Results of Competition: UK Aerospace Research and Technology Programme: Batch 28

Competition Code: 1309_SPEC_TRA_ATI_BATCH28

Total available funding is £39,293,632 from BEIS

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
ROLLS-ROYCE PLC	FANDANGO (FAN Design And iNtegrity, GO)	£30,616,883	£12,246,753
Imperial College London		£995,399	£995,399
University of Bristol		£939,987	£939,987
University of Oxford		£1,420,000	£1,420,000

FANDANGO (FAN Design And iNtegrity, GO) will deliver the flight worthy UltraFan fan system for demonstration of the most arduous test conditions met by an in-service gas turbine. Utilising learning from the first iteration design cycle and current research programmes, the project will deliver an optimised and validated system to TRL5\. Manufacturing processes will push boundaries to reduce leadtime on novel composite components and world-leading research will be conducted into novel predictive capabilities relating to fan system performance under off-design conditions. UltraFan technologies facilitate competitive aero engines from Rolls-Royce for future aircraft.

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ZEROAVIA LTD	HyFlyer	£4,128,813	£1,610,237
INTELLIGENT ENERGY LIMITED		£432,972	£259,783
THE EUROPEAN MARINE ENERGY CENTRE LIMITED		£819,810	£819,810

ZeroAvia is developing a hydrogen fuel cell powertrain for light aircraft and plan to demonstrate principal technology readiness by mid-2020, by flying a 6seater plane 300 nautical miles, equivalent to London-Edinburgh. The commercial market entry will be with a sub-regional aircraft with increased range in 2022, providing a zero-emission and 50%-cheaper alternative.

The project brings together a unique group of innovative UK organisations with the aim of enabling a potentially transformational shift to zero-emission aviation, whilst reducing road and rail congestion, cutting air pollution and noise, supporting regional regeneration and creating greater choice and convenience for consumers.

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GKN Aerospace	Enhanced Low Cost Automation Technology (ELCAT)	£6,481,623	£2,592,649
Exechon Enterprises LLC.		£1,243,794	£0
University of Bath		£528,081	£528,081
University of Nottingham		£734,776	£734,776

ELCAT presents a prime opportunity to develop skills in the field of integrated manufacturing systems. Significant investment in integrated manufacturing systems will be necessary over coming years to ensure that future work can be competitively carried out in the UK, but there is a shortage of local expertise available in this field. By partnering with the universities of Bath and Nottingham, and also with Exection Enterprises, who have leading capabilities in manufacturing technologies, GKN Aerospace will develop these capabilities within its workforce in the ELCAT project.

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CRANFIELD AEROSPACE SOLUTIONS LIMITED	Project Fresson: 9-seat aircraft electric propulsion conversion (Britten Norman)	£11,432,450	£5,716,225
DENIS FERRANTI METERS LIMITED		£3,678,722	£1,839,361
ROLLS-ROYCE PLC		£3,500,001	£1,750,000

Development of an electric propulsion system with range extender and conversion of a Britten Norman Islander flying demonstrator to electric power, enabling full flight certification for commercial service.

This aircraft is used for vital services to isolated communities. Converting to electric power will not only ensure the continuance of a critical lifeline but also the reduction of local carbon emissions and increase in the use of renewable energy.

This project will enable the first passenger-carrying aircraft capable of all-electric flight, attracting investment from across the globe to the UK, boosting jobs and the UK's standing in the global aerospace industry.

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AVIATION WORKS LIMITED	High Altitude Passenger Protection System	£4,692,226	£2,111,502
Airbus Operations GmbH		£0	£0
Cranfield University		£198,057	£198,057
The University of Manchester		£201,584	£201,584

Aviation Works is an exciting early-stage venture at the intersection of medical technology and aerospace. We have developed technology which rethinks the science behind human performance, safety and survival in various critical situations.

We are developing this technology into a system for commercial aircraft that will improve safety standards by reducing risks during emergencies, while also reducing costs for airlines.

Furthermore, we will bring a new approach to product development to the traditionally slow-moving aerospace industry. We are building a lean organisation in a fast-paced start-up environment so we can rapidly develop innovative products and get them to market quickly.