

# **The Foundation for Science and Technology**

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I very much appreciate the opportunity to talk about 'Innovation Nation', the White Paper that we published in March. What I would like to do this evening is to put two main arguments to you and leave you with one important message.

The first argument is that innovation is absolutely essential and fundamental to the UK's future economic prosperity and social well-being and that at no time since the beginning of the Industrial Revolution has innovation been more crucial.

Now 350 years ago, when The Royal Society was founded, it was academics and individuals, scientists and engineers that were pioneering innovation across the globe. Innovation helped drive the Industrial Revolution. It was innovation and our ability to trade globally that established the country we are today and cemented our reputation as one of the world's leading economies.

Gone are the days when we could simply mass-produce commodity and manufactured goods; we cannot compete on price with many countries in the world today, but we can compete on innovation.

My second argument is that in this first half of the 21<sup>st</sup> Century, nations, businesses, scientists and technologists will need to collaborate if we are going to have a successful economy and society. I think that that is very obvious to people when we talk about major global challenges such as climate change, an aging population (for Western Europe at least), food security, adequate supplies of energy – these are all areas where scientists will need to collaborate in the future. Increasingly, businesses need to collaborate as well. A 'networked' Britain will, I think, be part of the bedrock of our future success. So innovation and networks are going to be absolutely fundamental and 'Innovation Nation' starts to explore these.

When we talk about innovation we are not just talking about entrepreneurs and the inventors who have great discoveries and inventions that they want to bring to market (and we have our fair share of those). We are also talking about doctors, for example, who put heartbeat tracks on iPods for their medical students – this doubled the recognition rates for heart arrhythmia. We are talking about innovators in the third sector like West Berkshire Mencap who closed their charity shop and sold their goods on eBay instead: now they are running training courses in online auction trading for people in the third sector and they are hoping to get people qualified on IT school courses.

Our understanding of innovation, as a Government (and I hope more broadly), has been changing. Companies are opening their organisations and looking beyond their walls to innovate.

Last year I launched the Nesta P&G Open Innovation Challenge. Look at Procter and Gamble: 35% of their new products – worth billions of dollars – originate from outside the company. They are actually spending less on research and development, but they are far more innovative as a company.

Innovation is not just 'open innovation'. Nor is it just about the traditional, linear model of innovation which we've seen in the drug industry: even in big pharma, that is changing now. The idea that you start off in a research lab, go through clinical trials to licensing and approval and put products onto the market is breaking down because companies are finding different ways to innovate. They are doing this not just through new products, but through new processes, new business models and innovation that is user-driven. Medical devices is a classic example of this, but user-driven innovation occurs across many different sectors of our economy.

Another message in Innovation Nation is that innovation needs to occur – and is occurring – in the public and third sectors as well. If we are going to succeed, we need to have innovation across all sectors of our economy and all types of innovation.

We start from a very good base. The 2007 UK Innovation Survey shows that 64% of companies say that they are 'innovation active'. I don't know what that says for the other third of companies, but it doesn't augur well for their long-term future.

We have companies like Toyota that have driven innovation down their supply chain, producing some really impressive results. A 14% increase in output, 25% decline in inventories and 50% fewer defects from their supply base. There are models we can use when it comes to innovation approaches.

I would like now to focus on the Government's role. If as a Government we believe that innovation is absolutely essential and if we believe we need an opening economy and strong international linkages in order to maximise the benefits from the innovation challenge, then we need to be clear about the Government's role. Innovation Nation emphasises the central role of procurement.

The business community has been talking to us about this for a long time. Innovation Nation takes it a step further forward. What we say very clearly is that Government departments will produce annual innovation plans as part of their commercial strategies. We are also taking onboard Lord Sainsbury's recommendation of completely reforming the Small Business Research Initiative. Doing both of these will enable us to bring together key components of innovation by building in the procurement element that I think is vital.

Through my department – the Department for Innovation, Universities and Skills – we fund world-class research through the Research Councils. The science budget has doubled and it will have tripled by 2010-11, going up to £6 billion a year. We have the Technology Strategy Board, a body that will coordinate a billion pounds of Government-funded support over the next three years. We have the Energy Technologies Institute as well, providing significant funding to major projects that bring together blue skies and applied research right through to procurement where we actually give companies contracts. Joining up that innovation chain is the big challenge for a Government. If we can harness the £150 billion a year that we spend on procurement, ensuring that small businesses gets a proportion of that (we've asked Anne Glover to investigate the feasibility of 30% of Government procurement coming from small businesses), if we can make sure that procurement is driving innovation then we will achieve major steps forward.

Of course we have to continue to invest in the science base and recently we have made some major announcements on the capital side with regards to funding a new laboratory for molecular biology, a field which has produced 13 Nobel laureates and a great deal of world-class science, much of which is reflected in products and discoveries in the marketplace today.

We are establishing a UK Centre for Medical Research and Innovation on the Euston Road (if you read some of the press comments, you may see it described as a 'killer disease centre in the heart of London'!). In reality, it will be Europe's largest research institute, looking for and providing answers and cures to some of the biggest problems in cancer and heart disease. It's a tremendous example of a partnership between the Wellcome Trust, our universities, our Research Councils and Cancer Research UK which will be a world-leader in its field.

My department will be funding a £2.3 billion programme for the next generation of low-carbon FE colleges. It's not something that has had a great deal of coverage about in the media, but the need for innovative approaches to removing carbon from the economy is again something that we need to encourage as a Government.

The Technology Strategy Board will be launching five new innovation platforms over the coming years. It will double the number of knowledge transfer partnerships. All, again, helping to make a difference and providing the Government support that will drive innovation.

The last thing to mention is that we will publish an annual innovation report. Now some might say: "Yet another document, what's the point of that?" I fundamentally believe that what gets measured gets done. I want the annual innovation report to really benchmark the UK and our innovation performance, looking critically at how the UK compares with other countries, at how our business sector compares with other businesses internationally, how our public sector compares and examines clearly where we can improve our performance. If we put together better measures of innovation we can use that as a tool for driving up the UK's innovation performance.

In conclusion, my message I want to leave you with is that Government can provide support to the innovation process but it will be innovative people within business, the public sector and the third sector that are going to be driving innovation in the UK in the future. Make no mistake, this is of crucial importance to all of us: without that innovation component, without those strong international linkages I don't think the UK has a credible future strategy. That is why we must build further on our White Paper 'Innovation Nation', looking at the next challenges ahead of us. If we can do that, we will make the UK the best place to run an innovative business, the best place to be a third sector organisation and the best place to deliver public services.

Thanks very much indeed.