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INTRODUCTION

The Aerospace Technology Institute (ATI) was created in 2013 and began operations in 2014. It supports the Aerospace Growth Partnership, a joint government and industry forum created to bolster the UK civil aerospace industry and enable it to reach its full economic potential in the global market. Technology and innovation are central to this; government and industry have agreed jointly to commit up to £300m per year in technology out to 2026, creating a total potential investment of £3.9bn.

The ATI's role, as a neutral presence between government and industry, is to establish a challenging technology strategy for the sector, and to develop a portfolio of research and development (R&D) activities to realise the strategy, exploiting the sector's strengths to the full, and creating new capabilities for the markets of the future. These activities are carried out in industry, academia, and other research organisations.

The ATI's technology strategy is set out in its publications "Raising Ambition"

and its growing series of INSIGHT papers which explore individual technologies in more depth. The ATI also publishes INSIGHT papers on the economics of aerospace technology. The portfolio of R&D activities is summarised in a project directory published by the ATI. All these resources are available on the ATI's website at www.ati.org.uk.

The ATI is a non-public body operating in a complex environment, with many partners and stakeholders in industry, academia, and government, based in the UK and overseas. The ATI board reflects this, drawing on the private and public sectors, and led by an independent non-executive chair. It is funded equally by the Department for Business, Energy and Industrial Strategy (BEIS) and by industrial recipients of project grants, who pay a small levy. Its running costs total around £5m per year.



HIGHLIGHTS OF THE YEAR

Fixed Trade Calculator

We launched a tool enabling suppliers to calculate the impact of their ideas on aircraft performance.

Investment in UK Infrastructure

Boeing's first factory outside the US - supported by the ATI.

Electrification & Future Designs

ATI has supported projects to bring about more electric, greener aviation.

**PORTFOLIO
REACHED £2bn**

Investment in UK Infrastructure

AWIC is a flagship facility for the UK to lead all future work on wing and associated systems for Airbus.

ATI Strategic Programme

Our portfolio of projects reached £2bn, with over 200 projects and 200 organisations.

Cranfield & London

We are based within easy reach of industry and maintain close relationships with Government.

Technology Portfolio

- Additional £300m invested
- Portfolio reached value of £2bn, with over 200 projects and 200 participants
- Key milestones were reached in wings and engines

Major new projects were funded, including:

- E-Fan X £58m
- Additive Manufacturing £65m

Investment in new facilities:

- Boeing factory in Sheffield
- Airbus Wing Integration Centre in Filton

Industrial Strategy Challenge Fund

- ATI facilitated bids on High-Value Design and the £300m Future Flight Challenge

Technology Outreach

- Refreshed advisory groups
- Launched tools to evaluate technology (Fixed Trade Calculator and Systems Virtual Validation Platform)
- Published a database of research infrastructure

Strategy

- Explored potential for disruptive technology
- ATI was a key driver of the Aerospace Sector Deal

International

- Launched a UK-Sweden bilateral funding call
- Completed the GARTEUR chairmanship and continue to represent the UK

International Collaboration

We launched a UK-Sweden collaborative funding call for UK and Swedish organisations to develop aerospace technology in partnership.

NATEP

£13.7m was allocated to the third round of NATEP funding for SMEs.

Ground-breaking Thought Leadership

Our INSIGHT papers deep dive into emerging technologies and industry trends.

**NATEP****ATI Board**

We welcomed new members of the ATI Board.

Farnborough International Airshow 2018

Our stand at FIA 2018 was our largest yet.

Supply Chain Engagement

- Launched the third round of NATEP funding for SMEs £13.7m
- Held a consortium-building event which introduced funding opportunities available and the technology topics of priority to the Institute

Thought Leadership

- Published six INSIGHT papers
- Staff delivered presentations and keynote speeches at industry workshops and events

Events**ATI Conference:**

- Keynote speeches from global leaders in industry
- Over £53m investment in ATI portfolio announced

Farnborough International Airshow 2018:

- Largest ATI exhibition stand to date
- The Prime Minister announced over £300m support for aerospace technology

- Hosted the Swedish Ambassador, the chief executive of UKRI, ministers and other politicians
- Hosted receptions on the stand
- Industry graduates and apprentices joined ATI to STEM exhibits

Governance

- Welcomed new Board members
- Aligned with GDPR regulations
- ATI became one of the first signatories of the Women in Aviation and Aerospace Charter to promote inclusion, diversity and equality

CHAIRMAN'S FOREWORD

It is a great pleasure to present the ATI's annual report for 2017/18. This year was the fifth of the ATI programme, and the fourth of the Institute itself. Whilst much of the Institute's work is long term and continuous, the board strives constantly to ensure that the organisation improves its effectiveness, reinforces its relevance, and is responsive to change. This requires close collaboration with our key stakeholders in government and industry – particularly the Aerospace Growth Partnership, led by Colin Smith; the Department for Business, Energy and industrial Strategy (BEIS); and increasingly with academic partners in UK universities and other research organisations.

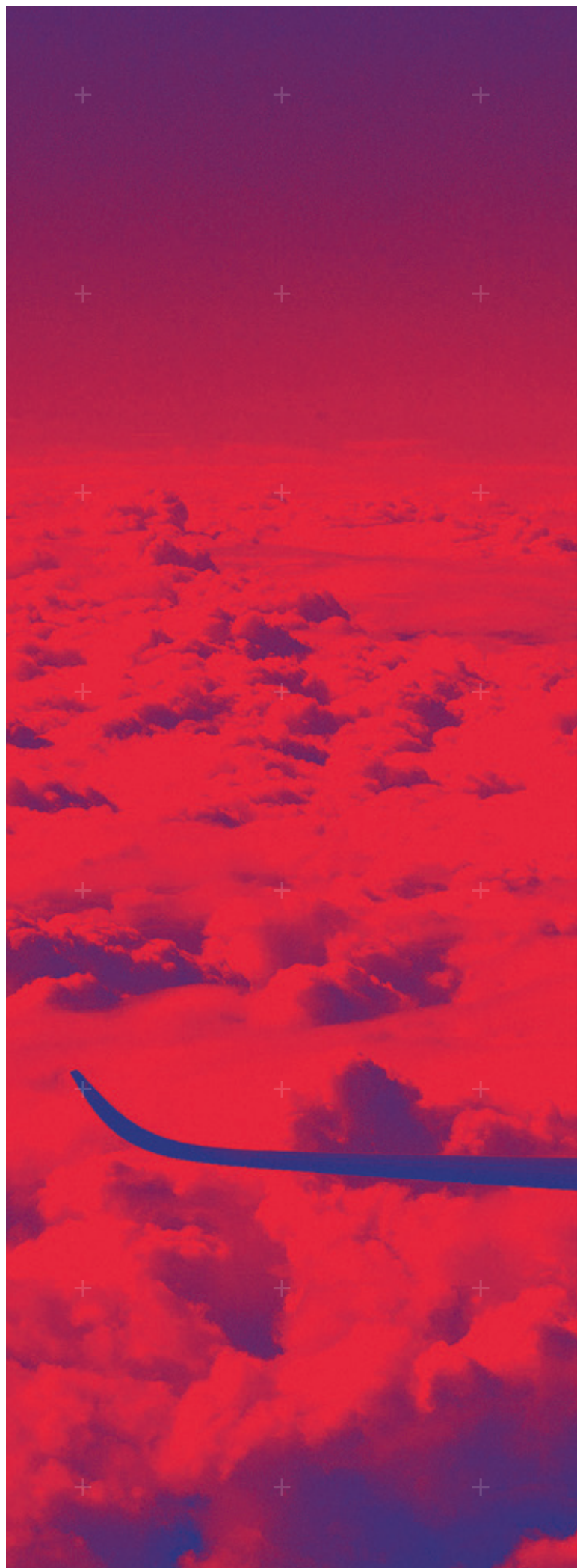
2017/18 saw considerable change in our working environment, including managing the uncertainties of Brexit. Despite this, the government has focused consistently on industrial strategy and on raising UK research and development levels closer to those seen in other major industrialised countries. This has driven a new impetus for innovation in the UK and led to exciting developments in the Institute's activities and skills base, including a new focus on disruptive technologies. We look forward to continuing our evolution as we anticipate the demands of the future.

