

Innovate UK

Results of Competition: Aerospace Technology Institute - Strategic R&D Projects - Batch 14
Competition Code: 1309_SPEC_TRA_ATI_batch14

Total available funding for this competition was £49.325M from Innovate UK (on behalf of 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
Rolls-Royce PLC University of Cambridge Cranfield University Imperial College London	iFan (Integrated Fan Technologies)	£19,025,150	£9,513,038
Project description - provided by applicants			
<p>The next generation of civil turbofans will feature higher bypass ratios, to improve propulsive efficiency and hence reduce fuel-burn and CO2 emissions. They are likely to be driven by a geared LP system, as per the Rolls-Royce UltraFan engine concept, which is expected to be 10% more efficient than the current state of the art. However, as fan diameter is increased, so is the weight and drag associated with a conventional engine installation, and this offsets much of the efficiency benefit offered by the higher bypass ratio. iFan will address this problem by developing and validating the aerodynamic capabilities needed to design a novel integrated fan-intake system. This will enable shorter intakes and slimline nacelles to be used (with lower weight and drag), whilst managing the effect on fan efficiency and operability. The project will achieve this by developing a range of aerodynamic & aeromechanical prediction methods, from low fidelity through to extremely high fidelity CFD calculations. These will enable predictions to be made of the efficiency and stability of an installed fan system, as well as the aeromechanical integrity (flutter etc.).</p>			

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

Innovate UK

Results of Competition: Aerospace Technology Institute - Strategic R&D Projects - Batch 14
Competition Code: 1309_SPEC_TRA_ATI_batch14

Total available funding for this competition was £49.325M from Innovate UK (on behalf of 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
Rolls-Royce PLC University of Cambridge University of Oxford Loughborough University Cranfield University	Integrated Core Technologies (iCORE)	£16,733,615	£8,366,856
Project description - provided by applicants			
Gas turbine technology is developing rapidly in the drive to reduce fuel burn and the environmental impact of air travel. To maintain the UK's position as the producer of world leading aircraft propulsion systems requires continual research and development of new and novel engines. This project is a collection of related aerothermal technology developments focused around the core of a civil gas turbine engine with the common theme of reducing overall engine fuel burn. These developments target either new technology that impacts fuel burn directly or via developing a fundamental understanding of the physics of those technologies for exploitation in future designs.			

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

Innovate UK

Results of Competition: Aerospace Technology Institute - Strategic R&D Projects - Batch 14
Competition Code: 1309_SPEC_TRA_ATI_batch14

Total available funding for this competition was £49.325M from Innovate UK (on behalf of 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
Safran Landing Systems UK Limited Dunlop Aircraft Tyres Ltd Trelleborg Sealing Solutions UK Ltd University Of Sheffield - AMRC NCC Operations Ltd Cranfield University University of Sheffield University of Bristol University of Cambridge	Large Landing Gear of the Future	£28,048,087	£14,036,609
Project description - provided by applicants			
The Large Landing Gear of the Future project will develop, mature and demonstrate key technologies that will improve the efficiency of aircraft landing gears in their design, manufacture, operation and cost of ownership. It will take a holistic view of the landing gear system construction and life cycle seeking to benefit from closer integration of key components and functions that have historically been addressed separately. The project will use technology demonstrators representative of an operational landing gear to validate the project outcomes. Messier-Dowty Ltd will lead a strong consortium of partners and subcontractors drawn from UK industry, the High Value Manufacturing Catapult Centres and academia to deliver the project.			

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

Innovate UK

Results of Competition: Aerospace Technology Institute - Strategic R&D Projects - Batch 14
Competition Code: 1309_SPEC_TRA_ATI_batch14

Total available funding for this competition was £49.325M from Innovate UK (on behalf of 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
Rolls-Royce PLC University of Oxford	Pressure Ratio Optimised Fan Integral to Low speed Engines (PROFILE)	£13,899,693	£6,949,826
Project description - provided by applicants			
Pressure Ratio Optimised Fan Integral to Low speed Engines (PROFILE) Building on the success of the Trent family of three shaft engines Rolls-Royce has announced its intent to develop UltraFan, a novel Very High Bypass Ratio (VHBR) geared architecture. This provides a significant improvement in propulsive efficiency and will be available for the next generation of aircraft 2025 and beyond. A fundamental enabler for this new architecture is the development of a large diameter, low speed, low pressure ratio fan system. This represents a step change in fan technology and entails significant technical challenges including structural integration of the fan system into a geared architecture and mechanical integrity of the blades during impact scenarios. PROFILE is a project to investigate and mitigate these challenges through a blade mechanical rig programme, academic research, and a comprehensive fan system design study.			

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

Innovate UK

Results of Competition: Aerospace Technology Institute - Strategic R&D Projects - Batch 14
Competition Code: 1309_SPEC_TRA_ATI_batch14

Total available funding for this competition was £49.325M from Innovate UK (on behalf of 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
University of Sheffield - AMRC	Flexible Robotic Machining in High Accuracy Applications (FRoMHAA)	£1,020,000	£510,000
Project description - provided by applicants			
<p>The UK aerospace sector is number one in Europe and second only to the USA in the global market. That global market is expected to exceed \$5 trillion over the next 20 years, with the expansion of air travel and the introduction of next generation aircraft. However, the market is extremely competitive and the UK's competitive position is under threat. In order to fight off competition from other countries, the UK needs to increase productivity, ramp up production, and reduce the cost of manufacture. Automation is essential to enable those gains in productivity and reduction in costs but, in the aerospace sector, automation is held back by robots' limited accuracy and stability. This project will address those limitations and enable more high accuracy aerospace manufacturing tasks to be automated. The project will give the UK the most accurate large volume envelope robot in the world. Based at the University of Sheffield Advanced Manufacturing Research Centre (AMRC), in Rotherham, the robot will be at the heart of Factory 2050, opening in early 2016, which will be the UK's first reconfigurable assembly and component manufacturing factory, which will develop and showcase the technologies and systems that will be incorporated within the factories of the future. Automation will lead to lower capital investment requirements and smaller infrastructure, producing better quality aircraft with tighter tolerances as has been seen in the mass-produced automotive sector. By lowering production costs and increasing the efficiency of manufacturing robots, it can become more profitable to produce goods within Europe, which will encourage aerospace manufacturers to bring more jobs back to the UK from overseas. Studies have shown that in the long term automation could grow employment by 7% in the UK.</p>			

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

Innovate UK

Results of Competition: Aerospace Technology Institute - Strategic R&D Projects - Batch 14
Competition Code: 1309_SPEC_TRA_ATI_batch14

Total available funding for this competition was £49.325M from Innovate UK (on behalf of 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
Thales UK Ltd	Proposed Strategic Investment to Enable UK Disruptive Growth in Advanced Systems: Civil Aircraft Communication	£19,961,547	£9,950,000
Project description - provided by applicants			
<p>The TFS NG programme develops the hardware / software and technologies required to develop the basis of the next generation Satellite Communications product within Thales UK using software defined radio technology for the next generation of civil aircraft. The technology being developed will also form the Core Building Blocks for the Future Generation of Integrated Modular Communications products being developed within Thales UK. The technology development within the programme is driven by specific key requirements for a future product of this type, including safety and security segregation, wideband RF digitisation, multi-channel operation, dynamic waveform management, a single card hardware design, harsh avionics operating environments and an automated development test environment. The programme is partly funded by the Aerospace Technology Institute, a programme of investment in the UK aeronautics industry by HM Government over a time span of seven years, managed by the Department of Business, Innovation and Skills, and managed through Innovate UK.</p>			

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