

BATCH 41

£69.2m grant funding
£114.9m total forecast R&D activity
5 projects
18 unique partners

BATCH 43

£99.7m grant funding
£167m total forecast R&D activity
8 projects
32 unique partners

2023 / 2024
October to September

ATI Programme

£203.3m grant funding

£338.2m total forecast
R&D activity

21 projects

64 unique partners

BATCH 42

£28.5m grant funding
£48.4m total forecast R&D activity
2 projects
17 unique partners

**SME PROGRAMME
BATCH 43**

£5.95m grant funding
£7.9m total forecast R&D activity
6 projects
15 unique partners



10 years of success and an exciting future ahead

In 2024, the ATI celebrated ten years of investment in UK aerospace R&D. Over the past decade, the ATI has evolved, increasingly providing more support to complement the funding and strategic direction for which we are known.

While our tenth year was an opportunity to look back, measure and celebrate impact, it has also been a chance to look to the future and ensure that the ATI continues to influence, lead and enable the industry to retain our competitive advantage and transform the aerospace sector through technology and innovation.

The aerospace sector has a key opportunity to deliver growth and well-paid jobs for the UK, whilst ensuring we meet our Net Zero goals. The ATI will continue to support the entire ecosystem through collaborative opportunities, funding and provision of strategic clarity. With the expectation that new platforms will be launched in the next decade, the ATI is committed to ensure that the UK achieves its accessible market potential, and we view the next decade as critical to the future of our sector.

To date, the ATI has invested £3.64bn of joint government and industry funding, building on the sector's strengths, creating new capabilities for the future and supporting growth.

Two new funding programmes were launched in 2023/24: targeting SMEs and non-CO₂ industrial research.

Increasing visibility of UK capability is opening up opportunities for partnership.

£3.64bn investment driving substantial private R&D investment

To date, the ATI Programme has contracted £3.64bn in aerospace R&D funding across 438 projects and 451 partners.

Independent economic analysis of the programme has demonstrated that the ATI Programme led to a 24% increase in average annual private R&D spending of ATI funded companies, compared with companies that had not yet received funding. The findings imply that so far, over the lifetime of the programme, it has led to an increase in R&D expenditure of £2.7bn within companies who have led funded projects.

In FY 2023/24, the ATI Programme, delivered in partnership with the Department for Business and Trade and Innovate UK, awarded 21 projects for funding involving 64 unique partners, for a total grant value of £203m including the new Small and Medium Enterprise (SME) Programme which is tailored to the needs of smaller companies and aims to strengthen the supply chain. The ATI also launched the Non-CO₂ Programme which aims to understand and reduce aircraft non-CO₂ emissions and their climate impacts and has not yet reached its first Full Stage Application phase. The Non-CO₂ Programme is linked to the wider Aviation Non-CO₂ Programme managed by DBT in partnership with the Department for Transport (DfT) and Natural Environment Research Council (NERC) which focuses on fundamental research. Additionally, the ATI has signed a partnership agreement with both the DfT and NERC to further this collaboration.

Continuous improvement remains at the forefront of ATI Programme delivery, informed by the feedback we receive and in August, the ATI passed a Government Internal Audit Agency (GIAA) audit with no recommendations for changes to the internal ATI processes related to programme delivery. We have also continued our commitment to transparency, data sharing and positive environmental impact and completed our first annual reporting as part of the Race to Zero initiative.



UK capability advancing in line with ATI roadmaps

In March 2024 we were delighted to launch a fourth *Destination Zero* technology roadmap covering non-CO₂, the first of its kind globally, which underpins the ATI and Natural Environment Research Council (NERC) funding programmes. This year we have seen progress across all the *Destination Zero* technology roadmaps, including:

- The opening of Future Forge at the Advanced Forming Research Centre (AFRC), part of the National Manufacturing Institute Scotland (NMIS).
- The successful completion of phase 1 of Vertical Aerospace's VX4 prototype piloted flight test programme.
- Technologies developed through the OptiComp project led by Spirit AeroSystems being adopted in the manufacturing of A220 wings.
- The design and manufacture of vital parts for the Airbus eXtra Performance Wing demonstrators by the National Composites Centre; and the installation of the Wing of Tomorrow demonstrator at Airbus's AIRTec facility.

In March, the ATI Toolkit was launched to bring together the set of tools ATI provides to support UK aerospace. This included the existing market model and Fixed Trade Calculator but also added detailed models for the ATI ultra-efficient reference aircraft. These detailed IP-free aircraft models are intended for collaboration and research, and they are already being used by both industry and academia. The Toolkit also provides an efficient and scalable platform for further ATI data and tools to be released in the future.

