Technology Strategy Board
Driving Innovation

Plastic Electronics: Building the Technology Supply Chain

JANUARY 2010

COMPETITION FOR COLLABORATIVE R&D FUNDING

ELECTRONICS, PHOTONICS AND ELECTRICAL SYSTEMS TECHNOLOGY AREA

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Summary

We have allocated up to £5m to fund business-led collaborative research and development projects in plastic electronics.

This is an emerging technology area that the UK is in a good position to exploit to create wealth, providing we develop the technology in conjunction with end-users and build supply chains to be able to deploy in large-scale manufacturing.

- We will fund mostly applied R&D (attracting 50% public funding) and experimental development (25% public funding). We will also consider industry-orientated basic research (75% public funding) providing a strong case is made.
- We intend to invest between £500k and £2m in each project, although we will consider larger projects.
- Projects are expected to last 2-3 years and result in a demonstrator or proof of principle.

The competition will open on 18th January 2010. Details of how to apply will then be published on our website **www.innovateuk.org**, together with the Guidance for Applicants.

Challenge

To overcome technical barriers and start building the supply chain to enable the UK to exploit plastic electronics.

Background

In our 2008 *Electronics, Photonics and Electrical Systems Strategy* (see **www.innovateuk.org** under Publications), we identified plastic electronics as one of five technology areas in which investment would have a significant and lasting impact on the UK economy. We pledged that 'having identified the barriers to UK wealth creation, we would stimulate innovation to overcome them'.

This competition helps fulfil that pledge. It also builds on previous investments in plastic electronics made by the Technology Strategy Board, research councils, regional development agencies and devolved administrations.

The recently published *Plastic Electronics: A UK National Strategy* from the Department for Business, Innovation and Skills (**www.bis.gov.uk**) identifies the major application areas for plastic electronics as displays, lighting and photovoltaics, along with their incorporation into integrated smart systems. These systems require simple electronic circuits manufactured at very low cost. The ability to embed simple electronic and sensor functionality into even low-value items will result in a dramatic expansion of markets such as smart packaging and product security.

Scope

Plastic electronics enables relatively low-cost manufacturing by printing or patterning electronic materials. To avoid doubt, when this document refers to plastic electronics, it includes plastic and printed electronics using organic or inorganic materials on flexible or rigid surfaces. These new technologies provide the opportunity to deliver new product designs across many market sectors, using new or adapted manufacturing techniques.

We are particularly keen to receive applications for funding to develop technology to build the UK supply chain and address end-users' needs. As well as addressing commercial capability, all proposals must include extensive advances in technology.

Proposals should address one or more of the following:

- the development of production equipment and processes that enable the large-scale manufacturing of displays, lighting, photovoltaics and integrated smart systems using current or next-generation material sets
- innovations in testing and measurement to enable or demonstrate high-volume in-line testing and repair
- the development of new devices, materials, architectures, circuits or modelling tools to enable additional or improved device functionality, such as complementary semiconductor devices that improve speed and power; or display, sensor or power devices that perform better and/or are more compatible with plastic electronic fabrication processes
- significant improvements in barrier performance to manufacture at high speed, large volume and high yield.

Funding allocation and project details

We have allocated up to £5m to fund collaborative R&D projects involving science-to-business and business-to-business interactions. All projects must be business-led and must help build capability in the technology supply chain, ideally including at least one partner with defined end-user needs.

Projects are expected to last 2-3 years to enable businesses to change significantly within a few years of the project being completed. We intend to invest between £500k and £2m in each project, although no project will be rejected on the grounds of size alone if strong justification of value for money is made. Larger projects will have to follow a different application process, which is described in the Guidance for Applicants.

Extra funding may be available from the Engineering and Physical Sciences Research Council for projects that have a significant high-quality academic component, particularly projects that build on, or complement, other research programmes that it is funding.

Projects can range from small, highly focused basic research aimed at establishing technical feasibility, through applied research to experimental development projects. All projects and project types should result in a demonstrator or proof of principle of the technology developed. We will allocate most of the funding to proposals in the categories of applied R&D (attracting 50% public funding) and experimental development (25% public funding). We will consider projects that involve industry-orientated basic research (75% public funding) but applicants must make a robust case to support the level of funding they are requesting. Details of the levels of funding available and conditions for eligibility are provided in the Guidance for Applicants.

Application process

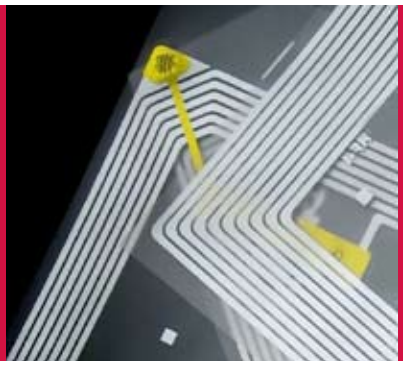
This is a two-stage competition; it will open on **18th January 2010** and expressions of interest (EOI) must be submitted by noon on **25th February 2010**. The process gives applicants the opportunity to make an initial optional EOI before submitting their compulsory EOI. We will look at the optional EOI and aim to provide feedback to applicants within three working days. Applicants may take advantage of this up to one week before the deadline for the submission of the compulsory EOI. The second stage for invited applications will open on **22nd March 2010** and close on **29th April 2010**.

The Guidance for Applicants will explain the application process in detail as well as provide full information on the funding levels and eligible costs; this document will be published on **18th January 2010**, the opening date of the competition. Before that date a range of documents and example forms are available for reference in the Competitions section of the website at **www.innovateuk.org**.

We will require all projects to provide a non-commercially confidential summary at the start and the conclusion of the project for dissemination.

Key dates

Competition opens	**18th January 2010**
Optional briefing	**28th January 2010**
Optional expression of interest submission period	**18th January 2010 to 18th February 2010**
Expression of interest deadline (noon)	**25th February 2010**
Feedback on expressions of interest provided by	**19th March 2010**
Stage 2 opens (for invited applications)	**22nd March 2010**
Compulsory applicants briefing (London)	**31st March 2010**
Registration of intent to submit deadline (noon)	**22nd April 2010**
Deadline for receipt of full applications (noon)	**29th April 2010**
Decision to applicants	**4th June 2010**



Further information

For more information about this and other competitions and details of how to register and apply, visit **www.innovateuk.org** under Current Competitions.

Competition helpline:

If you have any queries about the competition, including application forms, guidance documents and events, please contact the competition helpline.
Tel: 01355 272155

Email:
competitions@tsb.gov.uk

Publicity

The Technology Strategy Board frequently publicises the results of competitions and this includes engagement with the media. All applicants will be given a chance during the competition process to opt out of any publicity. Willing applicants will be asked to provide an agreed form of words for use in publicity material. E-mail **pressoffice@tsb.gov.uk** with any queries.

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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