

Aerospace Technology Congress 2019

Technology for a sustainable future

Simon Weeks CTO Aerospace Technology Institute

The ATI...

- Our mission: To lead technology in air transport
- Established in 2014 independent company backed by Government and industry
- Provides leadership for the UK's aerospace technology community
- Defines the national aerospace technology strategy
- Leads development of an R&T portfolio worth £3.9bn to 2026
- Seeks new ways to stimulate technological innovation and create UK advantage



Progress snap shot - supporting major innovation at all levels

Created 257 R&T projects, involving 255 partners and 142 SMEs...



and delivering new opportunities, platforms and forums for innovation...



Aerospace Innovation Funding Landscape

Aerospace Technology Institute (ATI) Programme £3.9 billion to 2026				Industrial Strategy Challenge Fund (ISCF)
ATI Strategic Programme	Collaborative R&D (CR&D) Calls	ΝΑΤΕΡ	International Bilateral Funding Calls	Future Flight
Key Facts Total grant funding: £1.9bn Annual budget: £150m Project grant (average): £5.1m Project duration (average): 3 years TRL 3 - 6	Key Facts Total grant funding: up to £20m 2019 call grant: £8m Project grant: £250k to £750k Project duration: 1-3 years TRL 2 - 6	Key Facts Total grant funding: £13.7m 2019 call grant: £8m Project grant: up to £150k Project duration: up to 18 months TRL 4 - 6	Key Facts Total grant funding: up to £2.25m Details announced in 2020 TRL 4 - 6	Key Facts Total grant funding: £125m Project grant: £5m - £20m Project duration: by phase
Key Dates Ongoing - Monthly Calls for Expressions of Interest (Stage 1) - Quarterly Full Application (Stage 2)	Key Dates Next call opens 25th November 2019, closes 23rd January 2020	Key Dates NATEP 3 Open – 6 monthly calls opens 21st October 2019, closes 4th December 2019	Key Dates Details announced in 2020	Key Dates Discovery Workshop (Phase 1) live, opens 30th September 2019, closes 13th November 2019
Other Info: Industrially-led. Research or academia can lead for capital projects	Other Info: SME-led (Fast Track) Industrially-led (R&D and Feasibility Studies)	Other info: Supply chain-led Exploitation: typically within 3 years	Other info: First Bi-Lateral call 2018 UK-Sweden EUREKA Call	Other info: Industrial led, academia participation Exploitation: 5 year programme, 3 phases – Discover, Develop and

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Headline Portfolio Statistics

£1.3 billion

OF GRANT FUNDING HAS BEEN AWARDED TO UK ORGANISATIONS... ...CONTRIBUTING TO THE UK AEROSPACE RESEARCH AND DEVELOPMENT PROGRAMME THAT NOW TOTALS

£2.5 billion

257 PROJECTS DEVELOPING CAPABILITIES ACROSS 4 ATI VALUE STREAMS AND 5 KEY ENABLERS WITH 150 LIVE PROJECTS

255 UNIQUE PARTNERS

INVOLVED FROM EVERY NATION AND REGION OF THE UK INCLUDING

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PORTFOLIO PROJECTS ON CONTRACT HAVE POTENTIAL TO CREATE AND SUSTAIN UP TO 64,000 UK JOBS

AND 142 SMES HAVE RECEIVED £55M IN TOTAL GRANT FUNDING

£5.1 million THE AVERAGE SIZE OF GRANT FUNDING OFFERED TO PROJECTS TO DATE

AVERAGE NUMBER OF PARTNERS IS 4 THE MAJORITY OF PROJECTS INVOLVE BETWEEN 2 and 5 PARTNERS, WITH 20% INVOLVING 5 OR MORE

Source: ATI Analysis of Innovate UK Public Data (1st September 2019)

Selection of ATI Projects



AEROSPACE TECHNOLOGY INSTITUTE

The ATI UK Aerospace Technology Programme















UK-Sweden bilateral funding call

- In a global industry where nobody has a monopoly on capability or expertise, international collaboration is essential.
- UK and Sweden launched a £3M joint funding call, matched by industry, in July 2018 under the EUREKA Network programme.
- Four high quality proposals are now on contract providing R&T opportunities for organisations in the UK and Sweden that would not have been possible without each other's expertise.





- Structures
- Materials
 Systems
- Systems
 Propulsion
- Propulsion
 Manufacturing processes
- Through Life Engineering Services (TES)

The Call for Proposals

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Progressing UK/Swedish aerospace ties

There are many opportunities to develop UK-Sweden collaboration in the future

- Swedish organisations can partner with UK organisations and apply to the ATI Strategic Programme
- NATEP the UK National Aerospace Technology Exploitation Programme – is also open to international partners and presents a great opportunities for SMEs
- The ATI and Innovair are discussing a second dedicated UK- Sweden funding call
- for Spring/Summer 2020





His Excellency Torbjörn Sohlström, Swedish Ambassador to the UK and Stephen Henwood CBE, ATI Chairman at the Farnborough International Airshow.

Influences on air transport vision

Sustainability

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Global • Competition

+ + + +

Mobility

Air Transport Vision

The aviation industry is at a pivotal moment it can address mobility through improving the overall air transport system



Setting an ambitious sustainability agenda

The aviation industry should lead on meeting global environmental imperatives

Addressing mobility challenges

Air transport can make a major contribution to addressing global mobility challenges

Global competitiveness

Competitive, sustainable industry

The Aviation Environmental Challenge



AEROSPACE TECHNOLOGY

Our technology priorities



- 1. Retain and grow whole aircraft design and analysis capability
- 2. Be a key player in the delivery of future sustainable commercial aircraft
- 3. Lead the way for sustainable air vehicles for urban and regional markets

Propulsion

- 1. UHBR turbo fan
- 2. Hybrid gas turbine / electric
- 3. All-battery / Fuel Cell



- 1. Systems and equipment for future wings and propulsion systems
- 2. Smart connectivity and data
- 3. Autonomous systems



Aerostructures

- 1. Integrated structures
- 2. Complex multi-functional structures

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3. Flexible, automated large-scale assembly



Enabling Capabilities and Technologies

- 1. Develop high value design capabilities
- 2. Develop advanced materials, manufacturing and assembly
 - 3. Advance through-life engineering technologies

Addressing the Future Flight Challenge

Future Air Transport & Services as a System of Systems

New models of airspace management and anticipatory regulation Novel Air Vehicle Demonstrators



Ground Infrastructure Systems Demonstrators – city & sub-regional airport

New operating models for users and commercial operators of air services

Engagement of authorities is critical (including DfT, BEIS, Local and City Authorities, TfL, CAA, OFGEM)

Future aircraft

Increasing environmental pressure, continual operational cost reduction



Future Propulsion Systems

Increasing propulsive & energy efficiency, emissions & operational cost reduction



Indicative capacity/range

UK ATI - Electric flying demonstrators in progress



Engaging with the ATI

- Visit our web site: www.ati.org.uk
- Subscribe to **Elevation**, our bimonthly eNewsletter
- Follow us on Twitter and LinkedIn



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- Download our **INSIGHT** papers
- Send us an email:
 - info@ati.org.uk



#13 // 9th April 2018 From the ATI

There is also an opportunity for the supply chain to 'Meet the ATI' a and can be booked via the Composite UK website

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Thankyou

www.ati.org.uk

ATI Conference 2019

19-20 November 2019. Two day conference with dinner.

The Vox Conference Centre, Resorts World, Birmingham B40 1PU

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