, and funds for basic research are spread too thinly, severely disadvantaging centres of research excellence compared with our principal international competitors.
- In **diversity**, there has been excessive convergence towards a single model of the basic research-focused university, undermining the potential for some universities to take on a more powerful regionally-focused role.
- In **innovation**, there has been a relative failure to exploit the excellence of many parts of the research and educational capacity of the university system, particularly in comparison with the USA, and potentially compared to developing Asian economies.
- During the last decade, universities in Europe, particularly those that are research-intensive, have engaged more deeply with the innovation process as part of their mission, and through this have begun to define their actual and potential roles more clearly. It is now recognised that:
 - universities are important businesses in their own right, realising the highest levels of financial return on public investment, and making a significant contribution to GDP and national employment;
 - the route from discovery to patenting and licensing is not necessarily their most important contribution to innovation, but that more complex relationships involving the recruitment by industry of PhDs and researchers, exploitation of codified knowledge, joint problem-solving enterprises, and the use of the university as a public space together make a more influential contribution.
- It is vital however to see the university contribution in relation to specific modes of business transformation. We characterise and give examples of five: the creation of knowledge economy nodes; the creation of indigenous new businesses; transplantation from elsewhere; diversification into technologically-related businesses; and enhancement of existing businesses.
- It is important to stress that this diversity of transformations requires a diversity of university types, from research-intensive universities contributing at the forefront of the international research agenda, to universities that engage strongly with specific regional and local needs for manpower, skills and research.

The Response

- If universities are to be more effective in supporting and catalysing innovation in Europe, action is required under **three broad headings** that reflect the interaction between supply and demand, and which we suggest should be the headline issues for the university component of the Commission's "broad-based innovation strategy for the EU": enhancing supply of relevant university capacity; stimulating business demand; and improving university-business interactions. Our recommendations under these three headings are relevant to member states, to the European Commission and to universities.
- In **improving the quality and appropriateness of the university support for innovation**: universities must be given greater *autonomy* to permit them to act in a more flexible and dynamic fashion; they must be encouraged, through appropriate *funding* mechanisms, to diversify and play to their strengths so that they are better able to address the *diversity of roles* required of them; they must be encouraged, by defining strategic priorities and appropriate funding mechanisms, to address major *cross-disciplinary* issues and to ensure that their structures do not impede such developments; and ensure that their *leadership and governance* mechanisms are efficient in identifying and pursuing institutional priorities whilst encouraging the academic freedom that is the university's greatest strength.
- In **stimulating business demand for skills and research/knowledge**, member states, supported by the Commission, should implement processes through which the power of their *public procurement* budgets can be harnessed to create strong incentives to draw more strongly on the university skills and knowledge base as a means of stimulating high value technological growth, the rapid growth of SMEs and the university-business interaction. To maximise the power of this incentive, member states should increase the proportion of their procurement budgets allocated to R&D. Member states should also improve *tax reduction schemes* for expenditure on R&D and innovation.
- In **improving interactions between business and universities**, member states and regions should continue to explore and fund, in association with business, processes that enhance interaction between universities and business that are relevant to the operation and structure of their economies and to remove administrative obstacles that often impede them. The Commission should recognise that the structure of national and regional economies and business sectors makes this primarily a national and regional issue, and if it is to persist with initiatives such as the European Institute of Technology, it should do so in ways designed to build on existing strengths, structures and relationships rather than by replacing or sidelining them.