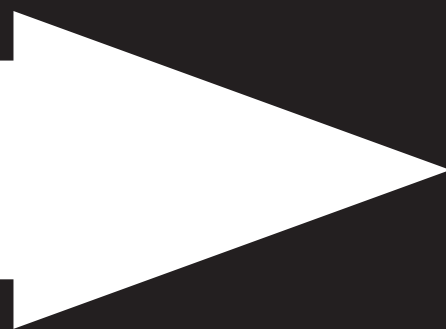


Technology Strategy Board

Driving Innovation



Delivery plan

Financial year 2010-11



Foreword

Welcome to the Technology Strategy Board's Delivery Plan for the financial year 2010-11.

I am writing this introduction in October 2010 as an update, to give some context to our business plan for the year – in view of the radical changes that have taken place since we first developed our plans in late 2009.

We are now in a completely new political environment. The coalition government has changed the landscape. The political agenda has concentrated on immediate spending cuts, with the Emergency Budget one early act of the new Government. Major changes are now underway, in areas such as the delivery of regional business support. And with a longer term dual policy commitment to reduce public expenditure and invest in growth, our planning is inevitably being shaped by the outcomes of the Comprehensive Spending Review for the years 2011-2014.

Although a body operating at arm's length and managing our own programmes, we are funded by Government and have to play our part in achieving efficiencies, as well as being responsive to circumstances.

While most of our plans are unaffected, there are some detailed areas where priorities or funding patterns have changed. The situation remains fluid and so I would just like to highlight that in some areas the reality has changed and is changing. On our competitions for funding, the latest information can be found in the Competitions section of our website at www.innovateuk.org.

While we are flexible, the general direction of this year's Delivery Plan remains unchanged. We remain completely committed to working with business and our partners in pursuit of our goal – promoting business innovation for the future growth of the economy. And we continue to apply all our energy and focus to achieving our vision – to make the UK a global leader in innovation and a magnet for innovative businesses, where technology is applied rapidly, effectively and sustainably to create wealth and enhance quality of life.

Iain Gray
Chief Executive,
Technology Strategy Board

Our work in 2010-11 – Going for growth

For the 2010-11 financial year we are building on the achievements of the previous two years while focusing on a 'going for growth' approach.

At the Technology Strategy Board we aim to ensure UK businesses are equipped to compete and win in the global arena, emerging from the downturn through investment in innovation, whilst recognising that the current economic climate is difficult.

We are continuing to focus on our priority areas:

- the digital economy
- low carbon technologies
- life sciences
- energy
- advanced manufacturing.

In 2010-11 we will:

- increase our outreach to business, with particular focus on small and medium-sized businesses
- play an increasing cross-Government leadership role in delivering the national technology strategy and in stimulating business innovation in those areas which offer the greatest scope for boosting UK productivity and growth
- continue to work in partnership with the research councils, regional development agencies, devolved administrations and other government departments. By matching their investments with UK business, the Technology Strategy Board will have generated a £2bn programme of investment in UK innovation over the three years to 2011
- improve our operational performance whilst building on the efficiencies achieved in 2009-10.

Our short-term goals reflect our *Connect and Catalyse* strategy published in May 2008. This Delivery Plan is written in the context of our current budget, whilst managing our portfolio of ongoing corporate commitment.

Note: The investment levels quoted in this publication are indicative only. They depend on central Government funding and are therefore subject to change.

Given that the Technology Strategy Board works hard to leverage funding from other public sector organisations, funding levels for specific competitions mentioned here may also rise as other organisations get involved and contribute to the competitions.

Equally as our thinking develops we may change the scope of a particular competition and its timing.

Challenge-led innovation

We will:

- deliver wealth creation by enabling UK industry to tackle societal challenges through our established innovation platforms and application areas
- we will run open competitions for industry to win funding to further develop their innovations.

