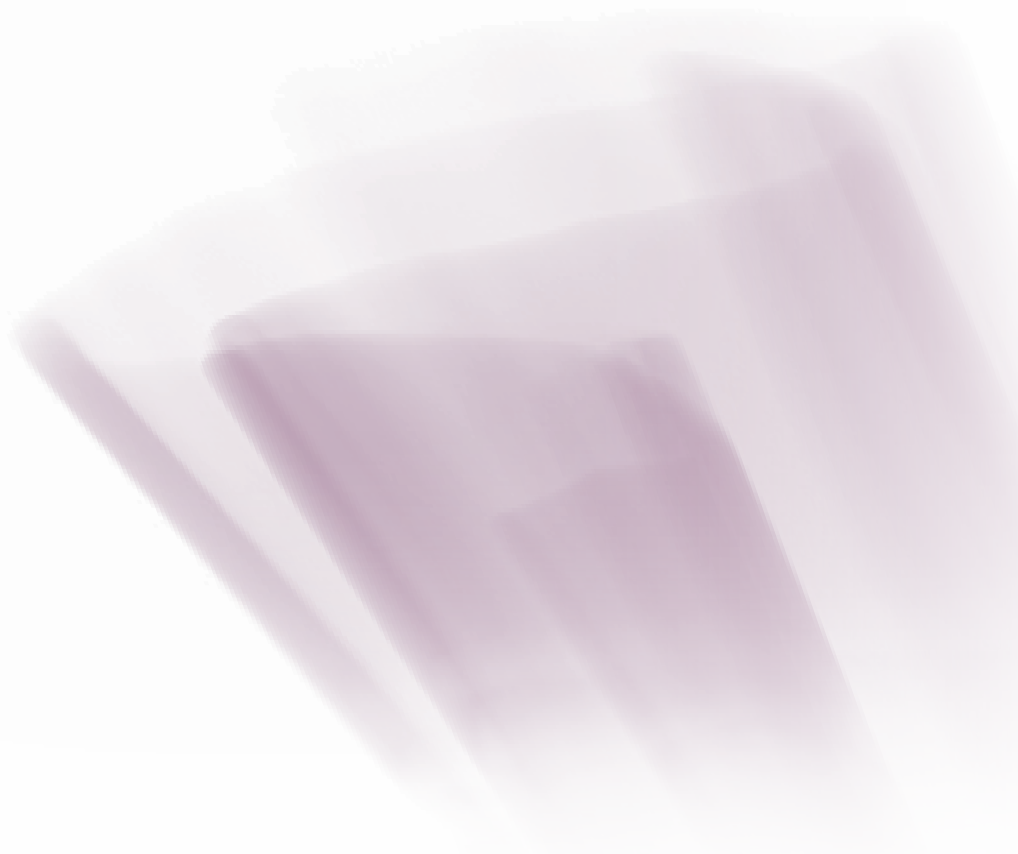


Manufacturing electronic systems of the future

**COMPETITION FOR COLLABORATIVE R&D
AND FEASIBILITY STUDY FUNDING**

FEBRUARY 2014



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Summary

The Technology Strategy Board is to invest up to £4.75m in collaborative R&D and feasibility studies to stimulate innovation and growth in the manufacture of electronic systems.

We are looking to fund projects that explore novel manufacturing processes that could lead to new ways of making products in future. The early exploitation of these processes should improve competitiveness by enhancing functionality, reducing size or cost, adapting form and/or enabling rapid scale-up.

We are seeking to fund business-led collaborative R&D (industrial research), with a business partner attracting 50% public funding for their project costs (60% for SMEs). We expect collaborative R&D project costs to be up to £500k and for projects to last between 12 and 24 months.

Design is likely to play a significant part in collaborative R&D project work and so we are also offering projects specialist design support through our Design Option.

Proposals for feasibility studies (pre-industrial research) must be business-led and can involve a single business or be collaborative. Business partners can attract public funding of up to 65% of their project costs (75% for SMEs). We expect feasibility project costs to be up to £75k and for projects to last up to 9 months.

The competition opens for both types of project on **17 February 2014** and the deadline for registration is noon on **26 March 2014**. The deadline for expressions of interest for collaborative R&D projects, and for applications for feasibility projects, is noon on **2 April 2014**.

A briefing event and webinar for potential applicants will be held in London on **26 February 2014**.

Background

The UK has more than 5,500 companies that design and manufacture electronic systems. These companies include small and medium-sized businesses, micro-enterprises and large companies, and the sector contributes around £78bn (5%) to UK GDP. Electronics manufacturing has been the subject of several influential reports: the Electronics Systems Community (ESCO) published *A Blueprint for UK Economic Growth* in 2013, and the Department for Business, Innovation and Skills published *Power Electronics: A Strategy for Success* in 2011, and also published *The Future of Manufacturing* in 2013.

