

Results of competition:

Advanced Propulsion Centre - Building UK manufacturing strength in low carbon vehicles - Collaborative R&D

Total available funding for this competition was up to £75m from the Department for Business, Innovation and Skills, in partnership with the Automotive Council and the Technology Strategy Board.

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Cummins Gen Tech CGT part of Cummins Limited (lead) Castlet Limited Cummins Engine BU part of Cummins Limited Cummins Turbo Tech part of Cummins Limited Dynex Semiconductor Limited University of Nottingham	Frequent IntegRated Soft Stop Start Technology: FIRS3T	£9,872,153	£4,942,513
Project description - provided by applicants			
<p>This project will demonstrate a novel cost effective compact diesel electric propulsion system initially for bus vehicle application that fits within the current space envelope of a diesel engine and, due to its wide application (as it is suitable for retrofit as well as new build), will deliver significant reductions in CO₂ emissions compared to current best in class technologies.</p> <p>The consortium assembled (Cummins; Dynex; Castlet and the University of Nottingham) along with involvement from key UK bus vehicle manufacturers provides strong supply chain representation to support the UK automotive industry realise the global potential associated with the demand for lower-carbon transportation. It is anticipated the propulsion system will deliver significant bus vehicle CO₂ emission reduction compared to current best-in class at a negligible cost increment over current diesel variants. Cummins will build on research undertaken to date to develop, demonstrate and commercialise the propulsion system through its global network (Cummins currently has ~20% of the global bus engine market).</p>			

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Ford Motor Company Limited (lead) Cambustion Limited Continental Automotive Trading UK Limited Lubricants UK Limited Loughborough University Raicam Clutch Limited Schaeffler (UK) Limited Unipart Eberspacher Exhaust Systems Ltd University of Bath University of Bradford University of Nottingham	ACTIVE - Advanced Combustion Turbocharged Inline Variable valvetrain Engine	£26,605,912	£13,138,402
Project description - provided by applicants			
<p>The ACTIVE project is a collaborative R&D project that accelerates the introduction of advanced low carbon technologies into main stream vehicle applications targeting very substantial CO2 savings.</p> <p>This is a UK centred project focused on the Engineering skills needed to develop and apply these technologies and aims at increasing the UK's capabilities in this area. The project will bring Ford's Global Advanced R&D and some of Europe's top Tier 1 suppliers to the UK to develop the technologies for this project alongside the engineers at Ford's Dagenham and Dunton Engineering Centres and four of the country's leading automotive research Universities. This will strengthen further Ford UK engineering as the "Centre of Powertrain Excellence" for the application of advanced inline powertrain technologies within Ford and increase the capabilities within the UK's Universities.</p> <p>A key aspect of the project is to engage with the UK supply chain and this project presents an excellent opportunity for several participating UK based component and equipment supplier partners.</p>			

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GKN Landsystems- Autostructures Limited (lead) Alexander Dennis Limited Williams Hybrid Power Limited	Gyrodrive Original Equipment Development	£17,834,654	£8,926,260
Project description - provided by applicants			
<p>Williams Hybrid Power (WHP), supported by GKN Land Systems, have developed a hybrid system to regenerate braking energy on city buses utilising their Gyrodrive system with a high speed flywheel originally developed for Le Mans Prototypes KERS technology.</p> <p>To date this development work has shown the fuel savings in excess of 25% for the bus operators.</p> <p>In this new project WHP and GKN have joined with Alexander Dennis Limited (ADL), the UK biggest bus manufacturer, to develop a solution that will be optimised for fitment to buses as original equipment at build. This will widen the potential market for the technology, generating genuine cost savings throughout the industry and giving opportunity for increased production and export success.</p> <p>In this project WHP will develop the Gyrodrive technology, GKN will use its manufacturing skills to develop the production systems and ADL will supply its expertise in the manufacture of buses and their knowledge of the customer base. GKN will also look to exploit the technology into its key customer markets such as off highway machines</p>			

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JCB (lead) Flybird Systems	High fuel efficiency hydraulic transmission system for earthmoving equipment	£7,270,695	£3,297,709
Project description - provided by applicants			
<p>The purpose of this project is to exploit a novel technology whereby the hydraulic power delivery system on the JCB excavator is modified and developed to be substantially more efficient.</p> <p>In using this new technology the machine will consume far less energy for any given operation, hence reducing the overall fuel consumption rate, the total CO₂ emissions and other harmful pollutants from the equipment.</p> <p>As a result the carbon footprint of all construction projects using this machinery will be substantially reduced. On average, the CO₂ emissions of a single 20 tonne excavator will be reduced by an estimated 16 tonnes per year.</p>			