



Ultra-Efficient Systems for the Market Advancement of Electric and Hybrid Vehicles

JANUARY 2009 COMPETITION FOR FUNDING



Ultra-Efficient Systems for the Market Advancement of Electric and Hybrid Vehicles

JANUARY 2009 COMPETITION FOR FUNDING

Summary

As part of the Low Carbon Vehicles Innovation Platform, up to £10 million has been allocated to fund highly innovative collaborative research projects in the field of ultra-efficient electrical systems for electric and hybrid vehicles

Funding is available for the development of ultra-efficient motive systems and vehicle ancillary systems with the aim of the future delivery of more efficient, cost effective electric and hybrid road based vehicles. This competition is focused on developing robust industry led consortia which are capable of developing technologies that will encourage the transition to electric and hybrid vehicles by:

- Significantly improving the energy efficiency of electric and hybrid vehicle motive systems (see listing below).
- Significantly improving the efficiency of electric and hybrid vehicle ancillary systems (see listing below).
- Reducing size and weight of the above systems.
- Increasing the durability of these systems, or maintaining current durability at significantly reduced cost
- Reducing the current unit cost of these systems, or maintaining cost but with significantly improved performance

The competition is open to the development of systems for road based vehicles that could be demonstrated within the next 2-3 years and be production ready within the next 5-7 years. These timings are indicative and for guidance only.

Background and Challenge

The Technology Strategy Board's challenge-led innovation approach sees the societal, economic and environmental challenges of the future not as threats, but rather as opportunities for innovative solutions that enhance quality of life and increase wealth.

The Technology Strategy Board's Low Carbon Vehicles Innovation Platform (LCVIP) was launched in September 2007. It is the key delivery agent for the Government's research & development funding on low carbon vehicles.

With initial funding from the Technology Strategy Board, the Department for Transport and the Engineering & Physical Sciences Research Council, the Platform aims to Promote low carbon vehicle research, design, development and demonstration in the UK to deliver:

- Carbon reduction in domestic and international vehicle markets
- Accelerated introduction of low carbon vehicle technology and vehicles (compared to a purely market driven process)
- A UK automotive sector benefiting from growing demand for low carbon vehicles – domestic and international markets

This competition is the first funding activity under the recently announced LCV Integrated Delivery Programme (IDP). This is a 5 year programme which will integrate the innovation chain, from the science base, through collaborative R&D to fleet level demonstration. The IDP has secured £100m of public sector funding which will support 3 competitions in 2009 with further competitions anticipated thereafter.

A key barrier to mass market acceptance of electric and hybrid vehicles is the difficulty in balancing the range of the vehicle with the expected levels of functionality against the available stored energy. The competition is focused on developing ultra-efficient electric and hybrid vehicle motive and ancillary systems that make the best use of available stored energy. Increasing the market acceptance of electric and hybrid vehicles will contribute to achieving UK and EU climate change targets, whilst creating significant market opportunities for UK-based companies.

Scope

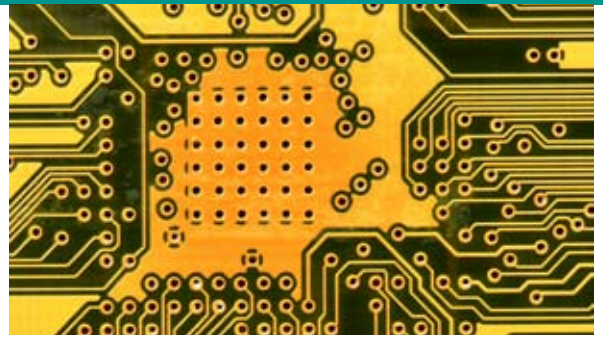
The competition will address the research, design, development and demonstration of ultra-efficient electric and hybrid vehicle motive and ancillary systems. The primary objective will be to develop on-vehicle systems which make greater use of available stored electrical energy, increasing vehicle range and functionality thereby enhancing their desirability and mass market acceptance.

