

THE ROLE OF THE TECHNOLOGY STRATEGY BOARD

The Technology Strategy Board intends to make the UK a global leader in innovation and a magnet for innovative businesses. It has £1 billion of funding to allocate over the next three years to drive technology-based innovation in the UK. Chief Executive Iain Gray outlines how its newly-published strategic plan will help it to reach this goal.

This is a very important time for innovation in the UK. Our world is changing rapidly and we are faced with major challenges – caused by, for example, climate change, an ageing population and security concerns. Businesses face additional challenges, such as rising costs and growing competition. But with challenges come opportunities, and the businesses most likely to succeed are those which embrace innovative ideas and adopt cutting-edge technologies. The Technology Strategy Board has a key role to play in supporting, promoting and encouraging business-related innovation. Our task is to help innovative companies succeed.

There are many who have seen Government initiatives come and go. However, I believe that the timing was right

for the creation of the new-style Technology Strategy Board in July 2007. The Government's policy framework is more conducive to innovation than at any time I can remember. The UK's collective capacity to innovate is greater than it has been in many decades. And business in the UK has a new market-driven mindset and a sophistication in handling innovation that bodes well for the future.

THE VISION

The Technology Strategy Board – which is Government-funded but business-led – has a key role to play in supporting and promoting business-led innovation. Initially set up in 2004 as a Government advisory body, it has been expanded and given a wider remit. Since July 2007 it has been an executive

non-departmental public body, with executive powers, operating at arm's length from Government.

Sponsored by the Department for Innovation, Universities and Skills (DIUS), the Technology Strategy Board promotes and invests in science and technology research. It also advises Government on innovation policy and on removing barriers to the development and exploitation of new technologies. It has a vital role to play in building and maintaining the UK's global competitiveness.

With core funding from DIUS and contributions from partners such as the Regional Development Agencies, devolved administrations and research councils, the Technology Strategy Board has £1 billion worth of funding available over the period 2008

to 2011. With our track record of leveraging both public and private sector funds, we are confident that the total impact of our work will be investment of well over £2 billion over this three year period, driving technology-enabled innovation in the UK.

CONNECT AND CATALYSE

In May we published our strategic plan. *Connect and Catalyse – a strategy for business innovation 2008-2011* outlines how the Technology Strategy Board will promote and invest in innovation enabled by technology for the benefit of business, to increase sustainable economic growth and to improve quality of life.

The strategic plan sets out the organisation's focus over the next three years

and provides a longer-term perspective. Concentrating on the vision of making the UK a global leader in innovation, the plan explains that we need to ensure the UK is a place where business is successfully competing at the forefront of technology and innovation developments globally. It stresses the importance of the Government continuing to provide a supportive and coherent environment, allowing innovation to thrive. It also discusses why it is essential that society understands, embraces, values and is excited by innovation and technology.

Connect and Catalyse details how the Technology Strategy Board will invest according to three main themes – innovation led by challenges, innovation inspired by technology and the innovation climate.

CHALLENGE-LED INNOVATION

At the Technology Strategy Board, we believe that the societal and economic

challenges of the future should be treated not purely as threats, but as opportunities for innovative solutions that can both increase economic growth and enhance quality of life.

Meeting climate change goals, ensuring long-term energy supply security and caring for an ageing population are just three examples of major social, economic and sustainability challenges faced by the UK and internationally. We believe such challenges provide huge business opportunities for British companies and British engineering, with new markets being created worldwide in areas such as materials, energy generation and supply, low carbon vehicles and healthcare technologies. In addition we believe it will be engineers who will come up with the solutions to many of these challenges. The Technology Strategy Board will therefore use a range of initiatives to foster innovative responses to such challenges.

The principal way in which we support challenge-led innovation is through Innovation

Platforms – a new approach to delivering innovation. Targeting one of today's major societal, policy or market challenges, each innovation platform:

- Brings businesses together with relevant academic and research organisations, and with the government departments that control policy, regulation and procurement in the area.
- Adopts a multi-disciplinary approach which fosters all types of innovation, bringing together public and private funding.
- Makes something happen that would not otherwise happen, leading to commercial benefit and a change in behaviour.

INNOVATION PLATFORMS

The Technology Strategy Board is currently investing, along with business and public sector partners, in five Innovation Platforms (for further information see page 43):

Assisted living: looking for solutions to the problems posed

by our ageing population, and to make significant advances in the technology needed to enable people who suffer from severe long-term conditions to live independently.

