

Dr Graham Spittle CBE

Chairman, The Technology Strategy Board – Speech to The Foundation for Science and Technology, 23rd November, 2011

Contribution of research and innovation to growth of the economy

Introduction



Dr Graham Spittle CBE
Chairman
Technology Strategy Board

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Driving Innovation

No surprise that I will concentrate on innovation,

But I recognise the importance of research and development support that businesses get from universities.

Universities are key element in business innovation:

- UK research base the most productive in the world
- 63% of TSB projects are collaborations with universities.
- 37% of TSB funding spent in universities
- 80% of collaborating SMEs happy with outcome.
- KTN membership (40k) is 20% academic

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From the Technology Strategy Board perspective, it's clear that innovative UK businesses greatly value the input that they receive from universities:

- We have an outstanding research base in the UK
- Two-thirds of the projects that we support in the Technology Strategy Board are direct collaborations between business and universities across the UK.
- Two-fifths of our funding is spent in universities
- In a recent survey of SMEs that work with universities, 80% state that they are happy with the outcome.
- Of the 40000 KTM members, 20% are academics.

The Technology Strategy Board

The Technology Strategy Board is the UK's strategic innovation agency.

The Technology Strategy Board:

Everything we do is driven by one question

How can we help UK business bring new ideas and technologies to market faster?



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Driving Innovation

Everything we do is driven by asking: *How can we help UK business bring new ideas and technologies to market faster?*

Our role is to deliver economic growth through accelerating innovation in business.

To sit at the interface of the research base, business, investors and government and deliver increased and faster business innovation for economic growth.

To bring together the various players necessary to grasp the opportunities presented by future markets.

When we were spun out of the old DTI, we had just 30 staff and about £100M of inherited technology programmes.

Since then we have come a long way with a much increased budget and new approaches.

In that time we have been and will always be an organisation driven by business and run by business people

First 4 years:

- £2 billion invested
- 3000 Businesses taking part
- Focus on societal challenges
- SBRI – winning government business
- Large scale demonstrators
- Networks and _connect
- Less bureaucracy



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Done some good stuff:

- With our partners in business, and government, invested some £2 billion in innovation projects. Many of these projects are built on university research
- 4000 Businesses taking part.

- Focus shifted from technologies to challenges. We still support the important technologies in electronics, ICT, Materials and biosciences, but our focus has been more on the applications end – in healthcare, energy, food, sustainability, transport, buildings, and in capabilities such as manufacturing and digital services. We are addressing the challenges – energy supply, climate change, ageing population etc – that will shape future market opportunities by bringing together innovators in business and research for UK economic benefit.
- The old DTI looked at big technology projects in the traditional big industries - we are now working right across the economy from healthcare to the creative industries, from financial services to satellite engineering. We're working with big and small businesses, joining up value chains
- SBRI – helping SMEs win government business through pre-commercial R&D contracts and helping government deliver more effectively and save money with the innovative ideas that SMEs can provide
- A new approach of building commercial large scale demonstrators: low carbon vehicles, independent living services, to look at how whole systems could work rather than individual products.
- Networks: KTNs and _connect
- We have also reduced bureaucracy costs of our own operations and we will continue to drive this way.
- Survived a change of government and remained relevant
- People have said some good things about us:

What Others Say About Us ...

We're probably doing double the amount of pure research that we were doing ten years ago, because the TSB provides half of the funding. It's much more cohesive; they have a plan and it enables companies to take risk, too.

"Would we all have come together without the TSB? That is most unlikely — nay, impossible."
The Times, 16 May 2011 Lotus Engineering

A national network of technology and innovation centres must be built and the Technology Strategy Board should be equipped with serious cash – 10 times its current size.
Will Hutton, Observer, 2 Oct 2011

The TSB has spent £711M in the last three years identifying the juicy scientific advances that could solve pressing commercial and social challenges
The Telegraph, Aug 2011

Projects show how government bodies like the TSB and industry are now much more joined up, allowing everyone to align with a common long term vision for the UK automotive industry.
JLR 2011

Our programme would never have happened without TSB's involvement.....partnership is essential
Cancer Research UK

Published our new strategy in May

The Strategy -

- Builds on the first 3 years
- Provides the strategic direction for next 4 years
- Supported by over £1 billion of funding
- Develops our role as UK innovation agency



Our goal is to accelerate economic growth by stimulating and supporting business-led innovation

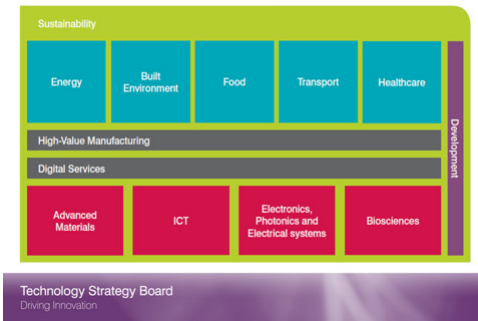
2011 saw the publication of our New strategy which sets out strategic direction for next 4 years and will see us focus further:

