

The Foundation for Science and Technology

Dinner/Discussion 4 February 2009

To what extent should UK funding for science and innovation be focussed?

Sir Peter Gershon CBE FREng,
speaking on behalf of The Royal Academy of Engineering

Well firstly, thank you very much indeed, Paul, for that very thoughtful and insightful speech.

Can I begin by welcoming the overall focus in your talk, about getting more children to study STEM subjects, recently supported by the Government's campaign to support awareness of science and to encourage the overall objective of getting more children not only to study stem subjects at GCSE but also to take them through to A level and, hopefully, beyond in maintained schools.

The second point I would like to touch on is what I would like to call the 'core' of your speech which was about scientific research and emerging technologies. On the positive side we strongly welcome your reaffirmation that the science budget is ring-fenced and that the spending plans and the growth that is envisaged in the Spending Review 2007 will be maintained to the end of the spending review period. We think that the grand challenges that the Government has put in place also provide a very helpful way of focussing innovation and helping to harness the tremendous brainpower of this country on some of the biggest challenges that this country faces today.

We also welcome the improved performance in universities of being able to develop spin-outs to help commercialise new technologies and exploit IPOs that has been funded by the taxpayer. I also welcome reaffirmation that scientific research is a fundamental enabler of growth in the long-term.

To get to the long-term we have to get through the short and medium-term over at least the next one to five years. What will power us out of the recession is not necessarily the results of long-term scientific research, it is something else. That will have to come through more innovation in business, through the development of new products, the development of new services, innovation in processes, innovation in tools and techniques, innovation in business models and innovation in terms of the very skills that businesses employ.

Now working with the scientific and the university community has an important part to play in a number of these aspects of innovation, but we should remember for example that the greatest thing about the iPhone, for example, is not the 'innards' – it was the man/machine interface that was the really clever thing about the iPhone. We need to

continue to support developments in universities that continue to further, for example, developments in the user interface arena.

We talked about Rolls Royce being a world-class supplier of engines, but one of the reasons Rolls Royce is a great company today is not just that it produces and utilises great engine technology, it has changed and innovated its business model to move towards a 'power by the hour' arrangement – and so enter into much more profitable relationships with its customers.

So there has to be a balance between the Government's agenda and support for longer term fundamental, sound research and support for R&D-intensive industries such as pharmaceuticals on the one hand, and the way a much broader swathe of industries – less R&D-intensive but nevertheless still dependent on technology and science – can do things in the shorter and medium-term to get ourselves well placed to power ourselves out of this recession and help generate the taxation that's needed to help fund this fundamental long-term science agenda that Paul has referred to.

It would be a tragedy if, in the pursuit of the science agenda, disciplines such as manufacturing engineering did not receive an appropriate amount because it is through manufacturing engineering that many British companies today can improve their performance.

The long-term scientific research basis in the pursuit of nuclear fusion – clearly very long-term, extremely high cost in R&D terms, probably beyond the means of any single country and needs to be done in collaboration – clearly has huge potential benefits in the long-term in the pursuit of meeting the planet's energy requirements. But on the other end of the spectrum think about the humble rivet and how manufacturing engineering, if it can shave fractions of a penny off each rivet, can help aerospace companies reduce their product costs, because millions of these are used per aircraft. We don't need long-term R&D to help improve the short-term cost profile of the humble rivet, but we need both if we are going to have strong and viable industrial and scientific bases.

The last point, Minister, that I would like to pick up on is that of Government procurement. Government procurement can play a very important role in helping to sustain the innovation agenda but what I notice is a continuing phenomenon in Government – which existed when I was in the Office of Government Commerce – that Government is seeking to advance a number of different policy agendas on the back of public procurement. Innovation, sustainability, equality, the use of the third sector, inner-city regeneration, small and medium-size enterprises, black and minority ethnic businesses, the rural agenda, efficiency – and not least for many public sector organisations now, a sheer desire to find the cheapest thing they possibly can to help live within increasingly demanding cash targets.

These agendas are not necessarily in conflict, but they remain un-prioritised and implementation of them is patchy across the public sector as well-intentioned public

officials struggle to deal with different agendas emanating from different departments of Whitehall, not to mention their own local priorities.

So I would end that if the Government is going to use innovation as an integral part of public procurement – and particularly to help drive this agenda when the private agenda is in somewhat straitened circumstances – that efforts are made to produce a more integrated approach to these policy agendas. Also that there is clear prioritisation so that the full power of the £175 billion a year that the public sector spends can truly be harnessed to support innovation and to pull through research and development.

Thank you.