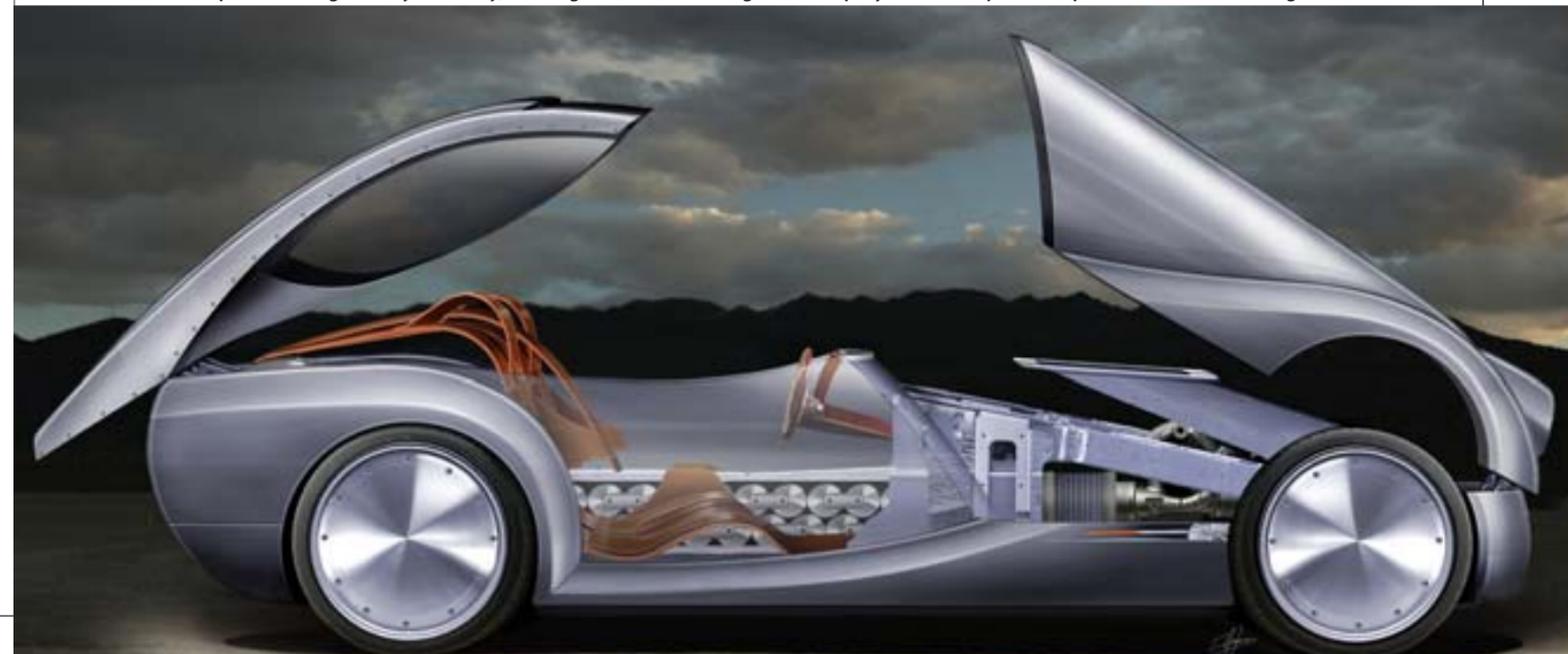
Low carbon vehicles: seeking to position the UK's automotive sector to benefit from growing public and private sector demand for lower carbon vehicles.

Intelligent transport systems and services: aiming to overcome issues associated with travel and traffic, such as traffic network management, congestion, user travel information, safety, crime and infrastructure and vehicle connectivity.

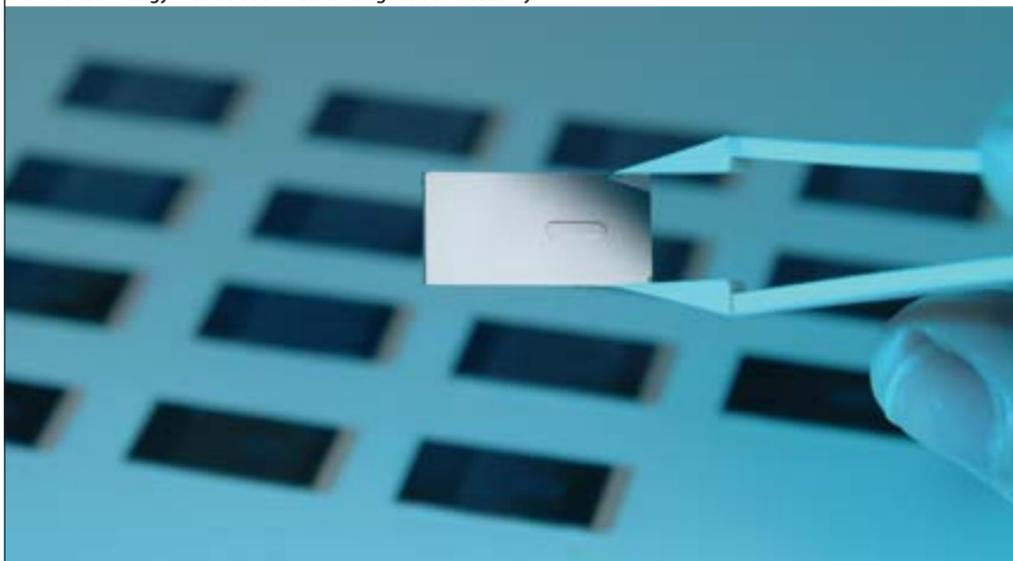
Low impact buildings: assisting business to harness the growing market for environmentally sustainable buildings and to respond to the Government's challenging targets for improving sustainability.

