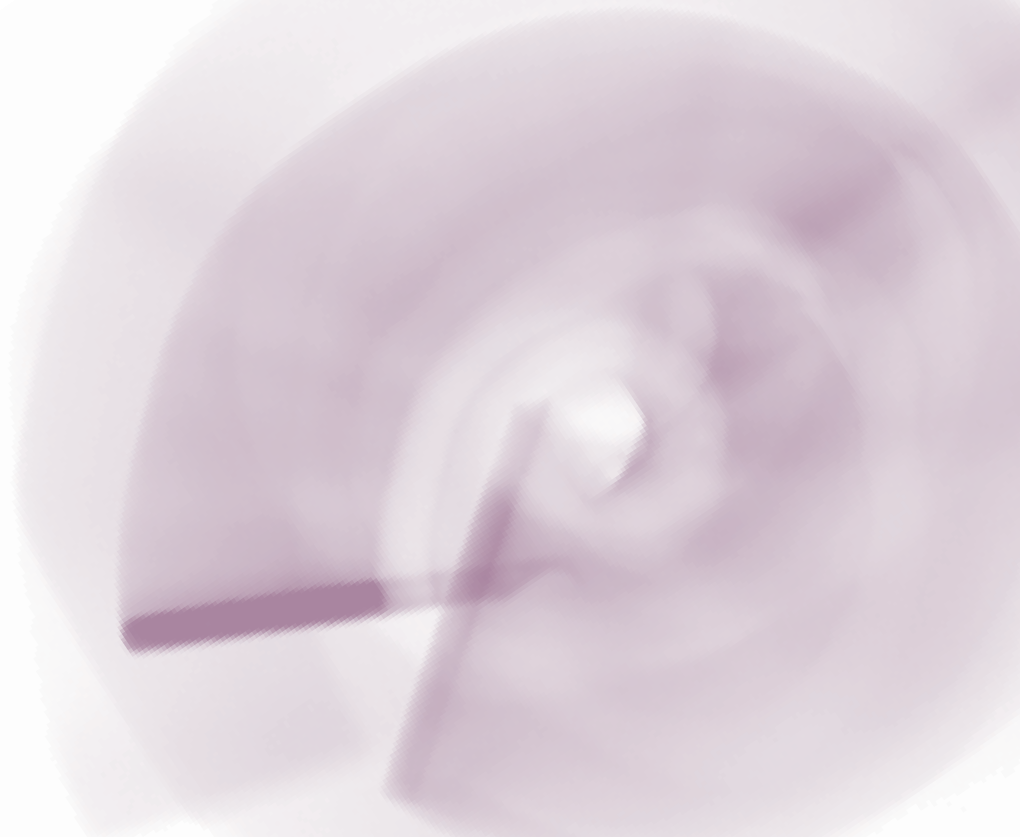




# Integrating smart meters into systems for smart homes

**COMPETITION FOR COLLABORATIVE R&D  
AND DEMONSTRATION FUNDING  
MAY 2010**



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## COMPETITION FOR COLLABORATIVE R&D AND DEMONSTRATION FUNDING

### Summary

The Technology Strategy Board, in partnership with the Department for Business, Innovation and Skills, is to invest up to £4.5m in innovative collaborative research, development and demonstration projects. The projects will integrate 'smart' meters with communications to make a 'smart' system that will have an impact on the demand for, and use of, energy in the home.

This competition aims to accelerate the speed at which innovations are able to enter the market. We are particularly interested in projects which help to understand the way in which consumer demand for energy might change in the light of the integration of smart home technologies.

The competition is open to energy, communications, technology and other companies. Consortia must be business-led and can be science-to-business or business-to-business interactions.

We are particularly interested in projects from those already involved in smart home development.

We expect projects to start in July or August 2010 and **all projects must be completed by end of March 2011**.

We expect to fund projects with a total project value of £400k-2m.

This Technology Strategy Board programme is committed to facilitating business growth and technology-based innovation. It complements other programmes being run by the Technology Strategy Board, in particular those being run as part of the Digital, Low Impact Buildings and Assisted Living programmes.

### Background and challenges

The transition to a low carbon economy will involve major changes to the way we supply and use energy over coming years.

Smart metering, in particular, is set to open up a range of new services to consumers, allowing greater choice and control over energy use. These meters, in homes and businesses, may provide consumers with accurate bills, along with faster and easier supplier switching.

They will also give people accurate real-time information on their energy use, helping them to manage that use more effectively and making it possible for energy supply companies to offer consumers more attractive tariffs and services.

Smart meters will form part of smart home systems – where multiple appliances are integrated in a way which gives consumers much greater control over the management and delivery of services within the home.

Integral to this transformation will be an energy grid that is fitted with more information and communications technology progressively over time. The result will be a 'smarter' grid that gives a better understanding of variations in power generation and demand, and allows us to use that information in a dynamic and interactive way to get more out of the system.