We brought our Advisory Groups together twice in 2023/24 to test assumptions, challenge the ATI and each other and understand their perspectives on priorities for the sector. This network is an essential resource for the ATI and, this year, contributed towards our work on joining and cross-cutting enabling technologies. In September, we launched an additive manufacturing strategy and roadmap, recognising the pivotal role of these technologies in enabling Net Zero 2050 and the competitiveness of the UK aerospace sector.

Showcasing UK aerospace to create opportunity

Our activities outside funding support are focused on building and maintaining relationships so that we can actively support the aerospace ecosystem and continue the drive towards Net Zero.

Our flagship events such as the ATI Conference, the ATI Awards and presence at Farnborough International Airshow 2024 have driven engagement and provided a holistic view of the strengths of the UK aerospace sector and the opportunities for collaboration. In July 2024, we partnered with Farnborough International to deliver an immersive exhibition showcasing the strength and breadth of the UK aerospace sector. Over 1,000 visitors were guided through an embodiment of the *Destination Zero* strategy which showcased UK technology leadership, incredible innovation and an appetite for collaboration. We also hosted two events with MPs demonstrating that aerospace is an engine for growth and this will remain an important message in the years to come.

We recognise that the support we offer is not as visible within the sector as we would like so in 2023/24 we signed two more Partnership Agreements with the Welsh and North West Aerospace Alliances. These agreements allow ATI to target support across the country more effectively and to reach a larger audience. This is also why we chose to partner with all the Regional Aerospace Alliances and ADS to support the delivery of the new SME Programme. In 2023/24, we were able to support events across the UK with every English Regional Aerospace Alliance, Devolved Administration and ADS, the national trade association.

Our thought leadership campaigns focused on non-CO₂ emissions, hydrogen capability and advanced manufacturing. This activity reached a growing audience with the ATI LinkedIn page passing 25,000 followers and mailing list subscribers hitting 3000. ATI colleagues also contributed to numerous global events and bilateral engagements with peers to share our latest analysis and further the interests of the UK sector.



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Great to see how the ATI has established itself and to discuss the work it is helping to lead. I was delighted to get under the skin of exciting projects that will underpin the UK's aerospace future. **Whether it is wings or propulsion, evolution or revolution, the ATI and the work of its partners is very exciting.”**

Lord Fox visited ATI's Destination Zero showcase at Farnborough International Airshow 2024

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Conferences like ATI are really important to us as a startup because it's **a way for us to get our name out there** and really start showing what we can do to the broader community.”

ATI Conference exhibitor

Driving innovation through partnership

The ATI is committed to driving innovation across the sector to help it transform and be competitive for the future. In 2023/24, we have primarily delivered this through the Hub and the Hydrogen Capability Network (HCN) alongside our funded programmes.

In 2023/24, the Hub expanded its offerings to provide additional support to applicants to the SME and Non-CO₂ Programmes, including weekly clinics with ATI technologists and informative Programme Clinics. The Hub also partnered with the High-Value Manufacturing Catapult in launching a series of Aerospace Innovation Showcases on changing topical sector themes. As part of the ATI's support to start-ups and new entrants, the Hub hosted fourteen SMEs at the ATI Conference in November and sponsored seven companies to exhibit and present at Sustainable Skies in May.

This approach has allowed the Hub to continue reaching audiences in the aerospace sector and beyond, and in 2023/24, it received close to 600 registrations and close to 450 attendees, with an average of 31% engagement from companies who had not previously worked with the ATI, and an average 4.7/5 satisfaction rating.

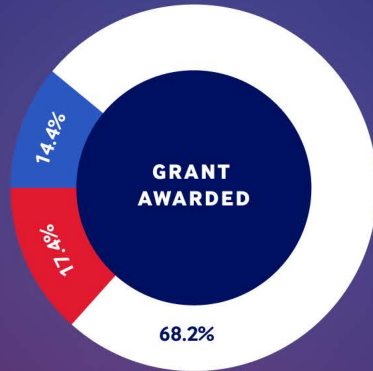
In April, our Hydrogen Capability Network (HCN) project completed its initial phase of work identifying three areas for intervention to maximise UK liquid hydrogen market potential:

- Establish UK medium-scale hydrogen test hubs to provide the required testing infrastructure, liquid hydrogen supply and expertise to satisfy UK aerospace priority test needs. The potential sites identified are at the Health and Safety Executive (HSE) in Buxton and Airbus in Filton, Bristol.
- Launch pilot initiatives to accelerate action on skills and coordinate the sector's skills needs in cryogenics and liquid hydrogen systems.
- Implement a collaborative strategic research programme on Cryogenic Hydrogen Materials Testing Standards (CHyMES) to enable product design and certification.