The UK's expertise is acknowledged in world-leading, R&D-intensive electronic systems markets, where there is considerable innovation in the creation of new products. However, a number of challenges have been identified that could

affect the growth potential of the UK electronics industry, including:

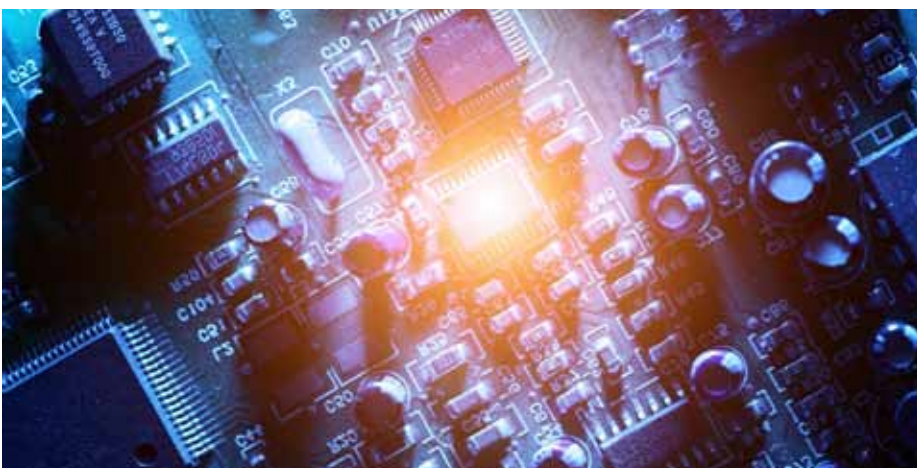
- the ability to scale up production to address the future demand of emerging markets, such as that for electric vehicles
- technology markets often exhibit a 'winner takes all' dynamic, where success depends on scaling up faster than rivals
- packaging and interconnection technologies for high-density systems integration
- the cost of energy in manufacturing
- intelligent, self-checking products
- techniques to embed ubiquitous sensors
- reconfigurable, sustainable manufacturing techniques.

In our strategies for high value manufacturing and for enabling technologies, we have agreed to invest in core competencies that will integrate new materials with manufacturing technologies through the application of intelligent systems and embedded electronics.

Scope

We want to encourage companies to explore novel manufacturing processes that could lead to new ways of making electronic systems in future. We will fund projects that involve one or more of the following areas:

- ways to manufacture electronics, sensors and photonics for hostile environments (for example sub-sea, high temperature or potentially explosive atmospheres)
- integration of printed electronics with conventional electronics (for example to enhance functionality, reduce size/cost or adapt form)
- methods of manufacturing complex flexible substrates for high-density electronics
- in-built intelligence to enhance the manufacturing process (for example self-testing or self-awareness to enhance end-of-life value)





- methods of embedding sensors, high-tolerance components or electronics into structures and/or materials (for example substrates)
- test instruments and techniques to eliminate R&D-intensive activities from the manufacturing process
- manufacturing techniques for high-density assembly or 3-D integration (for example chip-on-chip)
- methods to integrate bespoke devices (for example mechanical or through-hole components) with conventional surface-mount assembly.

To be successful in this competition, applicants will need to demonstrate that they are taking an innovative step in the manufacturing process involving technical and/or business risk; we are looking for projects that address the uncertainty about how the proposed technical or commercial approach will work.

We are particularly interested in projects that include sustainable business models that aim to reduce environmental and social impact across the lifecycle of the product. This may include, for example, substitution or reduction of hazardous materials, significant reduction of energy use or water use in manufacturing, and/or improved end-of-life outcomes such as repair, reuse, remanufacture or recyclability. Our sustainability tool, Horizons (<http://horizons.innovateuk.org>), is free to use in considering the environmental, political and social drivers for projects.

For support in using Horizons, please email Clare Martynski at C.Martynski@forumforthefuture.org

Successful projects are likely to incorporate a significant design component, both to ensure environmental performance and to include design attributes such as desirability, usability and feasibility. To help applicants understand the potential contribution of design to their proposal, we are offering our Design Option with this competition.

What is the Design Option?

The Design Option offers applicants free access to design mentors before submitting an expression of interest. The role of the design mentors is to help applicants to embed a holistic approach to design into a project at the earliest stages and throughout. Design mentors will provide information to your consortium about design, and examples of how early use of design has benefitted other projects. The Design Option only applies to collaborative R&D projects; the organisation requesting the Design Option should be taking the lead within the consortium applying for this competition.