I want to thank my colleagues on the ATI board who bring such expertise, experience, and commitment to the organisation. 2017/18 saw several changes, with Graham Trevarthen (Rolls-Royce), Gareth Davies (Airbus), Tom Rodden (EPSRC), and David Nutton (RMC) leaving, and being replaced by Alan Newby, Neil Harris, Kedar Pandya and Scott Tolson (Sigmatex) respectively. I am extremely grateful to those departing for their contribution, and for those joining I extend a warm welcome.



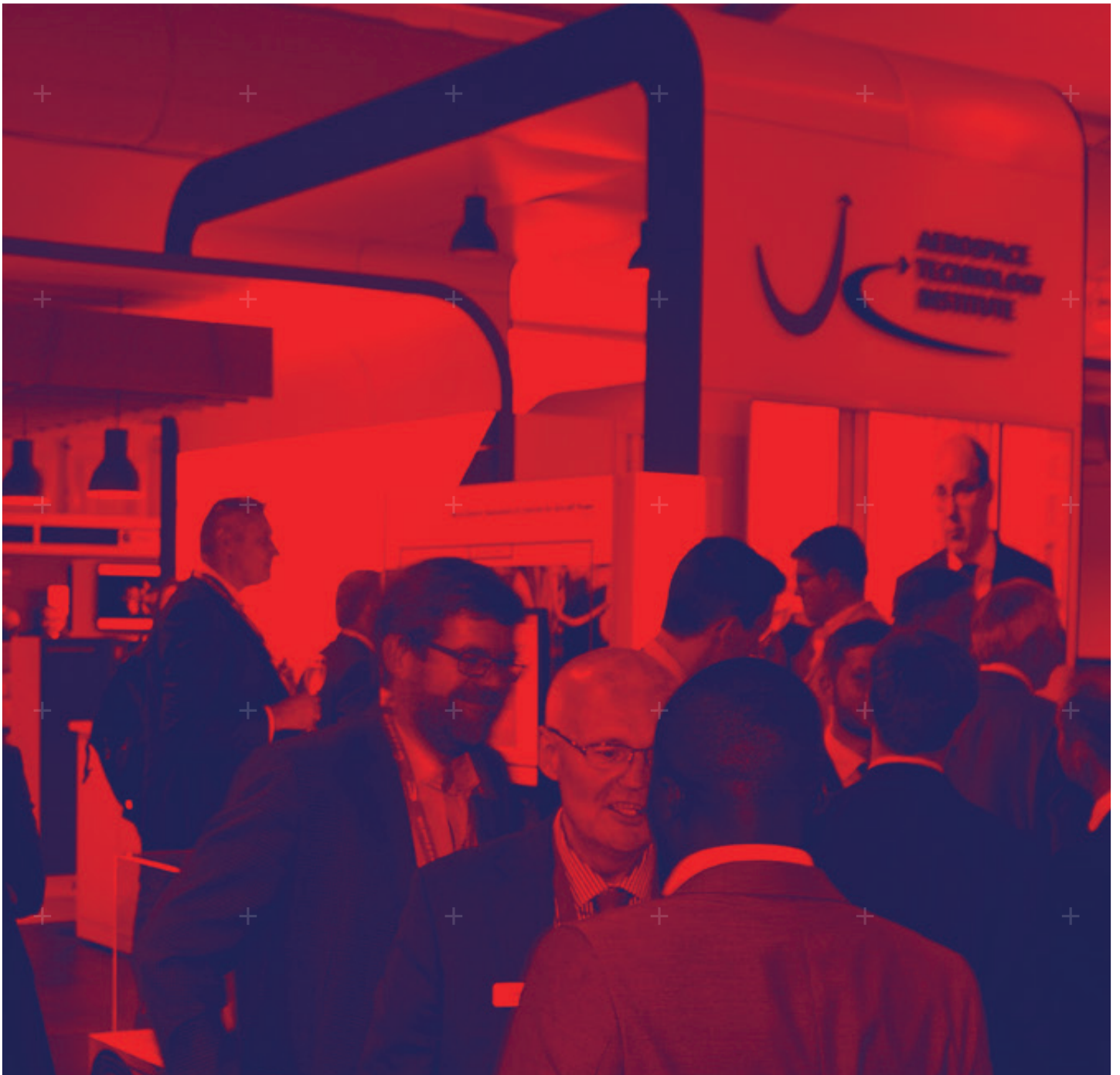
Stephen Henwood CBE

Chairman



***“We look forward
to continuing
our evolution
as we anticipate
the demands of
the future”***





“The Institute has begun to explore how to support emerging and transformative trends in aviation”

CHIEF EXECUTIVE'S FOREWORD

2017/18 was a watershed for the Institute as we consolidated our position and struck out on new paths. The strategic technology programme grew by £300m, taking the total size of the portfolio to around £2bn, consisting of 214 projects and involving over 200 organisations. Some major programmes reached important milestones, including Wing of Tomorrow, UltraFan®, and Advance3. Important new additive manufacturing (AM) projects were agreed, and – very significantly - two large electric flight projects under the E-Fan X programme were launched at the Farnborough International Airshow. Major new investments were made in the UK by Boeing and Airbus, both involving ATI support.

As the Chairman's foreword points out, our working environment is in constant flux. Brexit has created uncertainty for both government and industry. Its implications go well beyond the ATI's remit, but it has required us to analyse carefully the benefits that UK aerospace receives from its relationship with the EU, and how to maintain them. The ATI has kept up a strong presence on European advisory committees, and in a new development, launched the first UK/Sweden aerospace R&D call at the 2018 Farnborough International Airshow.

Despite uncertainty, however, the Institute, working with its partners in BEIS and Innovate UK (IUK), has launched new programmes aimed at the supply chain. It has also responded to opportunities arising from the government's industrial strategy, shaping two ambitious proposals to the Industrial Strategy Challenge Fund (ISCF), one on high-value design and the other on the future of flight. In a further development, the Institute has begun to explore how to support emerging and transformative trends in aviation. All of these activities were supported by enhanced outreach to the aerospace community, including through technical publications and events, and the very successful first ATI conference held in November 2017.

As indicated, the Institute works closely with a range of government, industry, and academic stakeholders. We were closely involved in defining the content of a sector deal for aerospace, announced by the government in December 2018, which, amongst other things, confirmed its commitment to support the ATI and its programme out to at least 2026. This provides valuable certainty to the industry as it plans for the long term. In addition, the ATI has worked closely with the Department for Transport (DfT), the Civil Aviation Authority (CAA), and the Department for International Trade (DIT), helping to shape policy and to deliver initiatives such as overseas missions.

Internally, we continued to drive high standards of governance and administration. We improved our offices in both Cranfield and London, enhanced our communications platforms, and launched a series of activities to improve team cohesion. We finished the year well within budget and put in place all necessary steps to comply with the new General Data Protection Regulation (GDPR).

I am grateful to the many stakeholders who support the ATI - the Aerospace Growth Partnership; our main government partners, BEIS and IUK; and the many players from industry and academia who sit on our Technology Advisory Group and other advisory groups, giving freely of their time and expertise, challenging us and helping us formulate strategy. All of these are central to our success.