Target funding competitions

Creative industries

Metadata: increasing the value of digital content – £5m (Sept 2010)

While the internet has enabled digital content industries to gain greater access to the global market, it has made it more difficult to control, manage and monetise digital assets. The ease with which content can be copied and distributed is threatening the economic viability of content-based businesses. Digital content companies need to secure other sources of income. Better metadata systems – ways of storing information about individual items of content – offer a possible route to improving consumer access to content and to helping rights holders manage and exploit their assets more easily. This competition addresses the new challenge of generating revenue from digital content, by supporting projects that demonstrate the value of metadata.

Energy

Nuclear feasibility studies – £2m (June 2010)

This competition aims to encourage businesses not currently working in the nuclear sector to explore the opportunities that the predicted global civil nuclear resurgence presents. In addition, it will allow the existing supply chain to engage with innovative technology providers and explore opportunities for growth. Priority is being given to small and medium-sized enterprises (SMEs).

Marine and tidal energy – £3m (Sept 2010)

This competition is targeting pre-commercial full-scale devices installed and operating in the sea, including those supported by Carbon Trust's Marine Renewables Proving Fund (MRPF). The scope includes verifying performance; improving reliability in a real environment; and developing installation, operation and maintenance methodologies.

The competition is open to wave and tidal stream device manufacturers, and also to collaborations that will develop the UK supply chain and the skills needed to deploy these technologies.

Sustainability

Resource efficiency – £5m (late 2010-11)

The scope of this competition is being developed. It will help companies develop new products, processes or services to replace existing products with more resource-efficient alternatives. We will support 'user-led' innovation, that is, collaborative research and development with a focus on supply-chain innovation in response to specific unmet needs provided by a business end-user.

See our *Resource Efficiency Strategy* for details of our priority areas.

Assisted living

Five competitions – £14.5m (2010-11)

People are living longer, and while this is a cause for celebration, the number who will have long-term health conditions, and as they grow old and become frail, is set to increase. At the same time, the number of economically active people who can finance health and social care is falling. Today's care models are unsustainable, and this is a major concern for the social care and health services in the UK.

During 2010-11 we expect to provide funding for up to five competitions in the assisted living area, covering business models, behavioural studies, standards and technology testing.

Low carbon vehicles

Integrated delivery programme 5 and 6 – £11m (2010)

The Integrated Delivery Programme is a £200m investment programme, jointly funded by Government and business that will help to speed up the introduction of new low carbon vehicles onto Britain's roads. The programme co-ordinates the UK's low carbon vehicle activity from initial strategic research through collaborative research and development, leading to the production of demonstration vehicles. We are developing the scope for this competition. For information on the work of the Low Carbon Vehicles Innovation Platform see www.innovateuk.org.

Low impact buildings

Design for future climate – £2.5m (June 2010)

Climate change will have an effect on existing buildings and how we build for the future. We see opportunities for the construction and design industries in coming up with strategies to tackle the effect of climate change on buildings. This competition will overcome market failures in adapting building designs to the future climate and produce a wealth of knowledge to support the industry.

Building performance evaluation – £4m (June 2010)

In this competition we are funding individual companies, and other organisations responsible for buildings, for the total cost of evaluating the performance of the case study buildings they design, build, own and/or operate. We aim to assemble a substantial body of data for many building types to draw generic conclusions on the performance obtained through various design strategies, building fabric, target performances, construction methods and occupancy patterns, handover and operational practices. These will be shared across the industry with a view to providing reliable information to enable improvements in the performance of new and refurbished buildings through specification, design, delivery and operation. This will help builders and developers to deliver more efficient, better performing buildings.

Integrating smart meters into systems for smart homes £4.5m (May 2010)

In partnership with the Department for Business, Innovation and Skills, we are investing in innovative collaborative research, development and demonstration projects. The projects will integrate 'smart' meters with communications to make a 'smart' system that will have an impact on the demand for, and usage of, energy in the home.

This competition aims to accelerate the speed at which innovations are able to enter the market. We are particularly interested in projects which help to understand the way in which consumer demand for energy might change in the light of the integration of smart home technologies.

SBRI

30 competitions in 2009-10

We will continue to ramp up and establish the SBRI programme, by working with more government departments and agencies.

We will:

- develop SBRI into a widely used and appreciated tool. We will launch 30 SBRI competitions with government departments and agencies, engaging with European-type SBRI competitions as they become available.