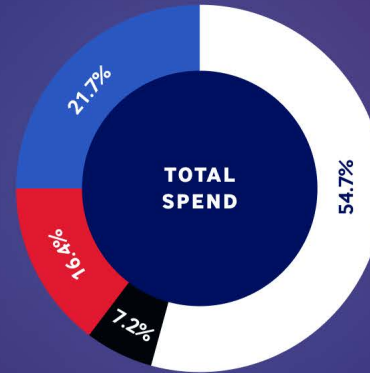
The HCN launched an interactive Network Map showcasing the training courses, research projects and facilities in the UK's hydrogen-in-aerospace community. UK and international engagement continued at pace, allowing the HCN to identify the research priorities for the sector, new market opportunities and develop a vision for a future hydrogen research challenge.

Grants and distribution

2023/24 ATI Programme share of forecast R&D spend by project partner (Batches 41, 42, 43 and SME Programme).

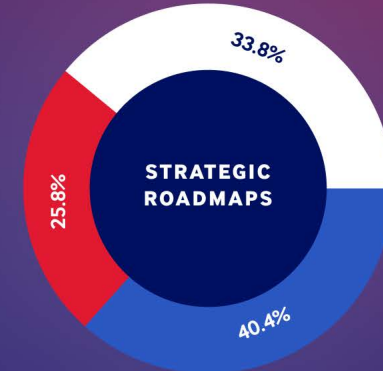


Including subcontractors within this spend, SMEs accounted for 21.7% of the forecast R&D project activity.



Strategic roadmaps

Funding has been awarded to projects in Batches 41, 42, 43 and the SME Programme across all the roadmaps for technology development as set out in *Destination Zero*.



Large

£114.2m
grant funding
£116.6m
industry contribution
£230.8m
total spend

SME

£30.3m
grant funding
£18.4m
industry contribution
£48.7m
total spend

Large

£185.2m
total spend

SME

£73.3m
total spend

Zero-carbon

Cross-cutting

Ultra-efficient

Academia / Research

£58.8m
grant funding
£0
industry contribution
£58.8m
total spend

Academia / Research

£55.4m
total spend

TBC

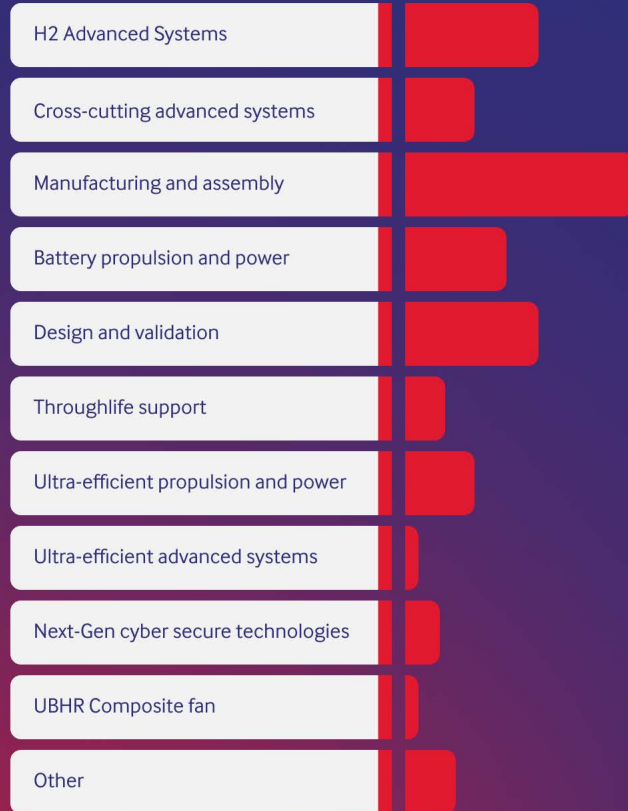
£24.3m
total spend

Forecast R&D spend is derived from Full Stage Application data and may change over the course of the project.

