

## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
BLUE BEAR SYSTEMS RESEARCH LTD	InCEPTion: Integrated flight Control, Energy storage and Propulsion Technologies for electric aviation	£2,689,460	£1,388,299
DRIVE SYSTEM DESIGN LIMITED		£1,064,286	£372,500
GE AVIATION SYSTEMS LIMITED		£412,716	£144,451
M&I Materials Ltd		£67,150	£23,502
RICARDO UK LIMITED		£887,000	£310,450
University of Cambridge		£451,564	£451,564
University of Salford		£190,433	£190,433

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

Project description - provided by applicants

Project InCEPTion will develop a novel all-electric propulsion module that is safe-by-design, scalable, modular, power dense, quiet, efficient and enables the combined use of batteries and fuel cells in aircraft. The module will accelerate the electrification of various classes of electric aircraft (0-30 PAX), from eVTOLs, general aviation eCTOLs, up to sub-regional aircraft. The best-of-breed UK consortium consists of - Blue Bear (Lead), Drive System Design, Ricardo, Dowty Propellers, M&I Materials, University of Cambridge - Whittle Laboratory, University of Salford - Salford Acoustics.

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

## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
ZEROAVIA LTD	HyFlyer II - Towards certifiable hydrogen-electric propulsion	£17,431,266	£7,725,537
AERISTECH LIMITED		£5,148,058	£2,574,029
THE EUROPEAN MARINE ENERGY CENTRE LIMITED		£1,978,696	£1,978,696

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

## Project description - provided by applicants

With hydrogen-electric aviation as the only credible large-scale zero-carbon aviation option, the HyFlyer II project aims to take huge steps towards accelerating its adoption. It will repower an existing sub-regional airframe with a certifiable 600kW powertrain developed by ZeroAvia, integrating Aeristech's unique air compression technology. To complete the ecosystem, EMEC will provide green hydrogen and design the operational systems for fuelling at commercial airports. In setting up a unique UK supply chain, it positions the country's aviation industry for the next century of aviation - demonstrated by a 300NM zero-carbon flight of a 19-passenger aircraft at the end.

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

## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
ROLLS-ROYCE PLC	FANTASIA - Future Aircraft Noise Technologies And Systems Integration Analytics	£9,200,529	£3,602,007
University of Southampton		£1,995,999	£1,995,999

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

Project description - provided by applicants

Rolls-Royce Plc. will lead the FANTASIA (Future Noise Technologies And Systems Integration Analytics) project which seeks to develop, model and validate noise technologies to ensure integrated propulsion systems that will achieve the required noise levels for the novel UltraFan™ engine architecture as well as future hybrid-electric offerings. Multi-disciplinary optimisation techniques will be developed to design for the optimal noise, sfc and emissions levels. Computational fluid dynamics and source separation techniques will be enhanced to replace expensive testing and give early indications of design suitability.

Project cost is £11.2m over 48 months, starting January 2021 and completing December 2024\.

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

## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
ELECTROIMPACT UK LIMITED	S.H.A.R.D (Small High Accuracy Robotic Drilling)	£1,074,290	£429,286
SMART MANUFACTURING SYSTEMS LIMITED		£153,992	£107,794
University of Nottingham		£154,000	£154,000

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

## Project description - provided by applicants

Existing robotic drilling technologies maximise their drilling capability to broaden their application within aerospace. The result often being a cost prohibitive system with underutilised capacity when applied to smaller diameter applications. SHARD (Small High Accuracy Robotic Drilling) is an innovative approach to capitalise on the predicted global growth of aerospace robotics. SHARD targets an optimised system for small diameter, accurate robotic drilling, whilst capturing in-process data for cloud-based analysis. This proposal is a collaboration between Electroimpact UK (automation specialists), University of Nottingham (fundamental research, data analysis, and software development) and Smart Manufacturing Systems Ltd (commercialisation, industrialisation, and further software development).