Most of the technology to deliver an innovative smart grid is available, and there are considerable market opportunities which could be afforded by transformations in the way in which energy is consumed and supplied. But there are untested risks which might slow the adoption and development of smart technology along all parts of the value chain.

As the report *Electricity Infrastructure*<sup>1</sup> by the Energy Research Partnership puts it:

'Many of the technologies that can contribute to the smart grid system are already developed. However to access these technologies collaboration is required across sectors, integrating network owners and operators with the telecommunications and IT infrastructure sectors. Innovation will be required in service provision with an emphasis on a "value added" approach to optimising the use of existing technologies and techniques in this new setting.'



<sup>1</sup> ERP, November 2009, [www.energyresearchpartnership.org.uk/tiki-list\\_file\\_gallery.php?galleryId=7](http://www.energyresearchpartnership.org.uk/tiki-list_file_gallery.php?galleryId=7)



In short, then, this is a complex and dynamic marketplace, with the development and application of technology which has the potential to bring a wide range of innovations – in particular, by providing opportunities for home-based smart systems, by diversifying the value chain, and connecting into a range of new markets.

There is particular potential for UK businesses in the development of a smart home environment. This would provide opportunities for companies from different sectors to come together to test out the ways in which a smart meter will operate, how it might change consumer demand, and how the data generated from the meters will be used to shift patterns of supply further up the supply chain.

This is an area already being explored by various companies – looking in particular at how devices will interconnect within the home, and how consumers can become more ‘intelligent’ customers. But the management and understanding of risk is not fully formed, and the speed at which any of these can move to market will depend on the ability to undertake live projects, which can test integration and interoperability of technology and the resulting changes in consumer demand.

## Scope

This competition is aimed at accelerating the speed at which innovations are able to enter the market. In particular, it will:

- develop and trial new business propositions for how a smart meter can be integrated with communications into a system within the home in a way which will have an impact on the demand for and use of energy.

Through this competition we will encourage projects which aim to test new ways of integrating technologies and devices in a range of different settings.

These settings might include (these are examples only): connections between energy devices and in-house communications and entertainments systems; integration of micro-generation systems and capabilities into an individual home or group of homes; connections between energy devices and telecare and telehealth systems.

Proposals will need to outline what systems are to be tested and how they might impact on consumer behaviour and management of energy in the home.

Proposals must explain how the work will help facilitate and/or accelerate the development of new supply chain relationships in a domestic setting.

Projects should operate within a ‘domestic’ environment, but will not necessarily be limited to individual homes.

Individual projects may focus on individual settings, and a range of settings will be tested through the overall programme.

This competition is open to energy, communications, technology and other companies, and cross-sectoral collaborations are encouraged.

The potential for adding to or building on existing projects or trials is within the scope of this competition.

## Funding allocation and eligibility criteria

The Technology Strategy Board, in partnership with the Department for Business, Innovation and Skills, has

allocated up to £4.5m for collaborative R&D and demonstration projects which must be business-led. Projects can be science-to-business or business-to-business interactions involving a minimum of two partners.

Given the international nature of many of the key businesses involved in the energy supply chain, non-UK businesses are eligible to be consortium members, providing there are a minimum of two UK partners (one of which must be a business) and clear quantified benefits to the UK are identified. Although non-UK businesses can participate, they cannot lead the project or receive grant funding.

Consideration will be given to the extension or development of an existing project providing there is evidence of innovation and enhancement of the original project.

We expect projects to be in the applied research area attracting up to 50% of public sector funding and they may include experimental development attracting up to 25% public sector funding. Definitions of these categories of research can be found in the Guidance for Applicants – see the Competitions section at [www.innovateuk.org](http://www.innovateuk.org).

All information regarding the application process, funding levels, application criteria and how to enter this competition will be defined in the Guidance for Applicants which is available on the Competitions section at [www.innovateuk.org](http://www.innovateuk.org). Applicants will need to read this document to enter the competition.

## Key dates

Competition opens	<b>19 May 2010</b>
Deadline for receipt of applications	<b>8 July 2010 noon</b>
Decision to applicants	<b>20 July 2010</b>
Feedback to applicants	<b>9 August 2010</b>



## Further information

For more information about this and other competitions, and details of how to register and apply, please see [www.innovateuk.org](http://www.innovateuk.org) under Competitions.

Several knowledge transfer networks (KTNs) will be running activities to support this competition. For details see:  
Modern Built Environment KTN at [www.mbektn.co.uk](http://www.mbektn.co.uk)  
Digital Communications KTN at [www.dcktn.org.uk](http://www.dcktn.org.uk)  
Energy KTN at [www.innovateuk.org/energyktn](http://www.innovateuk.org/energyktn)  
Photonics and Plastic Electronics KTN at [www.ppektn.org](http://www.ppektn.org)

Competition helpline:  
0300 321 4357

Email:  
[competitions@tsb.gov.uk](mailto: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](mailto: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.*

*Collaborative research and development is part of the Government's Solutions for Business portfolio.*

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