Closer to home, I thank the ATI's executive team and staff, particularly Dr Ruth Mallors-Ray OBE who left the ATI this year. Ruth was a key influence in the creation of the ATI, and as its first Chief Operating Officer, shaped much of the organisation as it is now. She is a strong advocate of supporting disruptive technology and a passionate promoter of women in aerospace. I wish her well for the future.



Gary Elliott
Chief Executive

Technology is the heart of the ATL's mission

The PHOENIX unmanned air system

TECHNOLOGY

The ATI sets the technology strategy for civil aerospace and develops a portfolio of R&D activity – carried out in industry and academia – to realise the strategy. This drives investment into the sector, creating the basis for success in the short, medium and long terms. In 2013, government and industry each committed to invest £150m per year up to 2026, creating the potential to build a technology portfolio worth up to £3.9bn. The overall economic impact of the portfolio is however estimated at around £114bn in value added as the technology is commercialised and spillover benefits accrue in other parts of the economy, creating and safeguarding 95,000 highly skilled jobs.

The ATI's core activity is to develop a strategic programme of large R&D projects. 2017/18 however saw four adjuncts to this core activity:

- Leading two ambitious applications into the government's ISCF;
- Leading two initiatives to promote R&D in the supply chain;
- Launching a bilateral R&D call with Sweden to promote international collaboration; and
- Scoping possible activities to promote disruptive technologies in aerospace.

The ATI's activity in 2017/18 therefore fell into five main segments:

ATI STRATEGIC PROGRAMME

Aircraft of the Future
Aerostructures of the Future
Propulsion of the Future
Smart, Connected and More Electric Aircraft

SUPPLY CHAIN

NATEP
Collaborative R&D

INTERNATIONAL COLLABORATION

Bilateral call with Sweden

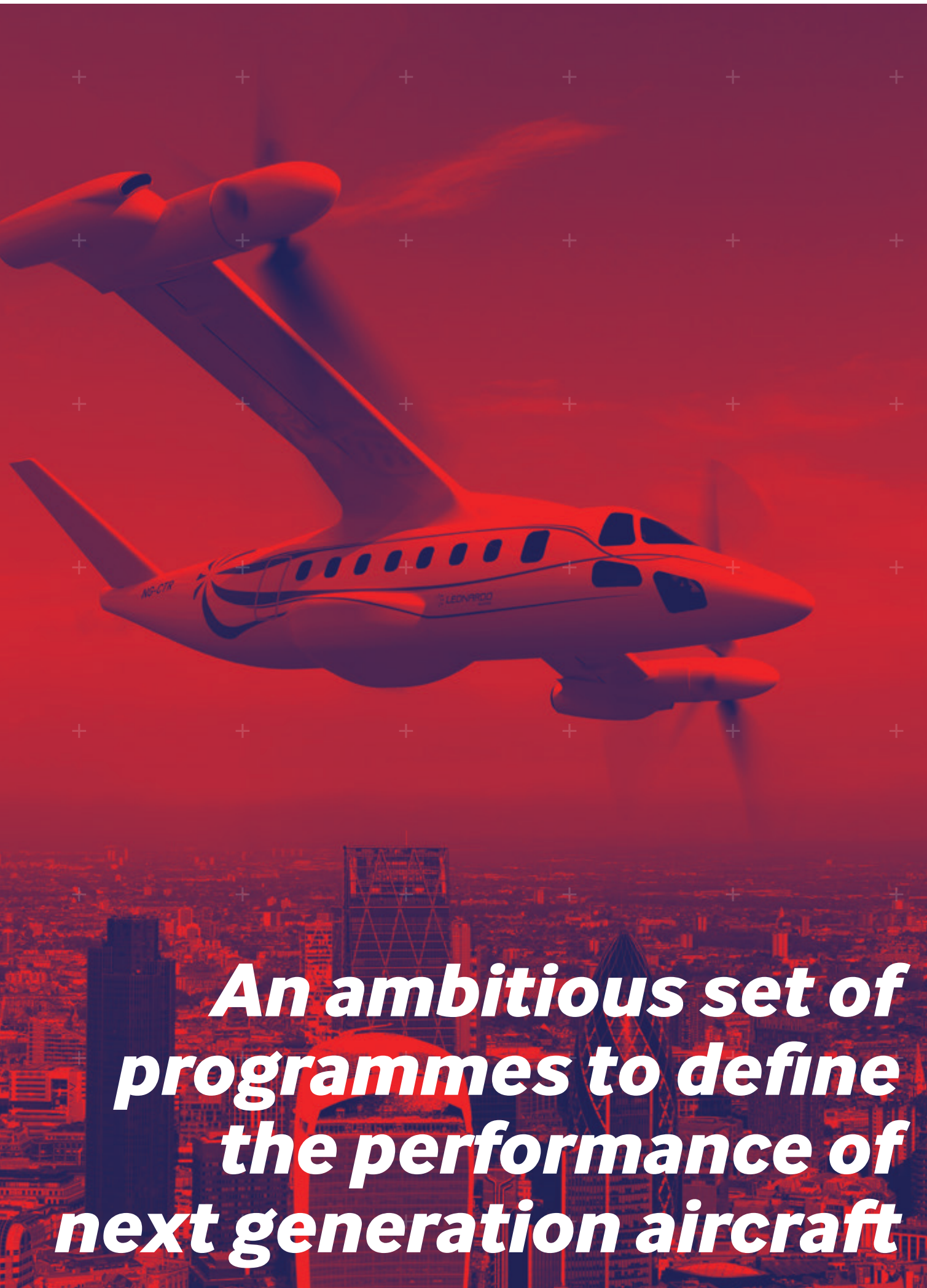
INDUSTRIAL STRATEGY CHALLENGE FUND

Future Flight
High-Value Design

DISRUPTIVE TECHNOLOGY

Scoping potential support mechanisms

Each of these segments is discussed in more detail in the following sections.



***An ambitious set of
programmes to define
the performance of
next generation aircraft***

ATI STRATEGIC PROGRAMME

The portfolio features four value streams:

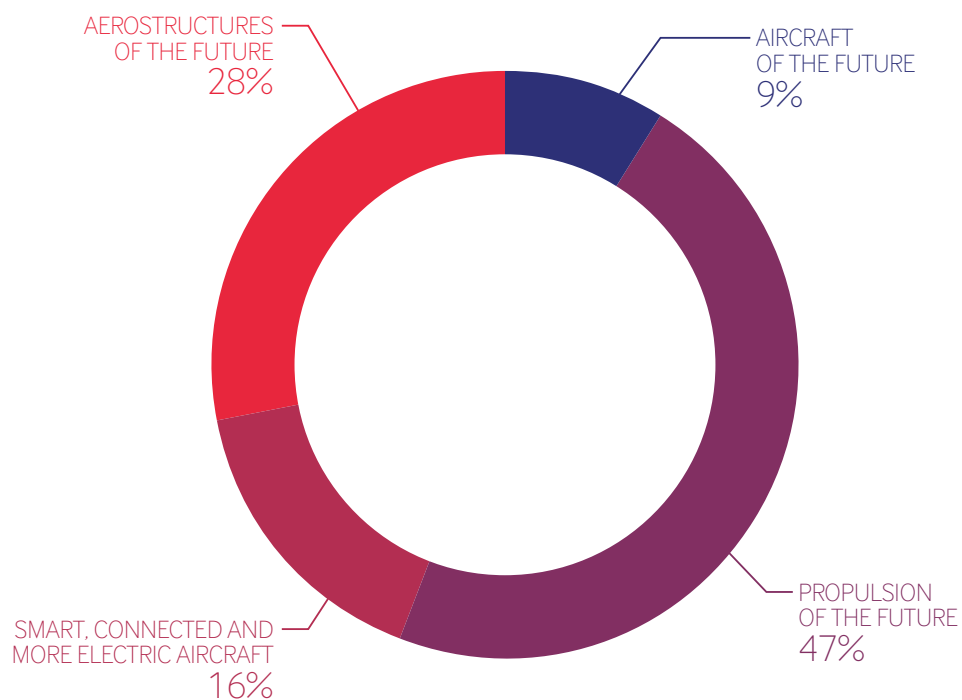
- Aircraft of the Future
- Aerostructures of the Future
- Propulsion of the Future
- Smart, Connected and More Electric Aircraft.