Examples of vehicle motive systems include but are not limited to:

- Energy storage systems
- Electric machines
- Control and power electronics
- Vehicle stability control
- Electrically assisted braking systems
- Electrically assisted steering
- Kinetic energy recovery systems
- Thermal management

Examples of vehicle ancillary systems include but are not limited to:

- Heating and ventilation control (HVAC)
- In car infotainment systems
- Electrically operated windows
- Electric demist systems
- Wash/wipe systems
- Lights and signals



These systems may be demonstrated on a test rig or on-vehicle. Funding will be available to support any modification costs for either test rigs or mule vehicles necessary to demonstrate the performance of the new system. However, capital costs for rigs and/or mule vehicles will not be eligible for funding. Projects will need to demonstrate quantitatively the energy savings made as a consequence of this intervention. It will be the responsibility of the applicant to demonstrate to the Technology Strategy Board's independent assessors that the methods for testing and quantifying total system efficiency improvements are valid, accurate and repeatable. All projects must also address systems integrity, safety and electromagnetic compatibility to agreed industry standards. The project must also demonstrate that system durability is in line with the expected life of conventional vehicle systems.

Funding Allocation and Project Details

Up to £10 million has been allocated to support industry-led collaborative research and development projects that address the challenge described above and encourage science to business and business-to-business interactions.

Projects must show a clear route to a viable market and be able to demonstrate that these new systems are economically advantageous compared to current equivalents. Projects should be ready for rig or mule based demonstration within 2-3 years and production ready within 5-7 years.

It is anticipated that most of the funding will be allocated to proposals in the categories of applied research and development (attracting 50% public funding) and/or experimental development

(25% public funding). Projects involving industry oriented basic research (maximum of 75% public funding) will also be considered. A robust case must be made to support the requested level of funding against each element of the proposed project. The Guidance for Applicants defines these categories of research. See the Competitions link at www.innovateuk.org

Application Process

The competition process will be in line with Technology Strategy Board policy which seeks to give opportunity for applicants to make an initial optional Expression of Interest (EOI) prior to their compulsory application. The optional EOI will be reviewed by officials and a response given to applicants. Applicants may only take advantage of this mechanism between the 19th January and 18th February 2009. Comments are made in good faith on a no commitment basis.

The Guidance for Applicants explains the process in detail. In short, the competition opens on the 19th January 2009 and applicants need to submit a compulsory EOI by 26th February 2009, irrespective of whether they have taken advantage of an optional EOI before this deadline. This will be reviewed and formal feedback given on 16th March 2009.

Following independent review of the EOI, the Technology Strategy Board will identify applications that fully align with the scope of the competition. These applicants will be invited to submit full proposals. For these applicants there will be an opportunity to discuss feedback with the Technology Strategy Board by telephone during week beginning 16th March 2009. Details can be found via the Competitions link at www.innovateuk.org.

There will be an optional briefing event for this competition on 3rd February 2009, which applicants are strongly advised to attend.

Applicants invited to submit a full proposal will need to send a representative of their consortium to the compulsory briefing on 25th March 2009. They will also need to register their intention to apply by 23rd April 2009 and submit their full proposal by noon on 30th April 2009. Applicants will be informed of the outcome of their applications by 29th May 2009.

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.



Key Dates

Competition Opens	19th January 2009
Applicant Briefing (Optional)	3rd February 2009
Registration of intent to submit an EOI	19th February 2009
Expressions of Interest Deadlines	26th February 2009
Feedback provided by	16th March 2009
Feedback discussion in week beginning	16th March 2009
Applicant Briefing (Compulsory)	25th March 2009
Registration of intent to submit (compulsory)	23rd April 2009
Deadline for receipt of full applications	30th April 2009
Decision and feedback to applicants	29th May 2009

More Information

For more information about this and other competitions and details of how to register and apply, please see Competitions at www.innovateuk.org.

Helpline:
01355 272155

Email:
competitions@tsb.gov.uk

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.

The Technology Strategy Board
B1 North Star House
North Star Avenue
Swindon
SN2 1JF

Telephone: 01793 442700

www.innovateuk.org