Results of Competition: APC4 Driving UK Capability and Economic Impact Through Low

1505_CRD_TRANS_APC4 **Competition Code:**

Total available funding for this competition was £60M from Innovate UK (on behalf of APC/BIS)

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	
Nissan Motor Manufacturing UK Ltd	High Energy Density Battery	£19,026,511	£9,512,990	
Zero Carbon Futures (UK) Ltd	(HEDB)			
Hyperdrive Innovation Ltd				
Newcastle University				
University of Warwick				
Project description - provided by applicants				

Awaiting Public Project Summary

Note: you can see all Innovate UK-funded projects here https://www.gov.uk/government/publications/innovate-uk-funded-projects Use the Competition Code given above to search for this competition's results

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Morgan Motor Company Manufacturing Ltd	CO2 divided by 2	£5,964,590	£2,967,945
Delta Motorsport Ltd			
Potenza Technology Ltd			

Project description - provided by applicants

Morgan Motor Company will collaborate with Delta Motorsport and Potenza Technology on a 3-year, APC-supported R&D project to develop new propulsion solutions for its future vehicle range. These solutions willinclude heavily down-sized, fuel efficient petrol engines coupled with the latest electrification technologies toproduce hybrid sports cars and all-electric variants. The objective is to develop these solutions such that theycan be manufactured and offered within the Morgan sports car range prior to 2020.

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AGM Batteries Ltd	UK Automotive Battery Supply	£5,402,158	£2,700,929
Dukosi Ltd	Chain (UK-ABSC)		
Johnson Matthey Battery Systems Ltd			
Cosworth Group Holdings Ltd			
University of Warwick			

Project description - provided by applicants

The UK Automotive Battery Supply Chain project will create the ability to deliver next generation batterypacks for high performance low carbon vehicles. The project recognises the needs of the growing UKautomotive industry and capitalises on world leading UK innovations in the area of battery technology. The collaborative project combines UK innovations and knowledge from five partners; AGM Batteries (a batterycell manufacturer), Dukosi (a leader is smart battery management technology), Johnson Matthey BatterySystems (a battery pack manufacture), Warwick Manufacturing Group (an academic group with specialistbattery knowledge and facilities) and Cosworth (a world leading high performance powertrain developer).

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Parker Hannifin Manufacturing (UK) Ltd	Advanced Energy Management	£2,857,918	£1,424,324
Ashwoods Automotive Ltd	System for an Electric Forklift		
University of Bath	Vehicle		
Nexen Lift Trucks Ltd			

Project description - provided by applicants

This project aims to improve the energy efficiency performance of an electric forklift vehicle therebysignificantly reducing the vehicle's emissions out compared with current best-in-class technology. To achievethis objective, partners will realise the industry's first integrated hydraulic power unit for versatile integration to low voltage implementation drive for electric forklift vehicles. A technology demonstration unit will besimulated on an OEM vehicle's drivetrain to identify the appropriate vehicle configurations and powerrequirements, prior to physical integration and evaluation. The consortium consists of Parker Hannifin(Hydraulics, Tier 1 Supplier), Ashwoods Electric Motors (IPM Motor, SME), UniCarriers (OEM), and theUniversity of Bath (Academic). In addition to reducing the carbon footprint of electric forklift vehicles, projectoutputs have the potential to provide a significant improvement in productivity and ownership costs for theend user with a new integrated solution providing a step-change in cost, performance, efficiency, size andweight, thus replacing traditional less efficient motor drives within the commercial market.

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Jaguar Land Rover Ltd	Lighweight Advanced boosTed	£13,122,209	£6,561,102
BorgWarner Ltd	Diesel Engine - LAtiTuDE		
Ricardo UK Ltd			
Robert Bosch Ltd			
GRM Consulting Ltd			

Project description - provided by applicants

An innovative research project led by Jaguar Land Rover, LAtiTuDE investigates new technologies for theIngenium engine family to improve on its class-leading fuel efficiency whilst maintaining the in-vehicle feelJaguar and Land Rover customers expect. The collaboration brings together leading expertise from UK engineering organisations Ricardo and GRM, and suppliers Borg Warner and Bosch. The collaborative partnership will research a variable geometry, multi-stageand electronic boosting system integrated with an advanced engine combustion system incorporating leadingedge fuel injection equipment and controls. Allied with an optimised engine structure, the research package istargeted to deliver over 10% fuel economy and CO2 improvement compared with current vehicles. The consortium members recognise the importance of collaborative research projects in supporting the UK'scompetitiveness and developing skills, innovations and new manufacturing capability throughout theautomotive supply chain.

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The London Taxi Corporation Ltd	Hybrid UK	£46,475,328	£17,526,784
On Thatootraotaroo Eta	supply chain co-		
Revolve Technologies Ltd	development		
Hssmi Ltd (High Speed Sustainable Manufacturing Institute Ltd)			

Project description - provided by applicants

The London Taxi Corporation (LTC) is embarking on a wider project to deliver a series of light-weight, zero-emission capable, range extending vehicles. The new vehicle design, with improved driver ergonomics, will be configured to meet onerous duty-cycle needs. The initial market will be the UK, to meet targets for de-carbonising transport operations (e.g. TFL), Europe & globally thereafter. The key part of the project is to develop the hybrid supply chain within the UK. LTC will work with SMEs and the RTO HSSMI to develop the supply chain capability such that more value added operations can be re-shored to the UK.LTC will host an LTC-supplier co-development space in which LTC and partners will develop the capabilities for low carbon hybrid powertrains. The project aims to support the involved SMEs to become capable of not only selling to LTC but to export to other OEMs nationally and internationally.'

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