Only one request per organisation can be made for the Design Option. Requests for the Design Option can be made from **1 January 2014**. This is a limited offer that will be awarded on a 'first-come-first-served' basis up to a maximum of 20 awards. Requests will not be accepted after noon on **7 February 2014** or after the maximum 20 awards are made, whichever comes sooner. All design mentoring work must be completed by **28 February 2014**.

To request the Design Option, the lead participant should visit: www.innovateuk.org/design-option-information-HVM and submit their request by email to: designoptionHVM@tsb.gov.uk

Funding allocation and project details

We have allocated up to £4.75m to fund collaborative R&D projects and feasibility studies that address the technical challenges outlined in the scope above.

This competition is open to all UK-based companies, academia and research organisations. Successful applicants can attract grant funding towards their eligible project costs. The percentage of costs that we pay varies, depending on the type of research being carried out and the type of organisation involved. For general guidance on how projects are funded see: www.innovateuk.org/-/funding-rules

Looking for partners to work on your project? Go to **_connect** (www.innovateuk.org/connect) to find collaborators and networks. For the innovation in electronics manufacturing group and details of networking events visit www.bit.ly/HVMportal

Collaborative R&D projects (industrial research)

Business partners in projects can attract up to 50% public funding for their project costs for industrial research (60% for SMEs). Projects must be led by a business. We expect total project costs to be up to £500k, and projects should last 12 to 24 months. The maximum academic/research organisation participation in a project is limited to 30% of the project costs.

Feasibility studies (pre-industrial research)

Up to £750k of the total funding will be available for smaller-scale feasibility studies that are conducting pre-industrial research. Projects must be business-led and can involve a single business of any size, a collaboration between businesses or a collaboration between businesses and academic/research organisations. The maximum academic/research organisation participation in a project is limited to 50% of the project costs. Businesses can attract public funding of up to 65% of their project costs (75% for SMEs). We expect the total costs of feasibility projects to be up to a maximum of £75k and for them to last up to 9 months.

Applications for both types of project are assessed on individual merit by an independent panel of experts. We may apply a portfolio approach across the different subject areas that this competition covers.

To find out whether your business fits the EU definition of an SME, see: http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm.

Application process

The competition for both collaborative R&D projects and feasibility studies opens on **17 February 2014**. The deadline for registration is noon on **26 March 2014**.

The deadline for applications for feasibility studies is noon on **2 April 2014**.

There is a two-stage process for collaborative R&D projects.

Stage 1: Applicants submit an expression of interest, which is assessed.

Stage 2: Selected applicants are invited to submit an application.

The deadline for expressions of interest is noon on **2 April 2014**, and the deadline for invited applications is noon on **29 May 2014**.

A briefing event and webinar will be held in London on **26 February 2014** to highlight the main features of the competition and explain the application process. **Applicants are strongly recommended to attend.**

More information

For more information and all the documents you need to read before you apply, including the *Guidance for Applicants*, go to the web page for this competition at www.innovateuk.org under Funding & Support > Funding competitions.

To apply you must first register with us through the competition page on the website. Registration opens when the competition opens and closes a week before the deadline for applications.

Competition helpline:
0300 321 4357

Email:
competitions@innovateuk.org

Publicity

As part of the application process all applicants are asked to submit a public description of the project. This should adequately describe the project but not disclose any information that may impact on intellectual property, is confidential or commercially sensitive. The titles of successful projects, names of organisations, amounts awarded and the public description will be published once the decision to offer an award has been communicated to applicants by email. Information about unsuccessful project applications will remain confidential and will not be made public. E-mail pressoffice@tsb.gov.uk with any queries.

Key dates

Design Option (optional for collaborative R&D projects)	
Request for Design Option opens	1 January 2014
Request for Design Option deadline	Noon 7 February 2014
Design mentoring work complete	28 February 2014
Collaborative R&D	
Competition opens	17 February 2014
Competition briefing	26 February 2014
Registration deadline	Noon 26 March 2014
Expressions of interest (EOI) deadline	Noon 2 April 2014
Stage 2 opens for invited applications	28 April 2014
Deadline for invited applications	Noon 29 May 2014
Feasibility studies	
Competition opens	17 February 2014
Competition briefing	26 February 2014
Registration deadline	Noon 26 March 2014
Deadline for applications	Noon 2 April 2014

The Technology Strategy Board is the UK's innovation agency.

We accelerate UK economic growth by stimulating and supporting business-led innovation.

We are a business-led executive non-departmental public body, sponsored and funded by the Department for Business, Innovation and Skills.

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