Network security: addressing the confidentiality, integrity and availability of network communications infrastructure,

The Morgan LifeCar, is a fuel cell hybrid sports car developed through a collaborative research and development project led by the Morgan Motor Company and with Technology Strategy Board investment. The car made its debut at the Geneva Motor Show in March 2008. Additionally, through a Knowledge Transfer Partnership with Birmingham City University, several graduates are working at the company to enable rapid development of new vehicle designs



A consortium led by Stratophase and co-funded by the Technology Strategy Board is developing bio-chemical sensor chips – disposable, highly-sensitive microchips which enable detection of harmful biological pathogens. Applications of the technology include both medical diagnosis and security



DOING THINGS DIFFERENTLY

We will invest only where we believe there is a market opportunity, and we will not hesitate to stop an investment that does not seem to be working. We have just launched a creative industries Knowledge Transfer Network and are looking at how to encourage innovation in high-value services. Although these are two of the largest sectors in the UK, we have not invested in either in the past.

We will take risks – we will not just invest in the safe option – because with the greatest risk comes the biggest reward. And we will look carefully at how our impact on innovation can be measured. We will use a basket of metrics to measure performance. We will look at the impact of individual interventions, such as Knowledge Transfer Partnerships and Collaborative R&D.

In the case of Collaborative R&D, for example, we have recently introduced a commitment for participants to report the impact of the project for five years beyond the end of a project. Through Knowledge Transfer Networks we will look at the number of companies we are reaching. We will measure the level of funding we are leveraging for our investment from both the public and private sector. We will conduct perception surveys to ensure we are providing the support required by business and that the support we do provide is delivered effectively.

the information being transmitted across that network and the systems that use it to communicate.

Over the next three years we will introduce a further five Innovation Platforms, in areas that address other major societal challenges.

Within each of these Innovation Platforms we will invite businesses, academic institutions and research organisations to work together to research, develop and deliver innovative technological solutions. We will encourage (and invest in) a multidisciplinary response, bringing together people and organisations to create innovative solutions.

TECHNOLOGY-INSPIRED INNOVATION

The second type of innovation is the more familiar 'technology-inspired' innovation. The UK has a stock of intellectual assets that few nations can match. Many of our technologies are world-beating and it makes sense to invest in areas where we have strengths.

It is no less important to maintain a pipeline for new advances, where existing technologies can be twisted, turned and transformed into emerging technologies with the potential to have a major impact and create new markets or industries.

So we will invest in innovative research and development in areas where the UK is strong, and in the next generation of technologies and industries. The following have been identified as key technology areas for future investment:

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

THE INNOVATION CLIMATE

To accelerate innovation in the UK we need a culture that enables, attracts, retains, celebrates and rewards talent and innovation – a welcoming innovation climate. The

Technology Strategy Board will therefore continue to invest in networks and knowledge exchange. Two key investment areas will be:

Knowledge Transfer Networks (KTNs), which are national networks in a specific technology or business application which bring together people from businesses, universities, research, finance and technology organisations to stimulate innovation through knowledge exchange. There are currently 24 KTNs, with a total membership of over 30,000 people. We are reviewing our investment in KTNs, to ensure they support our strategic priorities and we want to increase their international network.

Knowledge Transfer Partnerships which place high-calibre, recently-qualified individuals into a business to work on innovation projects. KTPs deliver real benefits for business, increase business interaction with universities and provide excellent experience for graduates. There are currently 1000 KTP placements and this figure will be doubled by 2011.

SMALL BUSINESS HELP

We are piloting a reformed Small Business Research Initiative (SBRI). This aims to encourage innovation in small businesses through government procurement of technology development. It will be a true procurement programme, giving businesses the opportunity to develop new technology in response to an identified need – for the pilot, in healthcare.

