

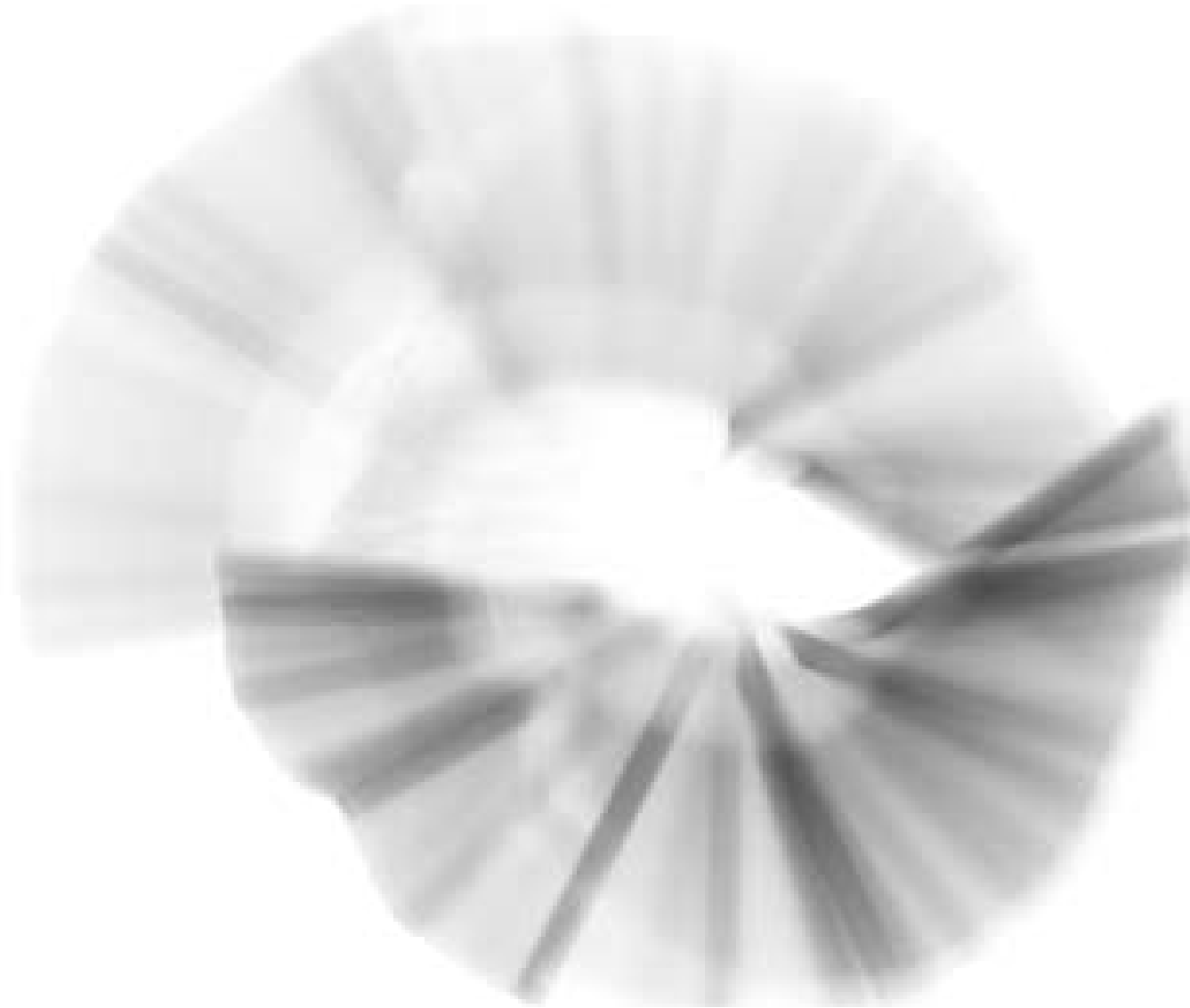
Technology Strategy Board

Driving Innovation



Creative Industries

INTERIM STRATEGIC ASSESSMENT



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What is the background?