Each is an ambitious set of programmes to define the performance of next generation aircraft by slashing fuel burn and weight, integrating systems, and doubling the efficiency of manufacturing key components.

ATI Strategic Technology Themes: Addressing the Challenges of Aerospace



Portfolio Distribution By Value Stream





Technology currently being developed could enable the biggest revolution in aviation in over 50 years. ATI priorities include understanding better what electrification and related technology could mean for UK aviation. In 2017/18 the ATI engaged with a number of UK start-up companies who may offer a future aircraft design capability, helping them develop networks and potential funding avenues.

The ATI also developed its large civil aircraft modelling capability to manage features such as high aspect ratio wings, boundary layer ingestion propulsion, more-electric systems, and new configurations such as blended wing bodies. This is crucial for assessing what effect new technologies might have at an aircraft level. Similarly, ATI continued to update its Fixed Trade Calculator tool, enabling supply chain companies to characterise in-house the benefits that their technology ideas may bring to aircraft performance. This resource attracted some 75 active users in early 2018.

ATI has additionally created an internal aerodynamicist role. This expertise has enabled ATI to provide expert technical advice to BEIS, to represent UK interests in European collaborations including the European Transonic Wind Tunnel (ETW) and the Group for Aeronautical Research and Technology in Europe (GARTEUR), and to promote/shape opportunities for UK-US collaborative research.

A number of projects were successfully completed in 2017/18 which will support the UK's position in relation to global targets on emissions, noise and fuel burn. These included improvements in modelling fidelity for wing designs in Enhanced Fidelity Transonic Wing (EFT), undercarriages and nacelles with HyPerFlux++, integration of UHBR engines with SANTANA and the development of specialist wind tunnel rigs to enable testing for future aircraft configurations in ARCADE.



The UK has major strengths in aerostructures. The wings for virtually all Airbus aircraft are designed and manufactured here. GKN, Spirit, Meggitt and GE constitute other global players. Research organisations, such as the High-Value Manufacturing Catapult, offer expertise and globally competitive research infrastructure.

2017/18 saw significant advances particularly in research into wings and additive manufacturing (AM). Following various ground-breaking projects jointly designated Wing of Tomorrow, Airbus brought forward two final projects, completing its structural research and progressing to overall integration and automated assembly. This important programme will maintain the UK's position in the foreground of wing design and manufacturing. Bombardier launched two large projects to take further the advanced composite materials techniques they have developed in both

wing and nacelle manufacture. Given the importance of composite materials to future aircraft, ATI published an INSIGHT paper on composites technology in September 2018, defining detailed roadmaps to guide future research.

The ATI also published an INSIGHT paper on AM in September 2018, setting out the potential of the technology. AM enables structures to be built from the bottom up, allowing new topologies, improving efficiency, reducing weight and eliminating scrap. It can improve the economics of low-volume manufacture and aid flexibility in the supply chain. Two new projects, DAM and AIRLIFT, came on stream in 2017/18 building on the DRAMA and OAAM projects agreed in early 2017. Others are in the pipeline. Together, these projects create a £65m portfolio. They will drive collaboration and create a cluster of UK expertise in this emerging and fast-growing technology.



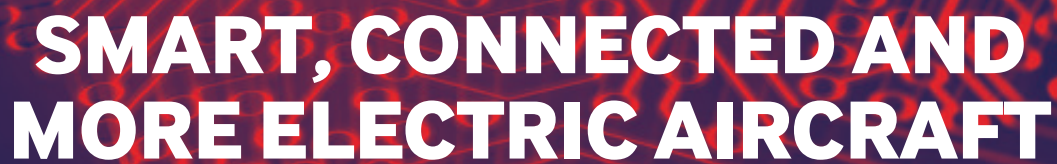
PROPULSION OF THE FUTURE

Propulsion represents around 50 per cent of the economic value in UK aerospace. Only the UK and US have the capability to build large engines to power twin-aisle airliners, with Rolls-Royce supplying some 36 per cent of large engines globally and expected to deliver around 50 per cent early in the next decade. The ATI's main propulsion activities are the large multi-project programmes UltraFan® and Advance3, which together will enable a family of next-generation gas turbines 25 per cent more efficient than original Trent engines. These will place the UK in pole position to equip future aircraft.

Future engines will have a very high by-pass ratio, a geared turbofan with a power of over 50mW, and a

redesigned core, with reduced environmental impact. UltraFan® will introduce new lightweight materials, including composite fan blades and fan casings. Advance3 is demonstrating a new engine core to deliver major fuel savings.

Both programmes achieved significant milestones in 2017/18, moving into system integration. The UltraFan® concept design review was completed, enabling the demonstrator to progress to detailed design, whilst key elements of the fan system – blades, case, and annulus fillers – were tested on a donor engine. Meanwhile, an Advance3 core demonstrator was built and the test programme is well underway.



SMART, CONNECTED AND MORE ELECTRIC AIRCRAFT

The UK has significant depth in aircraft systems, including landing gear, fuel systems, communications, electrical power, cabin air, ice protection and data management. Research into systems constitutes around 17 per cent of the ATI portfolio. 2017/18 saw a notable increase in research on large electrical systems, such as the game-changing E-Fan X programme. Using a BAe 146 aircraft, to be modified by Cranfield Aerospace, E-Fan X addresses the challenges of high-power electric propulsion in flight, including thrust management, altitude effects on electric systems, electromagnetic compatibility, novel aircraft integration, thermal management, and airworthiness requirements. It will be the first time a commercial jet is adapted for such a large hybrid propulsion system.

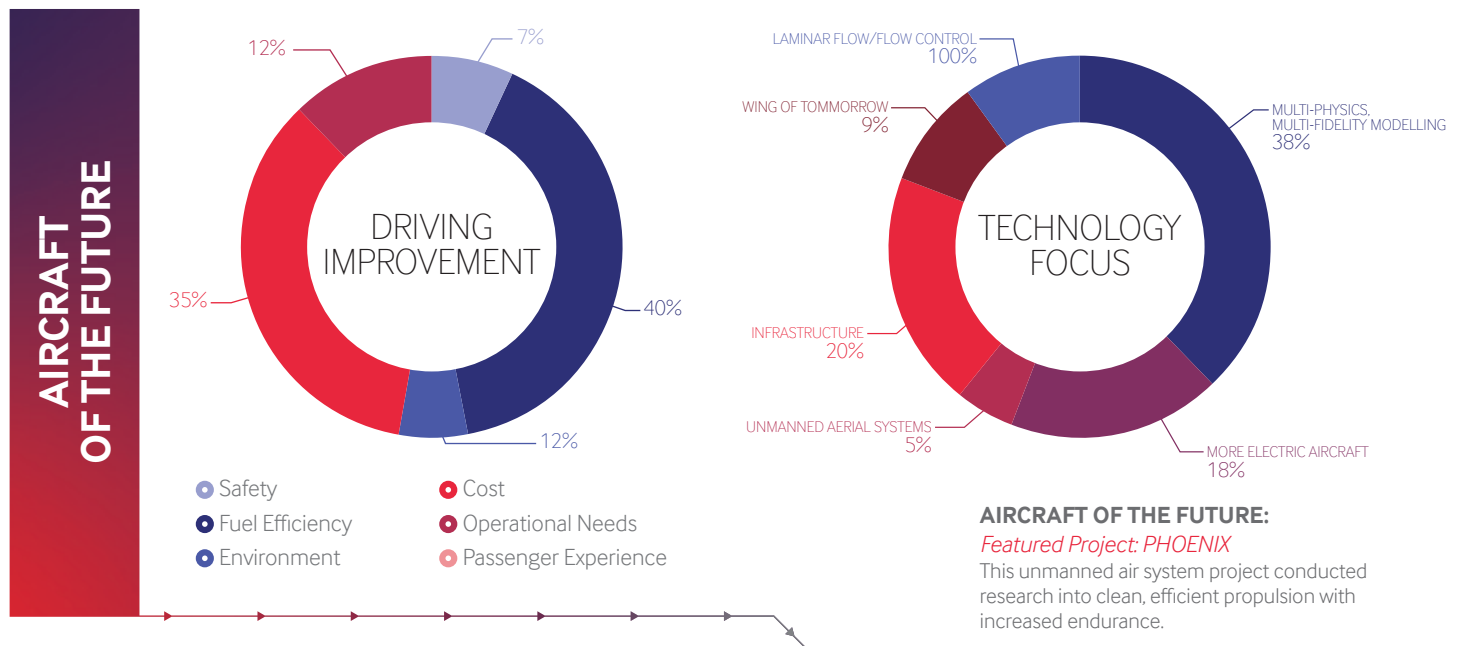
Two E-Fan X projects were approved: Megaflight, a £30m project led by Rolls-Royce; and Hybrid-Electric Flying Demonstrator (HyFly), worth £28m, led by Airbus. Megaflight will research motors, propulsors, power generators, and wider power systems, whilst HyFly focuses on the aircraft itself, including installing the hybrid propulsion system, proving its airworthiness, obtaining permission to fly and ultimately conducting flights.

