

Technologies for Health

Autumn 2007 Competition for Funding

The Technology Strategy Board has allocated an indicative amount of £15 million to invest in highly innovative collaborative research in Technologies for Health.

Funding is available to support Collaborative Research and Development projects that seek to bring medical diagnosis, care and analytical capabilities closer to the patient community, by applying advanced hardware systems and miniaturisation technologies to develop more portable and lower-cost equipment.

Background

Healthcare technologies in the UK is a fast-growing sector underpinned by a strong life sciences research base, a mature biopharmaceuticals industry and a large number of medical device companies. There is a significant opportunity for it to improve healthcare provision through earlier and more accurate diagnosis, improved therapy and rehabilitation, and by shortening the time to discover and develop new drugs and devices.

The UK has both capability and capacity in photonics, electronics systems design, microsystems and nanosciences, and recent advances in these areas offer the possibility of hybrid applications that can diagnose and treat disease with greater efficacy. Therefore the UK is well placed to exploit opportunities at the interface between medical science and device technology.

Faster and more detailed healthcare diagnostic tools offer the opportunity for quicker diagnosis and more effective treatment. There is a growing market for portable, low-cost technologies that can be applied at the point-of-care which perform integrated sample preparation, analysis and diagnosis, offering earlier medical intervention. As diagnostic and analytical technologies become less expensive, systems which

incorporate multi-tasking and disposable components will become more prevalent.

Miniaturised technologies such as smart pills and medical devices, which can be ingested, implanted or worn by the patient and which perform monitoring, diagnosis and treatment will offer greater personal freedom for patients. These new devices must be small, robust, fast, and energy efficient to deliver and act upon analytical information in a simple and inexpensive manner, and be reliable and efficacious over extended lifetimes.



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Scope for Applications

The challenge to be addressed by this call is to develop technologies to encourage localisation of healthcare services. Proposals should identify applications likely to improve quality of life in a well-defined end-use market. These may include:

- Devices for minimally invasive intervention, treatment, monitoring and therapy,
- Devices for in- or on-the-body applications,
- Low-cost tools for self-diagnosis,
- Devices and sensors for early and rapid detection of disease
- Scaled-down devices for point-of-care diagnosis and sample analysis, or for genomic or proteomic analysis,
- Devices for point-of-use drug synthesis or drug delivery,
- Developments for animal health and detection of disease in animals,
- Human-on-a-chip and *in silico* disease models for drug safety & biological activity,
- Imaging technologies to identify biomarkers which predict drug efficacy.

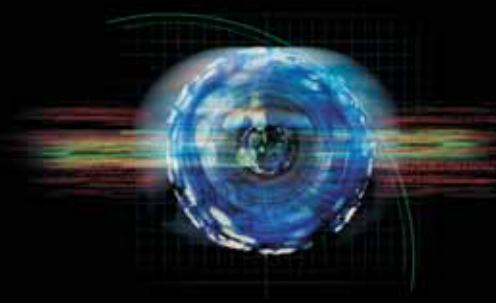
One or a combination of technologies can be used to address this challenge, such as:

- Photonics: including lasers, optical fibres, fluorescence and photodynamic techniques, spectroscopy and imaging.
- Electronics: including sensors, chemical or biological recognition transducers and data capture and transmission.
- Microfluidics, microsystems and system-on-chip architectures.
- Nanomaterials and nanodevices.
- Telecommunications technologies
- Fluid and tissue manipulation, biofabrication, microanalysers and microarrays.

Funding Allocation and Project Details

The Technology Strategy Board advises on the selection of priority technology areas and is a business-led executive non-departmental public body, established by the Government. Its mission 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. An indicative £15 million of Technology Strategy Board funding is allocated to Collaborative R & D projects that address one or more areas indicated above and involve science-to-business and business-to-business interactions. Additional funding may be available from the Research Councils where there is a significant high quality academic component, and in particular for those projects that demonstrate added value to its portfolio; by building on or being complementary to their existing portfolio.

It is anticipated, however, that the majority of the total funding will be allocated to projects in the applied research category. Projects are expected to last 2-3 years although extended projects (up to 5 years) will be considered where Proof of Concept needs to be established. Extended funding aims to support start-ups and SMEs to build the product and business proposition and make the business more 'investor ready'. Typically a project would require support of around £500k-£2m, although no project will be rejected on the grounds of size alone, and generally aim to implement significant business change in a 5-7 year time frame rather than a shorter-term payback. Ideally all projects should include at least one partner with defined end-user needs and we encourage projects that can demonstrate benefits to a number of business sectors.



Projects can range from small, highly focused Basic Research aimed at establishing technical feasibility, through Applied Research, and to Experimental Development projects. It is anticipated that most of the funding will be allocated to proposals in the Applied R & D (attracting 50% public funding) or Experimental Development (25% public funding) categories. Projects involving industry oriented Basic Research (75% public funding) will be considered but a robust case must be made to support the requested level of funding.

Definitions of the above categories of research can be found in the Guidance for Applicants – see <http://www.technologyprogramme.org.uk>

The Technology Strategy Board will require all projects to provide a non-commercially confidential summary, at the start and the conclusion of the project, for dissemination.

If you have any queries about the technical scope of the competition or the application process, please contact the Technology Programme helpline on **01355 272155** or email info@technologyprogramme.org.uk

Application Process

The process for the Autumn 2007 competition is shorter than previously and is intended to offer more opportunity to applicants to discuss their proposals with TSB Technologists. The Collaborative R & D Call opens on 19 December 2007 and closes on 27 March 2008. The Guidance for Applicants explains the process in detail; in short, there is an opportunity to submit a brief outline of the proposal by 11 January 2008, that will be reviewed and feedback will be provided by 21 January 2008. In the week beginning 21 January 2008 there will be limited opportunity to discuss the feedback with the Technology Strategy Board officials by telephone; details can be found at www.technologyprogramme.org.uk

An applicants' briefing will be held on 30 January 2008 and there will be further opportunity during the day for discussions with competition officials. Applicants will need to register their intention to apply by 22 February 2008 and accompany this registration with an outline of their proposal, this will be reviewed and feedback given by 3 March 2008 with limited opportunity to discuss the feedback during the week beginning 3 March 2008. There will be a final briefing for applicants on 12 March 2008 with similar opportunities as above and the competition will close on 27 March 2008.



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More Information

For more information about this and other events and details on how to register and apply visit

<http://www.technologyprogramme.org.uk>

Helpline: 01355 272155

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Key Dates

Competition opens: 19 December 2008

First Review deadline (optional) 11 January 2008

Feedback provided by 21 January 2008

Feedback discussion in week beginning 21 January 2008

Applicants' Briefing (optional) 30 January 2008

Second Review and Registration of Intent to submit deadline (compulsory) 22 February 2008

Feedback provided 3 March 2008

Feedback discussions in week beginning 3 March 2008

Applicants' Briefing (compulsory) 12 March 2008

Deadline for receipt of full applications 27 March 2008

Decision and feedback to applicants 15 May 2008