This paper presents the Technology Strategy Board's preliminary views, from our engagement so far, on the business challenges facing the sector and the ways in which technology can be exploited to overcome them. It has been produced to prompt discussion and elicit feedback from business and other stakeholders. Your comments on this perspective are invited. This will be used in the development of a more detailed strategy, due to be published in early 2009. The content and context is driven by the Technology Strategy Board's remit and the criteria used to evaluate all potential investments (see our high level strategy document, *Connect and Catalyse*).

The Technology Strategy Board established Creative Industries as an Application Area in July 2007. The inclusion recognised the important contribution the sector makes to the UK economy and the role that technology plays in driving the growth of new products and services.

What is our approach to the sector?

The Technology Strategy Board uses the Department of Culture Media & Sport (DCMS) definition for the sub-sectors that make up the industry (Advertising, Architecture, Arts, Crafts, Music, Design, Fashion Design, Film, Computer Games, Performing Arts, TV and Radio, Publishing and Software). Recognising that technology is eroding the traditional demarcations between sub-sectors, and throwing up similar challenges in very different markets, our approach is to identify cross-cutting themes rather than take an individual sectoral approach.

1 DCMS Creative Industries Economic Estimates Statistical Bulletin (Oct 07)

2 Staying ahead: the economic performance of the UK's creative industries – the work foundation June 2007

3 Library House Nov 2007

How do we see the UK position?

The creative industries sector contributes an estimated 7.3% of GVA¹ and has been growing at twice the rate of the overall economy. The sector accounted for £14.6bn of exports in 2005 and employs an estimated 1.9 million people. According to a recent OECD study, the sector contributes a greater proportion of GDP in the UK than in any other nation. The content-based industries (computer games, TV, film, radio, video, music, publishing and advertising) account for approaching three-quarters of the sector.

The UK has a leading position globally in this sector, to give just a few examples:

- The UK is the largest producer of TV and Radio content in Europe. Only the US generates more value from TV exports.
- We have the largest publishing industry in Europe and are second only to the US as a source of music repertoire.
- The UK leads the world rankings for advertising excellence, with London the European, Middle East and Africa hub for the major global agencies²
- The UK has the largest number of computer games development studios in Europe.
- London's theatreland is the largest revenue earning theatre cluster in the world.

How do we see the market drivers and challenges?

The pace of development of technology presents the sector with unparalleled opportunities. Digitisation, increasing bandwidth and the global reach of the Internet have opened up new and much larger markets. Within a relatively short time, there has been an explosive growth of new ideas and major new companies, operating with different business models. Google, FaceBook and YouTube are prime examples. A mass of niche services has been created. The UK has been leading the field in Europe with UK companies securing a third³ of all European venture capital investment in the mediatech sector in 2007.

However, with the opportunities have come challenges. The interconnectedness of the Web has also facilitated peer-to-peer sharing and piracy on an unprecedented scale, challenging the ability of some content creators and owners to earn adequate returns on their intellectual property. As we source more of our information, entertainment, goods and services via the Web, it is increasingly important that we have easy access to trusted content, ease of doing business, private and secure transactions, and quality of service. Such a swiftly changing environment makes it difficult for small companies to keep up to date with the latest market and technological developments, to evaluate their potential impact and to develop their businesses to capitalise on the opportunities. There is increasing competition as emerging economies invest to compete in higher value services.



Consumer demand is changing too, with companies having to compete on both price and added value. Many technically literate consumers are no longer satisfied with being a passive recipient and want to interact with others' content or produce and share their own. They want products and services shaped to their particular needs and desires; and concerns about the environment are leading to an increased interest in ethical values. These aspirations are driving the exploration of new materials, design methodologies and production processes for both physical goods and digital services. The results are exemplified by the success of web-based recommendation services, increasing interest in applying rapid manufacturing techniques and eco-labelling scheme for textiles.

What do we see as the main technology-based opportunities?

