

Getting to grips with the competitive challenge

The League of European Research Universities (LERU) argues for a long term and substantial investment in basic research.

The European research base has some of the highest levels of productivity and excellence in the world, but it is concentrated in those areas where it has been sustained by long-term national and European investment, coupled to positive interactions with industry.

Public investment in research is essential. It has a demonstrably powerful social impact, from advances in medical diagnostics and therapeutics that improve health and the quality of life, to innovation and the development of new technologies essential to Europe's future competitiveness.

Research is quite simply the foundation for Europe's future competitiveness. In this, the role of universities and associated research institutes is fundamental. Their focus on basic science lays the foundation for discovery and innovation, and their laboratories develop the human capital that businesses need for success.

Innovation is a complex process, not a linear progression of basic science into new products. It is rare that the new knowledge created by scientific breakthrough has immediate practical implications. Often it is accidental.

In 1975 two scientists at Cambridge University, Milstein and Köhler, isolated and reproduced the monoclonal antibodies that defend bodies against foreign invaders. Now, monoclonal antibodies account for a third of all new pharmaceutical treatments, and the market for monoclonal antibody drugs is nowadays worth an estimated US\$32 billion.

The process of 'discovering' recombinant DNA started literally with an accident, namely a broken test tube in the 1960s. When borrowing a culture from another bacterial strain from a colleague the researcher discovered that these bacteria were immune to the virus he was trying to infect them with. Based on this phenomenon Arber, a young scientist from the University of Geneva, was able to identify an enzyme which specifically cuts viral DNA in pieces. For this he and his colleagues received the Nobel Prize for Physiology or Medicine in 1978. This tool revolutionized the possibilities to study biology at the molecular levels and has resulted in a technology of which the current economic impact is enormous.

Frontier research requires patience, persistence and investment. Europe's research-intensive universities have the unique capacity to bring together the three elements that are essential to ensuring Europe's long-term competitiveness and welfare: higher education, research and innovation. But the world is not waiting for us. For example, China's investment in science and technology through its universities and specialist institutes is already soaring ahead.

The Rectors of the League of European Research Universities trust that the Heads of State and Government of the EU are aware of the importance of long term and substantial investment in basic research for Europe's competitiveness and society in general. They count on the European Council, meeting on the 4th of February in Brussels, to take this into account when discussing the European Commission's Communication on the Innovation Union. This Communication will be the basis for the future EU research and innovation policy. It should be clear for the EU and the member states that basic research, focussing on excellence, needs continued and increased support!

The Rectors of the League of European Research Universities:

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About LERU

The League of European Research Universities (LERU) is as an association of 22 leading research-intensive universities that share the values of high-quality teaching within an environment of internationally competitive research. Founded in 2002, LERU advocates education through an awareness of the frontiers of human understanding; the creation of new knowledge through basic research, which is the ultimate source of innovation in society; and the promotion of research across a broad front in partnership with industry and society at large.

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