At least two competitions are being run by Technology Strategy Board: 'Energy efficient Whitehall' and 'Ultra efficient lighting'.

Network security

Trusted services – £8m (June 2010)

The tools, techniques and services developed will accelerate the deployment of secure and trustworthy information systems, within the digital industries and the wider global economy. This investment targets the increasing risks that the UK Government, businesses and consumers face, whilst providing significant market opportunities to build a strong UK capability base. We are focusing on business-led collaborative projects to develop trusted services which rely on technologies and their associated supply chains that will deliver significant improvements over today's service offerings.

We will:

- analyse and develop future challenge-led areas covering both societal issues and market driven issues. This may lead to the development of a new innovation platform if appropriate. We are currently investigating:

Stratified medicine –

Targeting the right medicine, in the right dose, to the right patient, at the right time.

Water – Reducing water stress in the UK, and exporting the solutions globally.

Technology-enabled learning

– Maintaining and developing skills levels through technology.

We will:

- ensure a smooth transition of funding responsibilities to the new UK Space Agency, whilst ensuring the Technology Strategy Board retains a leadership role for the exploitation of space technology outside the traditional space sector.

Technology-inspired innovation

We will:

- implement strategies for the technology areas, underpinning UK wealth creation through a combination of general technology-inspired competitions and specific ones to develop technologies.

Target funding competitions

General technology-inspired innovation competitions

Collaborative R&D £18m (2010-11)

This competition was launched in October.

Feasibility studies £2m (Jan 2011)

The scope for this competition is being developed.

The digital programme

Digital Testbed: Network services demonstrators £2m (June 2010)

A small number of projects to establish network services demonstrators will be funded through this competition. We expect the demonstrators that emerge to become national 'hotspots' for trials and innovation in business models, applications and services that centre on advanced network infrastructure and service enablers.

Collaboration across digital industries £18m (July 2010)

Through this competition we are challenging businesses to develop an internet with a sustainable economic future from which all participants will benefit. To this end, we have identified three challenge areas:

- people
- digital content and services
- networks.

In this first round, we anticipate providing up to £10m to support collaborations between industry sectors, which must substantially address at least two of these challenge areas. In this round we are funding two types of project addressing these challenge areas, both attracting 50% public funding:

- strategic research and development projects
- ground-breaking trials.

Harnessing data for business transformation £7m (Sept 2010)

This competition is looking at speeding up data processing, output and presentation in usable formats.

ICT supporting high value manufacturing £5m (2010-11)

The scope of this competition will focus on the exploitation of advanced automation and control of processes for higher efficiency, plus novel processes.

Biosciences

High value chemicals 2 £2.5m (Sept 2010)

This competition follows on from the first high value chemicals competition we ran in September 2009 'Developing high value chemicals through industrial biotechnology'.

Genomes UK £5m (Oct 2010)

This competition supports the commercialisation of genomics technologies exploiting the reduction in costs and increase in speed of high-throughput sequencing.

High value manufacturing

Focused high value manufacturing £5m (Jan 2011)

The scope for this competition is being developed.

Advanced materials

Energy materials £5m (Jan 2010)

This competition will cover special materials development for different forms of energy generation. The scope is being developed.

Nanoscale technologies

Next-generation photovoltaics £2m (Sept 2010)

This competition will build on the work of the research councils. It will target a major improvement in efficiency.

Eragnet – Toxicology and regulation £1.5m (Jan 2011)

We will promote this European competition to UK companies.

Emerging technologies

Feasibility studies competition – £10m (2010-11)

We promote the rapid and successful commercialisation of emerging technologies – those that are still emerging from the science base and that have the potential to enable innovations that will disrupt the marketplace. Creating wealth from new technologies is difficult and risky, and we support technologies that could be as much as 7-15 years from market. Our Emerging Technologies and Industries Strategy outlines our approach, see www.innovateuk.org under Publications.

We will:

- implement the published strategy to promote the rapid commercialisation of emerging technologies and industries.