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



## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
GKN AEROSPACE SERVICES LIMITED	Aerospace and Automotive Supply Chain Enabled Development (ASCEND)	£9,293,337	£3,810,268
Airborne Composites LTD		£2,400,001	£1,440,001
ASSYST BULLMER LIMITED		£545,294	£381,706
COBHAM MISSION SYSTEMS LIMITED		£4,370,391	£1,806,720
CYGNET TEXKIMP LIMITED		£2,192,991	£1,315,795
CYTEC ENGINEERED MATERIALS LIMITED		£1,139,676	£471,142
DES COMPOSITES LIMITED		£901,399	£630,979
FAR-UK LTD		£750,278	£525,195

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

HAMBLE AEROSTRUCTURES LIMITED	£4,105,823	£1,697,347
HEXCEL COMPOSITES LIMITED	£1,034,268	£427,566
HIVE COMPOSITES LIMITED	£1,114,907	£780,435
LMAT LIMITED	£461,445	£323,012
LOOP TECHNOLOGY LIMITED	£2,746,725	£1,648,035
MCLAREN AUTOMOTIVE LIMITED	£6,698,102	£2,746,222
NCC OPERATIONS LIMITED	£1,093,473	£1,093,473
RAFINEX LIMITED	£926,863	£648,804
SIGMATEX (UK) LIMITED	£196,207	£117,724

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

### Project description - provided by applicants

ASCEND is an industry led, cross-sector consortium brought together by GKN Aerospace, focussed on developing & accelerating UK composites capability to meet the requirement of single aisle, business jets & future mobility markets. ASCEND will develop the UK value chain in readiness for a step-change in use of lightweight structures, at high-rates.

ASCEND brings new entrants, established small, high-growth & Tier-1 partners together to collaborate on delivering flexible automated capability. Connecting best in-class of talent, experience, & market access in one programme. ASCEND delivers UK capability for advanced, lightweight structures to meet demand in electric & hybrid propulsion aerospace structures.

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

## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
ROLLS-ROYCE PLC	CORDITE (COrE Design Intelligent TEchnology )	£8,708,387	£3,313,541
Loughborough University		£250,000	£250,000
University of Cambridge		£1,000,686	£1,000,686
University of Oxford		£830,000	£830,000

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

Project description - provided by applicants

CORDITE will develop technologies to enable more efficient Ultra High Bypass Ratio (UHBR) engines by improving the aerodynamics of the core systems (compressors, combustors, turbines and air-systems). It is a portfolio programme of related aerothermal technologies and methods that will: improve core component efficiencies through exploitation of greater fundamental understanding; transform aerothermal designs through new advanced tools; and develop design capabilities for optimised in-service performance. Primary exploitation will be via Rolls-Royce's UltraFan and Trent engine families, where CORDITE technologies will deliver fuel burn and emission reductions as part of a relentless drive to reduce the environmental impact of aviation.

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

## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
RENISHAW P L C	Large-scale Additive Manufacturing for Defence & Aerospace (LAMDA)	£21,400,648	£10,700,324
BAE SYSTEMS (OPERATIONS) LIMITED		£1,004,629	£502,314
HIETA TECHNOLOGIES LTD		£2,394,476	£1,197,238
MEGGITT AEROSPACE LIMITED		£2,889,961	£1,444,980

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

Project description - provided by applicants

Development and qualification of disruptive large-scale laser powder-bed fusion machines (LPBF) to enable agile production of lightweight, high-performance aerospace components of up to 0.5m in scale, with a roadmap towards 1m. The machines will reduce component costs by delivering unprecedented build rates by delivering multiple laser beams, by full build changeover automation and powder removal, by providing a new level of process consistency and control, and by using more cost-effective powder feedstock. This will enable smaller, lighter components, contributing towards net zero aviation, through exploitation of superior material properties and through innovative design for AM.

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

## Results of Competition: ATI Programme: Batch 33 Research Projects

Competition Code: 1309\_SPEC\_TRA\_ATI\_BATCH33

Total available funding is £150 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
VERTICAL AEROSPACE GROUP LTD	Initial Demonstration Platforms	£23,756,043	£11,878,022

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



Project description - provided by applicants

Vertical Aerospace is developing a high performance urban air taxi, electrically powered, and capable of Vertical Take Off and Landing. The Initial Demonstration Platforms project forms part of Vertical Aerospace's "eVTOL portfolio" and will develop the key technologies to enable the aircraft to commence prototype flight testing.

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