Other electrical projects include Scalable Multi-Platform Power (SMPP), a £26m multi-partner project to advance a range of electrical power capabilities; and ACCEL, a £5.75m Rolls-Royce project, partnered by Yasa Motors, to design, build and fly an electric powertrain capable of setting a world speed record for electric flight.

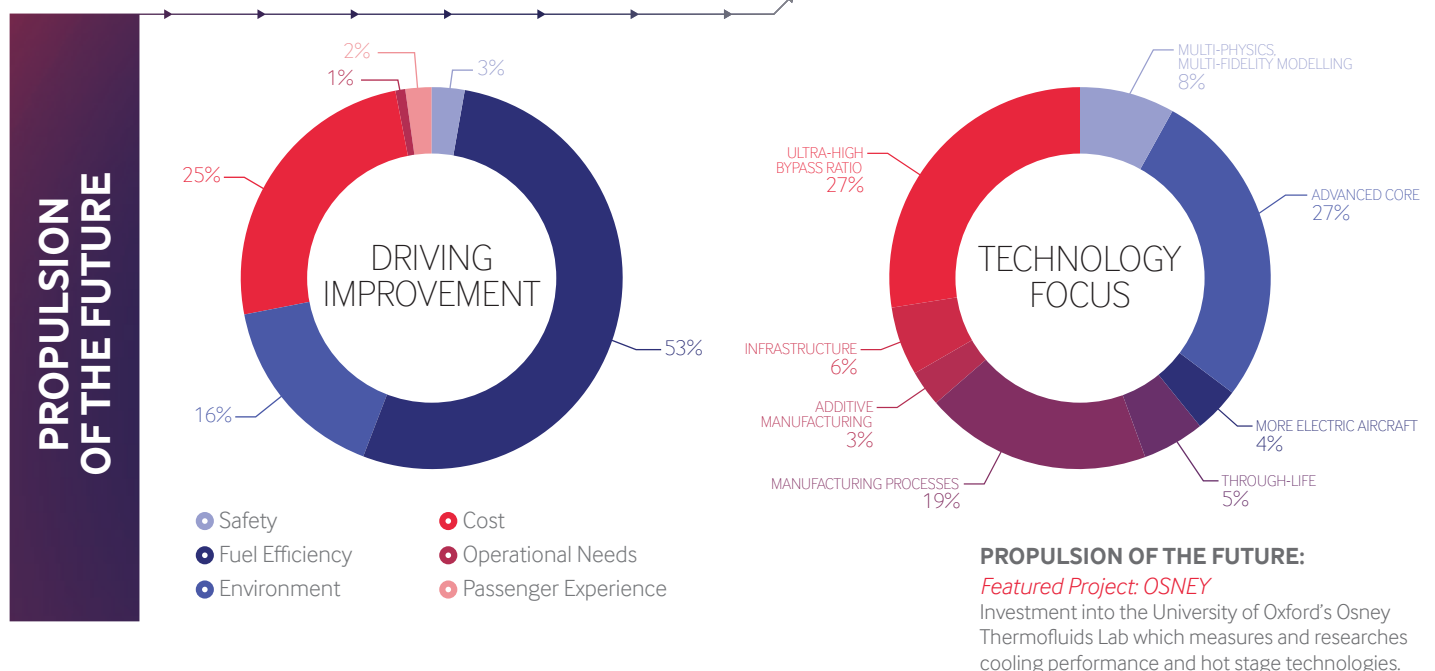
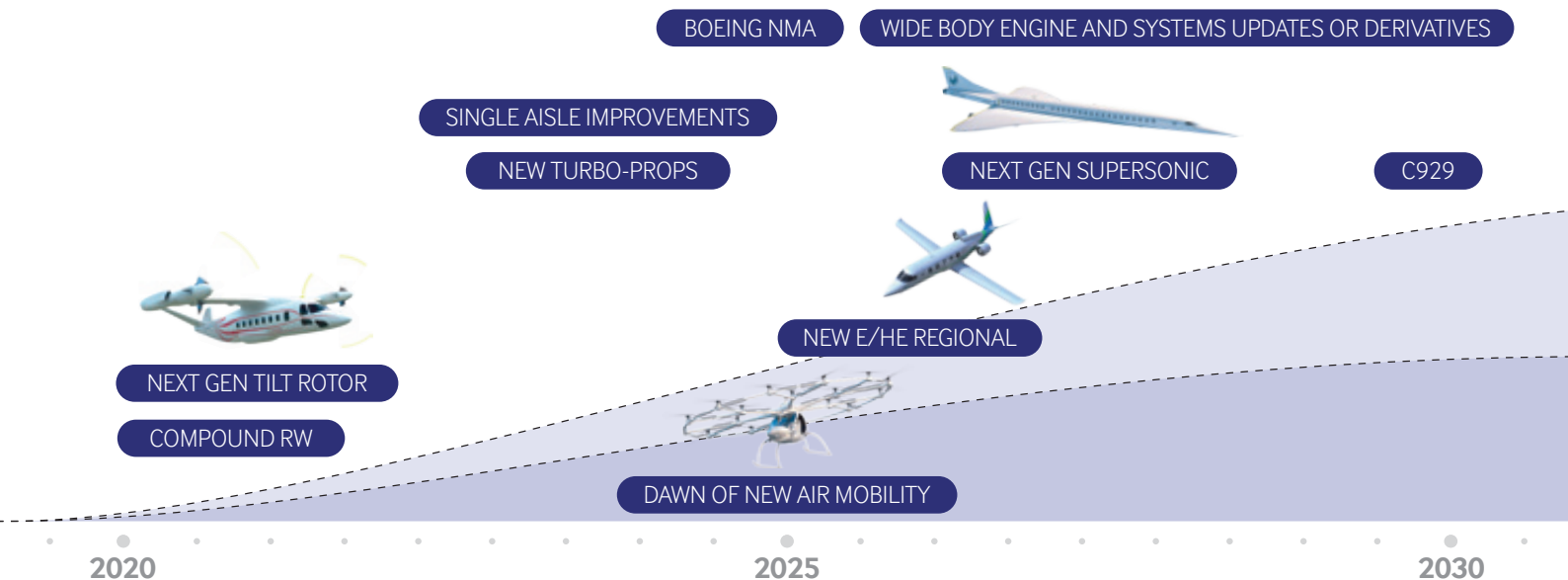
Alongside electric power, the ATI also advanced projects in satellite communications for higher connectivity. Chief amongst these was the £10m Satcom and VHF Architectures for Nextgen Avionics (SAVANA) programme. These will reduce the number, size and weight of avionics units on aircraft, using software to replicate physical communications units. Further research is envisaged to enable a seamless aircraft communication system, enhance cockpit integration and enable digital services.