Micro and nanotechnology centres

We will:

- continue to manage our portfolio of the micro and nanotechnology centres, in the interest of optimising wealth creation.

In particular we are working with the Photonics, Electronics and Electrical Systems Knowledge Transfer Network to bring together innovators working in the area of microelectronic mechanical systems (MEMS) which concentrates on chip-sized devices. Following the work of the new special interest group in this area we expect to fund R&D to the value of £2m.

The innovation climate

We will:

- reach out to more high-growth businesses (large and small) and raise their awareness of how the Technology Strategy Board can help them
- develop more co-ordinated national relationships across the public sector
- get involved in all relevant areas of Government strategy and policy development and provide input on the Technology Strategy Board and its activities. Build understanding of the Technology Strategy Board amongst policy – and decision-makers
- continue to develop our relationships with the research base to ensure we are working to the same agenda.

Knowledge Transfer Networks

The ongoing optimisation of the Knowledge Transfer Networks will be completed during the year.

We will:

- use the unifying IT platform for the networks, **_connect**, to promote the real benefits of knowledge sharing/ open innovation and establish clear impact measures to demonstrate the value of the networks to innovative businesses across the UK.

Knowledge Transfer Partnerships

The review of the Knowledge Transfer Partnerships by Regeneris Consulting highlighted the strengths of the programme. The review made a number of recommendations including integrating the programme better with other innovation drivers; pursuing a more delegated model in the delivery of the programme combined with strong central governance; increasing the number of partnerships; enhancing promotion and streamlining processes.

We will:

- implement the recommendations from the Knowledge Transfer Partnerships strategic and operational review as far as possible.

International work

We will develop and deliver an international strategy and a coherent approach to Europe to provide maximum benefit to UK business and to raise the profile of UK technology and innovation to a global audience.

Entrepreneur strategy

We will define and implement a clear strategy to make the UK the best place to start and grow technology-based businesses by supporting entrepreneurs, early stage and high growth SME businesses. We will develop and implement a regional 'mix and match' portfolio of innovation and entrepreneurial development opportunities for the high growth SME businesses we support.

Technology and innovation centres

The Technology Strategy Board, working with other stakeholders, will lead the process for establishing a network of business-focused national technology and innovation centres, informed by the Hauser Review.

Internal activities

Over the year we are reviewing and developing our operating practices to ensure that we obtain the most cost effective delivery mechanisms, commensurate with our required control environment.

We will:

- update our strategic plan
- continue to develop and implement the evaluation of our programmes, understanding the contribution made to the UK economy, and supporting the development of future strategy and execution plans.

We will:

- complete the implementation and roll-out of our internal systems, embedding them into the way of working at Technology Strategy Board to provide a central system of control
- complete the initial phased roll-out of the **_connect** IT platform and associated back-office functions into Knowledge Transfer Networks, grants, competitions and customer relationship management across Technology Strategy Board and its associated users.

About Technology Strategy Board

What is the Technology Strategy Board?

The Technology Strategy Board is the UK's innovation agency. It is a non-departmental public body sponsored by the UK Government's Department for Business, Innovation and Skills (BIS).

What do we do?

The Technology Strategy Board is working to drive economic growth by making the UK a global leader in innovation.

We are transforming innovation by creating powerful collaborations and partnerships, and by helping business to convert ideas into new products, processes and services that will meet market needs, build the economy of tomorrow and tackle the challenges of our time.

Why is innovation important?

Innovation is essential for economic growth. It not only drives productivity but can open up entire new markets. In an age of globalisation and growing competition from other countries, we must innovate as a nation to remain competitive.

We want to make the UK a global leader in innovation. This has never been more important as UK businesses face extreme economic challenges. To compete globally it is imperative that UK plc 'out-innovates' its peers.

How do we drive innovation?

We run competitions for R&D project funding in a variety of formats, from short feasibility studies for individual companies to three – or five-year collaborative projects involving several companies and research bodies. There are almost 1,000 projects currently under way.

We run the Knowledge Transfer Networks which innovators join to find information, contacts, new partners and ideas.

We are the main funder of the Knowledge Transfer Partnerships which help businesses to improve their competitiveness, productivity and performance through the better use of the knowledge, technology and skills available within the UK knowledge base.

