S&T key figures reveal China breathing down EU's neck

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The European Commission published its 'Key Figures 2005 on science, technology and innovation' on 19 July, revealing stagnation in research and development (R&D) investment in the EU, which Science and Research Commissioner Janez Potocnik described as 'particularly worrying'.

This year's key figures mark the first time that data have been available for 2003 - the year following the commitment by Heads of State and Government at the Barcelona European Council to raise R&D spending to 3 per cent of EU GDP by 2010. Yet according to the report, the rate of growth of the EU's R&D spending 'is far from sufficient to reach the 3 per cent objective in 2010'.

The rate of growth of the EU's R&D intensity (in other words, the change in the proportion of GDP that it spends on research) was around 0.7 per cent between 2000 and 2003. 'If this trend remains unchanged, EU's R&D intensity will be only about 2.2 per cent in 2010,' states the report.

China's R&D intensity, on the other hand, has been growing at around 10 per cent annually since 1997, and the stark message in the data is that: 'If current trends for both China and the EU-25 hold on in the coming years, China will have caught up with the EU by 2010 in terms of the share of GDP allocated to R&D.'

Not for the first time, the current gap in R&D intensity between the EU and its main competitors, the US and Japan, is blamed primarily on lower levels of private research investment within Europe, where businesses only contributed 55.5 per cent of the total in 2003, compared with 74.5 per cent in Japan. However, the report notes that public research investment does play a role in this equation, pointing out that 'the highest levels of business R&D funding go hand in hand in most cases with high levels of government-funded R&D intensity, as in Sweden, Finland, Germany and the US.'

While the EU's apparent failure to address falling levels of research investment is an area of particular concern for Commissioner Potocnik, when presenting the Key Figures to journalists in Brussels on 19 July he pointed to further key areas where Europe is also losing ground. After strong growth in international R&D expenditure, from which the EU benefited between 1997 and 1999, albeit to a lesser extent than the US, this source of funding fell off sharply in 2000. While this can in part be attributed to the prevailing economic conditions at the time, as Mr Potocnik pointed out: 'It is also that in more difficult economic conditions, with more limited resources, companies concentrated their new investments in the most attractive region for R&D, that is in Asia.'

Another area where the EU must improve its performance, according to the Commissioner, is in offering researchers more attractive careers. While the EU produces considerably more science and technology (S&T) graduates than either the US or Japan, the number of professional researchers per thousand in the workforce in 2003 amounted to only 5.4, compared to 10.1 in Japan and 9.0 in the US.

According to the Commissioner: 'This is of course related to Europe's lower expenditure

in R&D. But it is also linked to the fact that research careers are not perceived to be as attractive in Europe. Salaries are lower. Even more importantly, the labour markets and the research and innovation systems remain very much fragmented along national boundaries in Europe.'

The final major concern that Mr Potocnik highlighted to journalists was the relative lack of venture finance available in Europe compared with its rivals. Early stage financing for high tech projects in the US is twice that available in the EU, he said, adding: 'But the main gap is venture capital for the expansion phase of high tech companies. There the ratio between the US and Europe reaches five to one.'

The Commissioner was far from downcast, however, and the good news contained in the figures is that Europe is catching up in high tech markets. 'In 2002, our world share of high tech exports was still significantly lower than the share of the US, but we were gaining ground. European products gained market share between 1997 and 2002, while the shares of the US and Japan were decreasing significantly,' said Mr Potocnik, adding that this trend is mainly thanks to the growth witnessed in the new EU Member States.

And Mr Potocnik has not given up hope despite the gloomy overall analysis offered in the Key Figures. 'I am not showing you all these worrying figures just for the sake of discussion, I am doing it because I am convinced that the situation can be reversed if we react quickly and strongly. And I am determined to do what I can within the areas of my responsibility.' He pledged to write to all European research ministers in order to highlight the Key Figures and express his concern, and revealed that the Commission will bring forward proposals and an action plan shortly after the summer break to support reforms in the Member States.

Above all, Mr Potocnik will urge national ministers to renew their support for the doubling of the EU research budget in the next financial period. He is faced, he said, with a riddle: while in principal there is near universal support from ministers and Member States for establishing a European Research Council, introducing a space and security research programme, constructing ITER, and strengthening the 'cooperation' strand of the framework programme, so far there has been a distinct lack of support in budgetary terms. He concluded simply that: 'I am worried for Europe, but I am - as ever - optimistic.'

The Key Figures 2005 will be available at the following web address:
http://www.cordis.lu/indicators/

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