Safety-critical software is another core area of ATI work, and is vital for future aviation. This was the subject of the multi-partner £10m SECT-AIR project launched in 2016. Further R&D projects in this area are expected in the coming months.

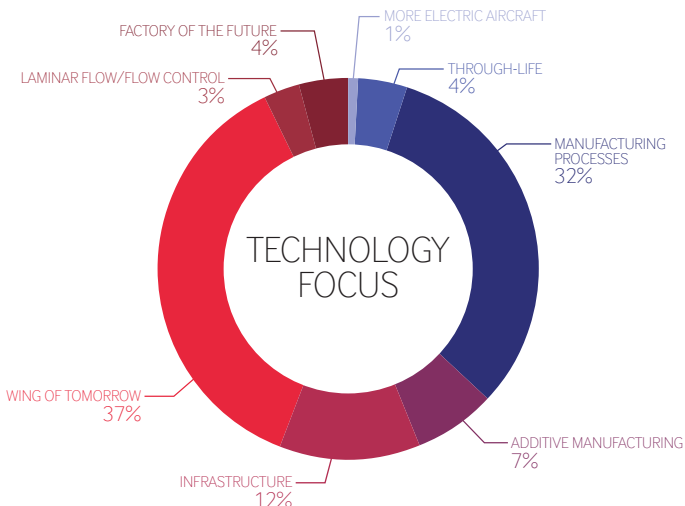
DEFINING FUTURE AIRCRAFT THROUGH THE STRATEGIC PROGRAMME



AIRCRAFT MARKET OUTLOOK



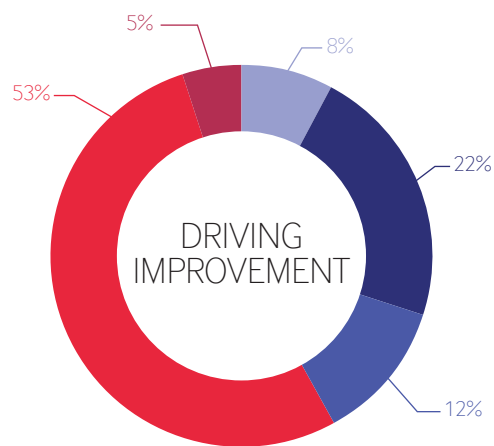
AEROSTRUCTURES OF THE FUTURE



AEROSTRUCTURES OF THE FUTURE:

Featured Project: OAAM

The Open Architecture Additive Manufacturing project developed manufacturing technologies which can be scaled up to produce large components.



- Safety
- Fuel Efficiency
- Environment
- Cost
- Operational Needs
- Passenger Experience

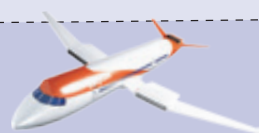
NEXT GEN WIDE BODY

MORE ELECTRIC AIRCRAFT SYSTEMS



NEXT GEN SINGLE AISLE

HYBRID ELECTRIC POWERED FLIGHT

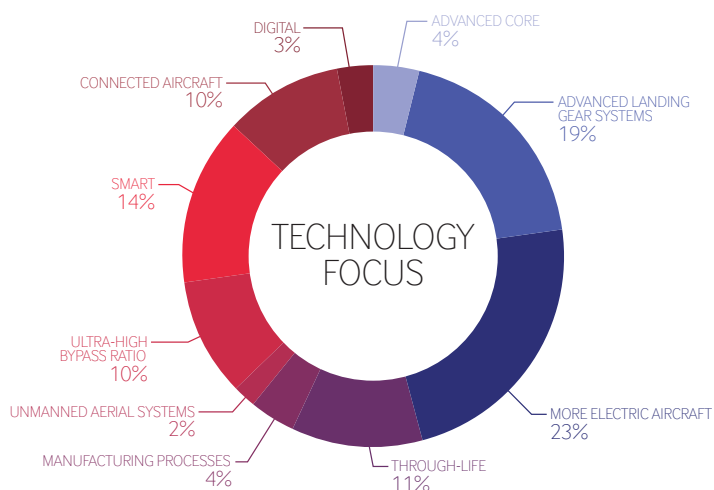


NEW E REGIONAL

ALL-ELECTRIC POWERED FLIGHT

2035

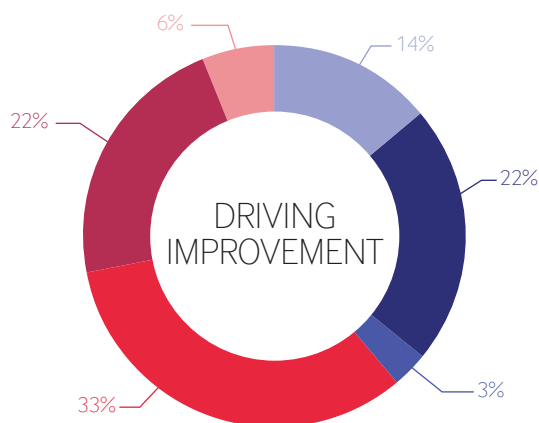
2040



SMART, CONNECTED AND MORE ELECTRIC AIRCRAFT:

Featured Project: MEGCAP

The More Electric Generation & Controls for Aircraft Power project aims to produce cooler and smaller equipment and advance control electronics.



- Safety
- Fuel Efficiency
- Environment
- Cost
- Operational Needs
- Passenger Experience

SMART, CONNECTED AND MORE ELECTRIC AIRCRAFT

SUPPLY CHAIN ENGAGEMENT

2017/18 saw new engagement with the supply chain as the ATI started funding the National Aerospace Technology Exploitation Programme (NATEP) and launched a call for Collaborative R&D (CR&D) projects in the supply chain. These initiatives recognise the economic and industrial benefits of maximising innovation in the supply chain, but also the barriers that prevent many supply chain companies from realising their innovation potential.

NATEP

NATEP targets companies inexperienced at R&D. It helps fund small projects and provides in-kind support to set up and run them. It also engages potential customers interested in exploiting the resulting technology. Following an initial phase from 2013 to 2017, a second phase of NATEP worth £8m was launched at the Paris Air Show in July 2017. Programme management is carried out by ADS, working with English regional aerospace alliances and the devolved governments in Scotland, Northern Ireland and Wales.

ATI chairs the NATEP National Steering Board. Two calls, in January and July 2018, resulted in 35 projects being supported, all due to finish in 2019. Selecting NATEP projects is inclusive, with recommendations made by regional panels consisting of primes, research and academic institutions, and the ATI. Projects are spread broadly around the country with 11 in the south east,

five in the north west, seven in the south west, 11 in the midlands, and one in Scotland.

A further extension of NATEP was announced by the UK government at the Farnborough International Airshow in July 2018 and is expected to get underway in the first half of 2019.

Collaborative Research and Development

Alongside NATEP, which supports small projects and enables companies to begin their R&D journey, in summer 2018 ATI developed a broader £20m programme of CR&D calls. The first call, worth up to £8m, launched in autumn 2018.