We champion the SBRI programme where companies with innovative ideas can gain government contracts.

What are Knowledge Transfer Networks?

A Knowledge Transfer Network's main role is to put companies and innovators in contact with the knowledge and funding that they need to bring new products and processes to market.

We run 16 Knowledge Transfer Networks in different technology areas. Membership is free and open to all. We have also launched the **_connect** IT platform which brings all the networks under one roof and offers online discussion, collaboration and information.

www.innovateuk.org/connect

What are Knowledge Transfer Partnerships?

Knowledge Transfer Partnerships bring together a business with a university and newly-qualified expert to work on business-focused innovative projects. The programme is very successful and it is estimated that between 2001-02 and 2007-08 it generated £4.2-4.6bn of new sales for the businesses involved, £1.6-1.8bn of Gross Value Added (GVA) and 5,530-6,090 jobs. We are the primary funder of Knowledge Transfer Partnerships and manage the programme on behalf of all the funders.

What is SBRI?

We have recently relaunched and now champion the Small Business Research Initiative (SBRI) programme, which enables businesses to gain contracts to develop and supply innovative solutions to government. Businesses can gain contracts through open competition to provide innovative solutions to defined challenges. In 2009-10, 425 development contracts were awarded to businesses.

What types of business do we invest in?

Our competitions are open to all UK businesses to apply from micro companies to UK-based multinationals.

What is our budget?

Our budget for 2008-2011 is £711m. However, we have leveraged this considerably by working with other public sector bodies such as the research councils and regional development agencies so that we will have channelled over £1bn into innovation by the end of 2011.

By the end of 2011 we will be spending about 50% of our budget on challenge-led innovation. About 25% is spent on technology-inspired innovation with the remainder being spent on encouraging and developing the innovation climate.

What is our strategy?

Our strategy is summed up by two words: connect and catalyse. Our strategy focuses on three themes: challenge-led innovation, technology-inspired innovation and the innovation climate. We published our corporate strategy *Connect and Catalyse* in 2008.

What is challenge-led innovation?

We invest in innovation that responds to societal and economic challenges, such as looking after a growing ageing population, cutting carbon emissions, finding replacements to fossil fuels for our energy sources, detecting infectious diseases quickly and establishing more sustainable ways to produce our food. These challenges present tremendous opportunities for the UK's innovative businesses.

What is technology-inspired innovation?

We invest in innovation inspired by the existing and emerging technologies where the UK leads or could lead, such as biosciences, nanotechnology, high value manufacturing and electronics, photonics and electrical systems.

What is the innovation climate?

Much as we might like to believe it, great ideas do not often come to individuals in an isolated spark of genius. To innovate we need to mix things up a little, come at a problem from different angles and perspectives. At the Technology Strategy Board we aim to create an innovation space where businesses from different sectors, plus researchers, academics and entrepreneurs can get together to work on the solutions to the challenges we face, whether they're challenges for individual businesses, industrial sectors or society as a whole.

What is an innovation platform?

Global society faces many challenges. By applying technology and innovation we can help to meet these challenges and at the same time open up new opportunities for business. We create innovation platforms to focus on specific societal challenges where the UK Government is taking action through policy, regulation, procurement or fiscal measures to tackle the problem.

Innovation platforms aim to fundamentally change the ability of UK businesses to provide solutions for the global marketplace, boost UK economic performance, and provide higher quality public services.

What areas do we invest in?

Technologies:

- advanced materials
- biosciences
- electronics, photonics and electrical systems
- high value manufacturing
- information and communication technology
- nanotechnology.

Applications:

- built environment
- creative industries
- energy generation and supply
- environmental sustainability
- healthcare
- high value services
- transport.

Innovation platforms

- assisted living
- detection and identification of infectious agents
- intelligent transport systems and services
- low carbon vehicles
- low impact buildings
- network security
- sustainable agriculture and food.

The Technology Strategy Board
North Star House
North Star Avenue
Swindon
SN2 1JF

Telephone: 01793 442700

www.innovateuk.org