Innovate UK

Results of Competition: APC 10: Advancing the UK's Low Carbon Automotive Capability

Competition Code: 1804_CRD1_TRANS_APC10

Total available funding is £30 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	Tucana	£22,236,670	£9,339,401
BROETJE-AUTOMATION UK LTD.		£2,217,898	£931,517
CCP GRANSDEN LTD		£1,706,022	£1,023,613
EXPERT TOOLING & AUTOMATION LIMITED		£2,466,423	£1,233,212
Magna International Holding (Uk) Ltd		£2,841,567	£1,193,458
TORAY INTERNATIONAL U.K. LIMITED		£2,020,268	£848,513

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

Funders Panel Date: 20/08/2018

University of Warwick		£4,130,802	£4,130,802

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Project description - provided by applicants
Stiffer, lighter vehicle structures are required to enable mainstream electrification of common vehicle platforms, boosting adoption of electrified vehicles and improving their environmental performance. However, this requires a step-change in cost effective structural performance at a design, material and manufacturing-level which is currently unmet across the industry. In Project Tucana, Jaguar Land Rover leads a consortium of world-leading academic and industry partners spanning the entire supply chain to introduce large composite assemblies and realise world leading lightweight body structures. The consortium will leverage globally cutting edge industrialised materials, design and manufacturing concepts to integrate much higher quantities of affordable lightweight carbon-fibre composites into premium volume automotive applications, while also increasing the knowledge of these global businesses and the UK research base. As an enabler for a zero-emission electrified vehicle platform, Project Tucana has potential to reduce vehicle CO2 emissions and improve range and air quality. The project will deliver inward investment opportunities and strengthen UK capability by integrating existing automotive lightweight technologies and developing knowledge to deliver a new UK supply chain at a globally significant scale for cost competitive carbon-fibre-composites.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
SIGMATEX (UK) LIMITED	Affordable high Rate Composite Structures (ARCS)	£2,909,267	£1,250,985
Cranfield University		£246,857	£246,857
EXPERT TOOLING & AUTOMATION LIMITED		£2,432,964	£1,046,175
GKN AUTOSTRUCTURES LIMITED		£1,132,796	£487,102
NISSAN MOTOR MANUFACTURING (UK) LIMITED		£107,884	£53,942

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University of Sheffield		£634,725	£634,725

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Project description - provided by applicants
The global automotive industry continues to face significant challenges in meeting the future needs of the mobility sector, such as improved _fuel efficiency, reduced emissions, electrification of power train, autonomous driving and connectivity._ One of the biggest opportunities in rising to these challenges comes through the selection of _the right materials in the right places_ within the vehicle. This multi-material approach, giving the design engineers the freedom to select the most appropriate material for a particular component is expected to be a major feature of automotive design in the future. _CFRP will play a significant part in that material selection_ due to its benefits of high strength and stiffness but with a much lower weight factor than alternative materials. As the mainstream automotive OEM's move increasingly in the direction of CFRP, the industry supply chain must respond to that challenge by demonstrating that it can supply _consistent quality parts, to the right performance level, at the rate level required and at a competitive price level_. Whilst much progress has been made on the technology side, the general view is that CFRP is still too expensive versus metallics, and with added complications in terms of CFRP component integration within the vehicle. It is therefore _necessary to reduce the cost difference between CFRP and metallic components if CFRP is to truly fulfil its potential as a lightweight material solution to serial Automotive._ _The objective of this project is:_ * _To develop an innovative high volume, low cost carbon fibre textile and material handling process that will provide a step change in achieving cost competitive CFRP parts for serial automotive applications._ * _To accelerate the development of a UK supply chain capable to support volume demand for composite components at a rate of \>50,000 units per year (per component)._ * _To deliver significant CO2 savings through creating an economically viable solution for the cost-effective use of composite parts in affordable cars._ * _Create many high skill level jobs that will strengthen the UK's position as a technology leader in the fields of automotive design and manufacture._

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