The CR&D programme addresses the present predominance of large organisations leading R&D programmes, and the suboptimal level and ambition of R&D activity taking place in the supply chain. It encourages both fast-track projects for shorter-term exploitation, as well as long-term and disruptive projects. Organisations are also invited to submit ideas for feasibility studies, to mature ideas that may be the subject of future projects.

Progress to date indicates a high level of interest across all the elements of the call, with a wide range of excellent proposals submitted. Successful projects are expected to get underway later in 2019.

INTERNATIONAL COLLABORATION

The ATI was created to advance UK aerospace and the UK economy. In a global industry where nobody has a monopoly of capability or expertise, however, international collaboration is essential. The ATI sits on several subgroups of the Advisory Committee on Aviation Research and Innovation in Europe (ACARE), and on the Science & Technology Commission led by the European trade association ASD. The ATI also manages the UK's role in GARTEUR on behalf of BEIS; the UK held the chairmanship of GARTEUR from January 2016 to December 2017. We maintain close connections with a range of international aerospace research organisations and are in discussion with several countries about possible bilateral research activity.

UK-Sweden bilateral call

Following UK/Sweden discussions arranged by the ATI and our Swedish counterparts in Innovair, both countries launched in July 2018 a joint funding call under the EUREKA Network programme. It supports development

of mutually important technologies where each country has complementary capabilities, enabling organisations from both countries to plug capability gaps, and to gain access to people, skills, and infrastructure not readily available to them. Each country committed £2.25m, to be matched by industry. Four projects have been approved across the areas of aerostructures, systems and propulsion. This is the first Network call under the UK's chairmanship of EUREKA and may set the basis for further international collaboration.



The Swedish Ambassador Torbjörn Sohlström and ATI Chair Stephen Henwood CBE

INDUSTRIAL STRATEGY CHALLENGE FUND

The ISCF is a key pillar in the government's strategy to raise productivity and to increase levels of UK research and development. It is worth £4.7bn over four years. Its focus is on the biggest industrial and societal challenges today.

Responding to this, the ATI in 2017/18 coordinated two applications to the ISCF on Future Flight and High-Value Design. The government announced in December 2018 that it would fund the Future Flight Challenge, described

below, and the plan for taking this forward is being prepared. High-Value Design remains under discussion. It sets the challenge of ensuring that UK engineering continues to lead the world by delivering more complex and cleaner products in half the time, for half the cost, reaching beyond aerospace and paving the way for other engineering industries such as construction and energy to adopt more advanced engineering capabilities.

CASE STUDY: FUTURE FLIGHT CHALLENGE

The Future Flight Challenge is a £300m, five-year programme funded by the ISCF. It will demonstrate an entire aviation system, focused on new urban and regional air mobility concepts, and capture the implications for passengers, airports, aircraft, airspace, regulation, and infrastructure.

The Challenge will seek to solve some of today's main mobility challenges, including congestion and environmental effects. It will generate economic benefits, leading to new products and services for domestic and international markets and seek to drive inward investment.

Electric aviation will do for urban and regional travel what the jet engine did for long haul flights and represents the third revolution in aviation. It represents a profound

change, exemplified by a raft of new companies redefining flight, as well as digitally-led businesses such as Amazon and Uber aiming to provide on-demand services.

Future urban/regional aircraft will be cost-effective, clean and quiet. They will incorporate autonomy and novel electrical capabilities. Such a radical change, however, carries with it a challenge to the UK's global position in aviation, based on more traditional technology.

The Challenge therefore positions the UK to compete successfully both against new entrants and existing global suppliers. Developing the products and capabilities inherent in this challenge will address UK weaknesses in productivity and transportation whilst also creating high-value exportable goods and services.

“

The Future Flight Challenge has the potential to revolutionise air mobility, engaging partners and experts from across the aviation transport sector. The ATI has contributed to the significant progress made on shaping the Challenge and will continue to be involved in the very exciting work ahead.

”

Gary Cutts
Interim Challenge Director

CASE STUDY: HIGH-VALUE DESIGN

In 2018 the ATI supported a bid into the ISCF on High-Value Design, aimed at creating a cross-sector programme on delivering global excellence in design engineering. The bid (entitled the Brunel Challenge) would tackle the increasing complexity of engineering high-value products developed in the UK by transforming design, validation and assurance methods to cut time and cost by 50 per cent. The technology included artificial intelligence, multi-fidelity

simulation, virtual validation, engineering process and skills transformation.

The Brunel Challenge was not supported in ISCF's wave three call, however UKRI and BEIS have recognised its importance and continue to engage with representatives from the aerospace, automotive, maritime, defence, energy and life sciences sectors. ATI continues to support this industry-led effort to ensure the future competitiveness and leadership of UK aerospace.

Four priority areas identified for High-Value Design:

INNOVATIVE DIGITAL ENGINEERING ENVIRONMENT

ENTERPRISE INTEGRATION & CO-CREATION

TRANSFORMATIVE ENGINEERING SKILLS

VIRTUAL VALIDATION, CERTIFICATION & ASSURANCE

“

It's essential that Airbus has access to the best engineering tools, processes and skills needed to deliver competitive, 'right first time' solutions. The Brunel Challenge will bring together the best of UK advanced engineering to ensure that the UK remains competitive in the face of growing overseas competition and plays a leading role in developing future products. ATI's support to delivering the original bid, and its ongoing engagement in the subsequent proposal development, has been key to achieving the progress so far.

”

Trevor Higgs

Vice president and Head of Engineering, Airbus in the UK

COMMUNICATIONS AND OPERATIONS REPORT

Communications

2017/18 was a busy year for the ATI's communications and engagement activities. Three significant events enabled the ATI to reach out to more of its stakeholders than ever before. The first was the inaugural ATI Conference which was attended by an array of speakers, guests and delegates. The ATI's biggest ever presence at Farnborough International Airshow in July 2018 was particularly successful in drawing interest from across the UK's aerospace landscape – from government to SMEs. Thirdly, a consortium-building event was held at Cranfield University to signpost relevant funding and support for SMEs and provided opportunities for B2B meetings. To encourage idea generation and networking, two D3 (Discover, Discuss, Disrupt) events were held at the ATI's London office on the key topics of blockchain and electrification.

During this year, the ATI published more in its series of INSIGHT papers which delve deeper into specialist areas of aerospace technology and policy such as graphene, additive manufacturing and the economic impact of aerospace. Six INSIGHTs were published during the year and they were some of the most popular hits on the website. In the digital realm the ATI's website was refreshed and social media activity increased with the latest case study videos from the ATI project portfolio.

Finance

The ATI is a not-for-profit organisation funded by a grant from BEIS and from industry via industrial contributions. The running costs of the ATI constitute administrative expenses such as for staff and rent; and costs associated with developing and promoting the technology strategy and setting in train associated R&D activities. Expenditure in the financial year ending 30 September 2018 totalled £5.4m. This represented a saving of around 8 per cent on budgeted expenditure, continuing a trend of prudent outlay since the ATI commenced operations in 2014.

Personnel

The ATI has around 30 staff embracing a range of skills, including technology and engineering, strategy, market analysis, economics, finance, HR, and communications. The average age of staff is around 40, with the gender balance in 2017/18 at around two-thirds male and one third female. The ATI is proud to be one of the first signatories of the Women in Aviation & Aerospace Charter, which was launched at the 2018 Farnborough International Airshow. This conscious commitment to gender diversity and inclusion at all levels in the aerospace and aviation industry will help to create a more robust, informed sector which has opportunities for everyone.

A major initiative in 2017/18 introduced the processes required by the EU General Data Protection Regulation (GDPR).