A reformed SBRI has the potential to strengthen greatly the partnership between early-stage technology businesses and the public sector. For the small business, it will provide both cash and the commercial discipline of having a customer. For the public service customer, it can provide solutions to pressing needs and opportunities to reduce costs. I am very happy that we are working to bring the new SBRI to life.

INNOVATION IS VITAL

Innovation and the application of technology are vital for the UK – for our economy, to remain globally competitive and to address social and environmental challenges. To innovate, businesses need inspiration, investment and breakthrough thinking. They need to join forces with experts and business partners and they need to operate in an environment that is open to new ideas and which supports them.

This will be the mission of the Technology Strategy Board over the coming years.

Further reference

The Technology Strategy Board's Innovate '08 conference and exhibition will take place on October 7th, with a theme of 'Business for shaping our world'. For further information about the event, and about the Technology Strategy Board, visit www.innovateuk.org

Further description of projects can be seen at: www.technologyprogramme.org.uk

INNOVATION SUPPORT IN ACTION

The **Low Carbon Vehicles Innovation Platform** will launch the Low Carbon Vehicles Integrated Delivery Programme in the Autumn – stimulated by £70 million of Government investment. This programme will coordinate low carbon vehicle activity from initial research through to future procurement opportunities, speeding up the time it takes to get low carbon vehicle technologies into the market place. Including industry funding, the value of the programme will be about £200 million.

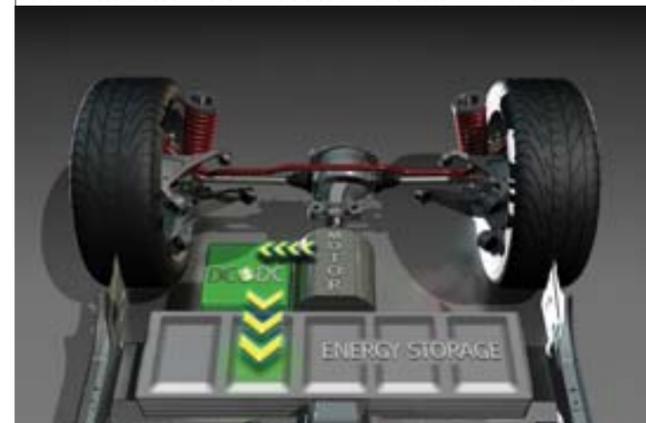
The **Assisted Living Innovation Platform**, which is addressing the challenges brought about by our ageing population, is working with the Department of Health to develop a plan whereby new technologies will be evaluated and shaped by care-givers. The Technology Strategy Board will also soon announce details of its new investment in innovative R&D projects in new healthcare technologies, worth about £15 million.

Through its **Collaborative Research and Development** programme, the Technology Strategy Board is to invest £20 million in 27 innovative projects that will develop high value products, processes and services. The investments will support new research and development manufacturing projects that will both develop technologies for high value products and address the through-life supportability of the technologies.

The **Next Generation Composite Wing** project sees 17 industrial partners – led by Airbus – join forces in one of the most significant aviation research and technology programmes launched in the UK for many decades. The project aims to improve future wing design processes and help to maximise the eco-efficiency of future aircraft designs. The total value of the programme is £103 million, with the Technology Strategy Board investing £25 million, the nine regional development agencies and devolved administrations investing £26 million and the industrial partners contributing £52 million.

The **Small Business Research Initiative's** pilot competition in health will address two areas in the fight against healthcare-associated infection: rapid detection of live bio-burden on surfaces and hand-washing compliance. Specifications are being drawn up and the competition will open after the summer.

Motorsport specialist Prodrive is leading a consortium developing a new DCDC converter for use in automotive and hybrid electric vehicles, which will be more efficient, smaller and cost less than those currently available. The project, part-funded by the Technology Strategy Board, also pools expertise from HIL Tech Developments, International Transformers, LDV, Sloan Electronics and the universities of Manchester and Newcastle



BIOGRAPHY – Iain Gray

Iain Gray joined the Technology Strategy Board in 2007 as its first Chief Executive. He was previously Managing Director and General Manager of Airbus UK. Iain Gray obtained an Engineering Science honours degree at Aberdeen University and gained a Masters of Philosophy at Southampton University. Iain is a Chartered Engineer and a Fellow of the Royal Aeronautical Society. He is Chairman of the Business and Industry Panel of the Engineering and Technology Board (ETB), a Governor of the University of the West of England, a Board Member of SEMTA and a Board Member of Energy Technology Institute.