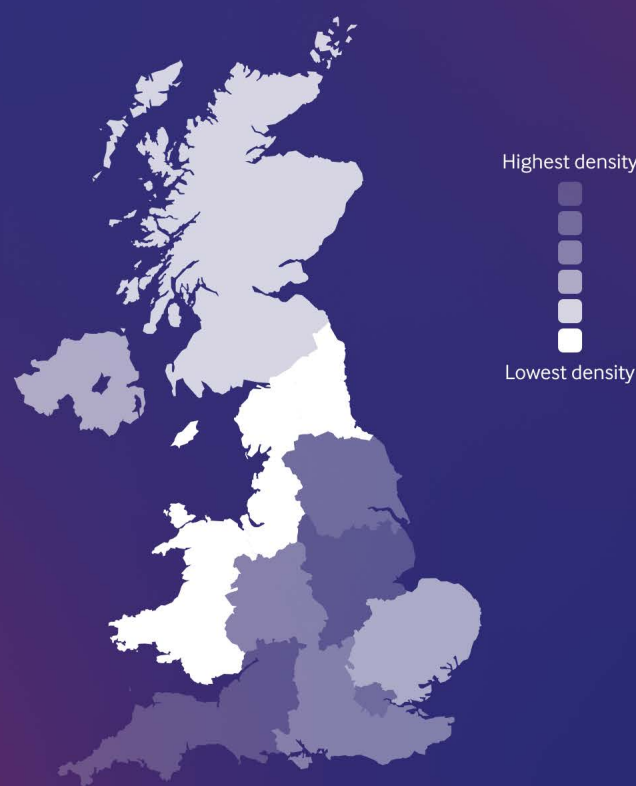
SME Programme

Applications received at Outline Stage to date

Strategic roadmap themes



Density of applications received by location



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Meeting people, and meeting other innovators from other companies, really helps us to work towards those goals of reducing carbon emissions.

ATI Conference exhibitor

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Without ATI funding our businesses would not have been able to invest in the people and assets we deploy today to further our growth as high-tech leading organisations.”

ATI Programme project partner

ATI Programme impact to date

£3.64bn

The ATI Programme has facilitated over £3.5bn of R&D investment, reflecting a combination of UK Government and industry funding.

302

SMEs make up more than half of the organisations who have received grant funding through the ATI Programme.

438

Over 400 projects have been awarded funding, developing technologies from advanced manufacturing techniques to zero-carbon propulsion systems.

88%

The majority of organisations in receipt of ATI Programme funding are located outside London and the south east.

451

The ATI Programme has unlocked investment from over 400 organisations across the UK, from startups and SMEs to large global OEMs.

71

Startups form a growing segment of organisations who have received grant funding through the ATI Programme.

ATI projects in focus

Competitive, faster, portable defect detection

Adaptix provides a new-to-the-sector non-destructive inspection method. Digital Tomosynthesis is a 3D x-ray technology that enables defect detection in large aerospace components during manufacture or in service. It can be used for inspecting parts earlier in the manufacturing process than current state of the art inspection tools. Previously used in medicine, this disruptive technology has been successfully applied to the aerospace sector and is demonstrated to have substantial benefits, e.g. 60% of cost savings. ATI grant funding (£1.13m) and support has been instrumental to this success.

Digital transformation solutions

Project CONVERGENCE aims to develop and demonstrate enabling digital architecture and technologies for an I4.0 manufacturing facility. It will also digitally optimise the design and processes of a new purpose-built facility and develop new manufacturing capability. ATI funding and support allowed the Manufacturing Technology Centre, Moog and Delapena to take bold technical and financial steps.

Open-access, state-of-the-art facilities

Project Compass will see the creation of a new world-leading research facility which will house the Isothermic High-Rate Sustainable Structures (IHSS) project – led by Boeing, in partnership with Loop Technology and Spirit AeroSystems and AMRC. This facility will be dedicated to developing and testing new technologies needed to meet future demand for lighter commercial aircraft and help the aviation industry's commitment reach net zero by 2050; with the potential to reduce large component process times from ~forty hours to ~four hours.

Securing Aerospace Fasteners Manufacturing in the UK

LISI Aerospace Group and AMRC developed a smart production line to increase productivity and secure new business within the aerospace fastener industry, embedding innovation to remain competitive. The project moved the focus from traditional engineering to new process development, which led to an increase in exciting new roles in data and software whilst reducing process hours and waste materials.

**Visit our Projects page
to explore more case
studies from the
ATI Programme.**

www.ati.org.uk/projects