Technology, in particular digital, materials and electronic devices, has had, and will continue to have, a profound impact on the creative industries sector, challenging existing business models and throwing up new market opportunities. In response to the business challenges given above, the Technology Strategy Board has identified five broad technology themes around which it intends to focus future activity:

- **Commercialising and accessing content in a digitally networked age** through:
 - the development of new business models and consumer experiences;
 - tools to support legitimate access to content for repurposing;
 - platforms that provide small businesses with tools to scale operations;
 - tools to support easy and efficient transactions;
 - intelligent content discovery;
 - solutions to extend the participation in consuming, interacting and generating content;

- technologies to support user centric access to content (i.e. making the technology invisible); and
- future-proofing digital content and experiences for next-generation delivery platforms.
- **Making context-relevant content available – anytime, anyplace, on any device and across any platform** by:
 - integrating different technologies and business models to offer truly pervasive, intuitive access to information and entertainment services;
 - developing new consumer experiences (e.g. location based services);
 - exploiting the potential of new interfaces and display media (e.g. haptic interfaces, plastic electronics, 3D, HDTV);
 - harnessing the power of networks: personalising media; and
 - maintaining consistency, continuity and quality in service delivery whilst assuring personal privacy.
- **Exploiting the potential of virtual worlds, augmented reality, interactive and immersive environments** through:
 - the convergence of sensor and ICT technologies and real/virtual world interfaces;
 - development of 3D technologies for production and consumption;
 - design tools and frameworks to extend market potential and or facilitate personalisation;
 - designing in culturally appropriate behaviour and intelligent responses in virtual entities;
 - tools to increase realism of virtual or immersive environments (e.g. in landscape generation as well as behaviour of light and sound);
 - application of technologies/methodologies in new markets such as training; and
- development of new business models and enhanced user experiences.
- **Increasing the competitiveness of creative industry products** through the application of technologies to reduce design or production costs, accelerate time to market, improve product quality or provide additional functionality. This could include:
 - the application of sophisticated modelling techniques to support, for example, through project life management of complex design projects in architecture, or choreography in performing arts;
 - technologies to enable mass customisation and personalised design solutions; and
 - application of new materials and production techniques to increase functionality or aesthetics.
- **Reducing Environmental Impact** via:
 - development of design tools and techniques to optimise use of materials and minimise waste;
 - packaging design;
 - application of creative industry disciplines in other sectors to reduce environmental impact; and
 - solutions to reduce the consumption of natural resources in processing and production of creative industry products and services.

Although some of the themes and sub-themes are specific to creative industries, others are more generic in nature. Elements will be addressed within the strategies of other Technology or Application Areas and within the Innovation Platforms.

What have we done so far?

The emphasis in this first year has been on consultation and engagement with those active in the sector to understand the key business challenges and technology-related market drivers, generate awareness of the Technology Strategy Board activities and put the infrastructure in place to support future investment.

Specific activities have included:

■ **The Creative Industries Technology & Innovation Network – A Knowledge Transfer Network (KTN) for the Creative Industries:**

A contract was awarded in May 2008 to a consortium led by the University of the Arts London and including Imperial College London, Royal Institute of British Architects (RIBA) and TIGA, the trade association for games developers. The KTN is an important first step in developing the communication channels to inform the strategy and provide the route to market to implement subsequent interventions.

■ **£10m Collaborative R&D Call:**

Launched January 2008, this programme was designed to be broadly applicable across the sector. The funding was split into three streams with £7m dedicated to larger, collaborative projects focussed on exploiting digital technologies. £3m was allocated to two, technology neutral, six-month pilots: Feasibility Studies and Fast Track Projects for application by micro and SME companies only. Through this work, we have agreed to fund 13 Collaborative Research and Development Projects and, at the time of printing, 75 Feasibility Studies and 11 Fast Track Projects.

What do we propose to do next?

In the coming year the Technology Strategy Board will:

- launch the Creative Industries KTN and work with it to strengthen cross-sector networking around cross-cutting themes;
- research and publish a strategy for the sector;
- link creative industry businesses into the wider portfolio of the Technology Strategy Board's activities to increase participation in collaborative R&D calls from the Innovation Platforms, Key Technology Areas and other Technology Application areas, particularly those activities which align to one of the themes or sub themes outlined above;
- review the effectiveness of the Feasibility and Fast Track elements of the recent CR&D call as a mechanism for engaging small and micro companies; and
- launch and implement a targeted CR&D call for projects on Accessing and Commercialising Content in a Digitally Networked Age.

How can you get involved?

This document is intended to form the basis of discussions with sector stakeholders to inform the development of a more detailed strategy for publication in early 2009. To make your contribution to the debate please contact creativeindustries@tsb.gov.uk.

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The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve quality of life.

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