Innovate UK

Results of Competition: APC 11: Advancing the UK's Low Carbon Automotive Capability

Competition Code: 1808_CRD1_TRANS_APC11

Total available funding is £20 million

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
JAGUAR LAND ROVER LIMITED	Re-purpose of ICE Infrastructure for EDU	£4,308,992	£1,637,417
Birmingham City University		£199,988	£199,988
FIVES LANDIS LIMITED		£1,572,744	£613,370
HORIZON INSTRUMENTS LIMITED		£431,786	£198,622
HSSMI LIMITED		£597,082	£597,082
JW FROEHLICH UK LIMITED		£516,224	£201,327
MAPAL LIMITED		£387,270	£178,144
MTC OPERATIONS LIMITED		£751,174	£751,174

Project description - provided by applicants

Jaguar Land Rover is leading an exciting research project to investigate and develop strategies and capability to convert internal combustion engine manufacturing facilities to also make electric drive units for hybrid and electric vehicles. The company's engineers will work with industrial partners, Mapal, Froehlich, Fives Landis and Horizon and with the Manufacturing Technology Centre, the High-speed Sustainable Manufacturing Institute and Birmingham City University to ensure that its state-of-the-art manufacturing machinery, systems and processes are flexible enough to manufacture both internal combustion engine and electric drive units efficiently along the same production line.

This ambitious and highly innovative project will deliver manufacturing flexibility at a time when the exact speed of the changeover to electric motoring remains uncertain. If car buyers want more electric cars than expected, Jaguar Land Rover will be able to ramp up supply quicker than some of its rivals. If demand for diesel and petrol persists for longer, there will be no expensive electric drive factory sitting idle. The project will also ensure that the company builds on its existing manufacturing capability, rather than having electric drives built separately. The project therefore helps protect Jaguar Land Rover facilities and the staff during the switch-over to electric.

The Government is supporting the project through its Advanced Propulsion Centre because the technology involved is both innovative and has the potential to benefit a range of UK businesses. The project will help ensure that the UK becomes a major centre for the production of electric drive units, encouraging suppliers of electric car components to invest and develop their businesses in this country.

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FORD MOTOR COMPANY LIMITED	ViVID - Virtual Vehicle Integration and Development	£20,001,495	£5,200,389
IPG Automotive GmbH		£6,480,373	£4,536,261
Loughborough University		£3,114,809	£3,114,809
MCLAREN APPLIED TECHNOLOGIES LIMITED		£9,429,893	£4,714,946

Project description - provided by applicants

The ViVID project is a Ford led collaborative industry research project that aims to focus on the development of digital engineering tools to promote model based systems design and verification for the Virtual Product Development process. The research will be conducted with a total of three UK industry based partners and an academic partner, who will develop key digital tools to allow UK companies to leverage the improved product development and training capability.

During the project, the team will demonstrate a new analytical approach for engineering process that enables the next generation electrified vehicle technologies to be developed. Reducing the reliance on serial engineering and physical prototypes, will provide the efficiencies needed to provide a more competitive attribute set and reduce overall carbon emissions by accelerating time to market of the product.

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ARCOLA ENERGY LIMITED	Building UK Tier 1 Supply of Powertrains for Zero Emission Buses and Commercial Vehicles	£2,661,033	£1,330,516
AVID TECHNOLOGY LIMITED		£2,809,408	£1,404,704
EATON LIMITED		£425,276	£212,638
Terragenic, Ltd.		£557,947	£278,974

Project description - provided by applicants

This project will accelerate development and market readiness of zero emission powertrains and components and strengthen UK Tier 1 supply for a wide range of commercial vehicles and buses.

It will bring to market complete fuel cell electric powertrains, develop a best-in-class highly integrated motor drive unit, strengthen UK capability in supply of power-led battery packs, and demonstrate a game-changing hydrogen storage technology on a commercial vehicle for the first time.

Two zero-emission vehicles will be developed to production prototype stage, a double deck bus and 12t truck, demonstrating the capability and performance of the whole powertrain and the key components for a wide range of commercial vehicles.

The partners are hydrogen and fuel cell system engineering business Arcola Energy, UK Tier 1 AVID Technology, Global Tier 1 Eaton and technology developer Terragenic.