Our challenges

- Understanding the *concept to commercialisation* journey and how to accelerate it
- Helping business take risks: to innovate more and faster
- Building the new partnerships required for new supply chains
- Illustrate the long term trends to the key UK players
- Joining up the innovation infrastructure
- Getting Government to make best use of its levers

- Understanding the non-linear journey from concept to commercialisation and how best to accelerate it – from *concept to commercialisation*
- How can we help Business take the risks of investing more and earlier in innovation?
- How do we build the new partnerships required to build new supply chains?
- How do we make the longer term trends from emerging technologies & policies visible to the key UK players and?
- How can we better join up the UK's government Innovation infrastructure and make it easier to navigate?
- How do we get Government to make better use of its levers (procurement, regulation, standardisation, fiscal incentives) that affect future markets and innovation opportunities for UK business?
- We'll continue building a synergistic programme through evidence-based investment in themes of most potential for driving growth

Our Thematic Priorities



- And we'll be looking at how we can make our programmes and support vehicles more relevant to smaller and earlier stage entrepreneurial businesses through a dedicated SME package.

Improving support for SMEs and delivering in new ways....

- Feasibility study grants
- LaunchPad
- Grant for R&D
- SBRI
- Eurostars

TICs: This Government has rightly said that innovation is important and this year confirmed that it will provide funding for our new network of technology and innovation centres. The first of these in High Value Manufacturing has started operations.



The next 2 in Cell Therapies and Offshore Renewable Engineering will be established soon. Another three will be announced shortly. This £200M programme of six technology and innovation centres is a good start to addressing the opportunities presented by focussing national interests into a single centre, and harnessing the power of the UK's excellent universities, corporations and SMEs.

Innovation in economic recovery

Innovation must be at the heart of the government's growth strategy

Innovation Strategy = Growth Strategy

Build on UK's world-beating research

Invest and take risks: be enterprising

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Development of the supply side to make it compete in quality and scale with global competitors is the only way to deliver sustained economic growth.



The economic urgency for faster innovation

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Innovation is even more important in tight economic times. It is key to our competitive advantage. We must win in the knowledge economy.

The UK research base is our trump card – excellent and should be maintained – this is and must remain a priority for Government

Our businesses must get ahead and stay ahead of the competition if they are to be ready to lead us out of the recession.

Message to Government

- Sustained economic growth needs serious investment
- Spend more on innovation
- Co-ordinated investment across value chains
- Be a lead customer for innovation – at scale
- Identify the big opportunities and take risks – be enterprising
- Joined up support for innovation and growth
- **Support the Technology Strategy Board!**

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But the government could do a lot more. My outgoing message for the Government is this:

- Cannot use deficit reduction as an excuse not to invest properly in economic growth
- Based on recent output evaluations, we calculate that our current programmes will on average deliver around 10 times return on investment. But we only spend some £330m/y – not enough to compete with our competitor nations – it needs to be many times that to make a macroeconomic difference.
- This used to be complemented by some £400M/y on RDA innovation projects but since their abolition, this has gone and the GRF is not focussed on innovation.
- Need to make the UK irresistible to major global corporations seeking to invest in knowledge based redevelopment and manufacturing infrastructure. This means enough scale and long-term commitment, coordination, support for research base , skills training etc.
- Needs to be joined up through the value chain. This worked in the automotive sector with the UK now manufacturing more cars than ever before and new long term commitments and investment by the likes of Nissan, Jaguar/Landrover, Mitsubishi in the low-carbon vehicles that will dominate tomorrow’s highways
- Let’s put government procurement to work. Make the Government the lead-customer for innovation. Let’s learn from the American DARPA experience. Invest at scale to harness the needs of government to the innovation cause. The potential here is enormous, especially in the areas of defence and health but also in other areas. This has been discussed by successive governments over the years but none has really demonstrated the political leadership necessary to get departments investing for the long term.
- Identify the big challenges coming from societal change and challenges but also use the opportunities coming from technologies and sectors emerging from the research base. The recently announced support for extracting economic value from UK strength in Graphenes science was a good start. Let’s apply similar principles to the many other areas that may offer similar market opportunities.
- Yes this would be risky and some investments may not pay off. But the state has to take risks, has to act in an enterprising way, has to recognise that the world will not always be in recession and that when the recovery comes, UK business must be poised to exploit the renewed demand for knowledge-based goods and services.
- That means maintaining the pressure on government to deliver stronger and stronger support for research, skills and innovation
- It also means taking an economy-wide view of growth and innovation policy and designing the wide range of measures that will support growth in a fully integrated and joined-up way.
- Innovation doesn’t always happen by itself – you need a catalyst. And that’s the TSB. **TSB Is the UK’s innovation agency.** But it can’t do this alone. It needs all the political leadership and financial resources the government can muster

- The Technology Strategy Board has already made a big difference for the UK and is set to do more. With more resource it could do even more. It's the key group, right at the heart of UK innovation. *It couldn't be more vital for the UK now to have a TSB.*