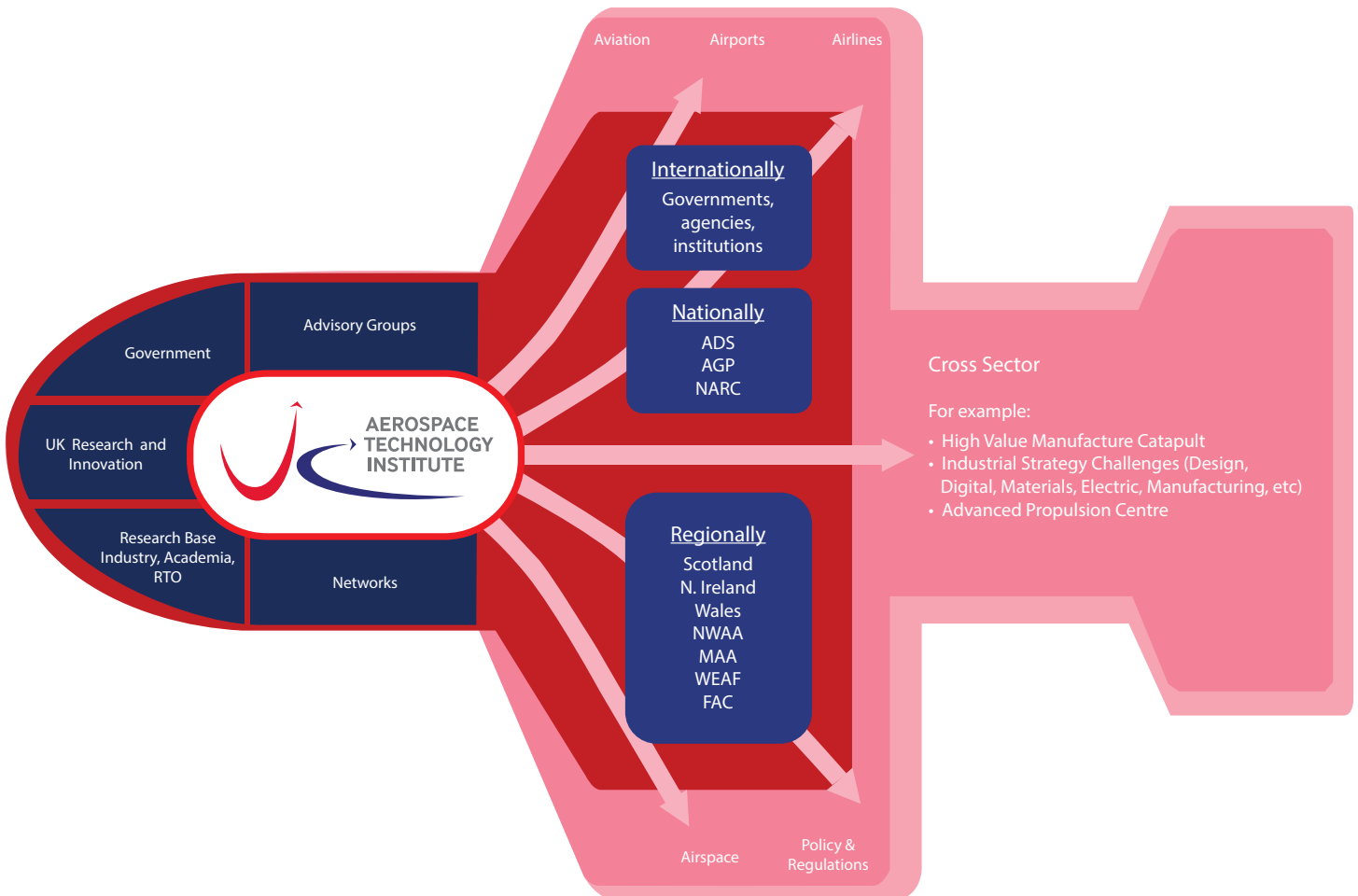


ATI - RESOURCES



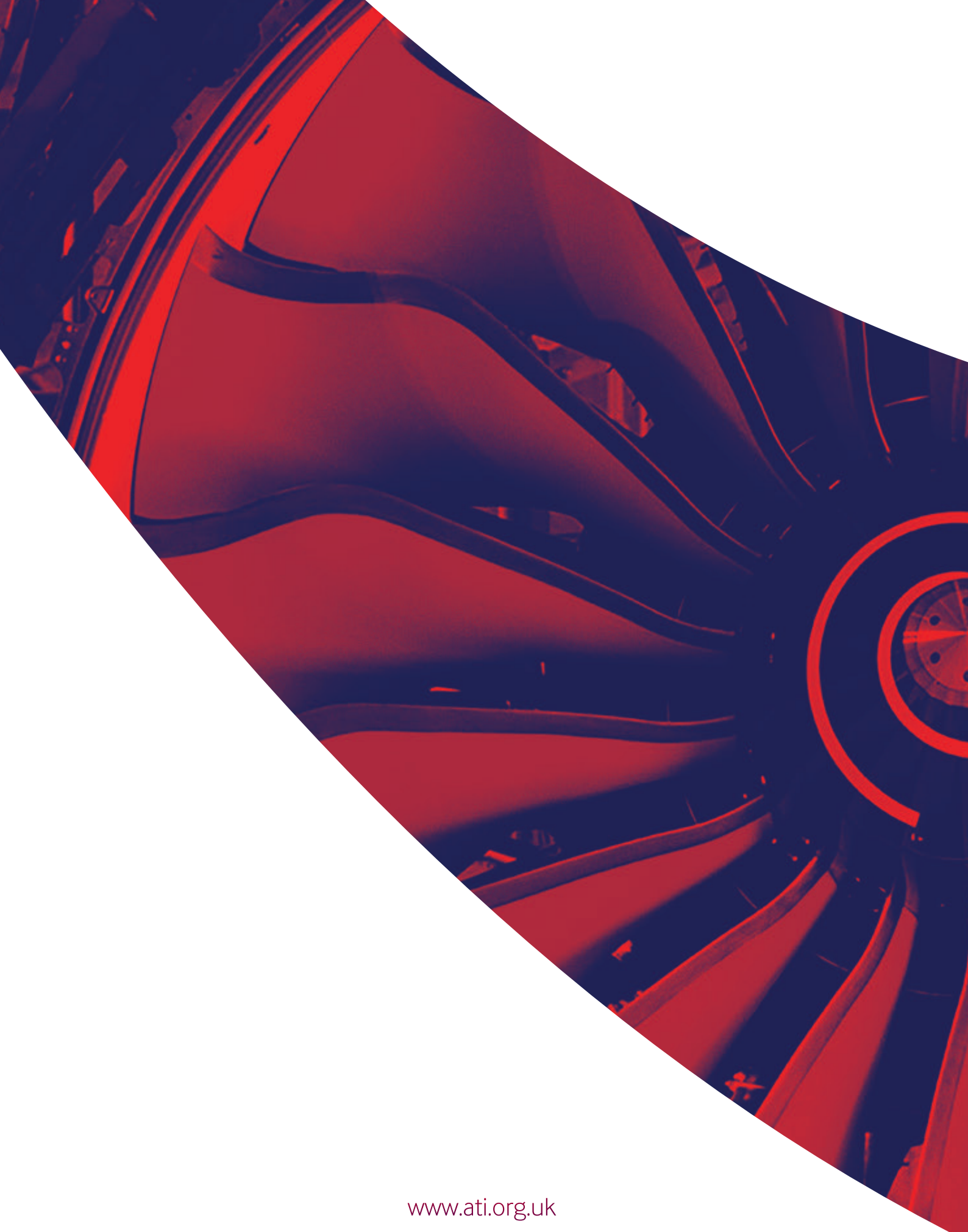
You can find all of our current and upcoming publications at www.ati.org.uk/resources/publications

WORKING IN A MULTI-STAKEHOLDER ENVIRONMENT



GLOSSARY

ACARE	Advisory Committee on Aviation Research and Innovation in Europe
ACCEL	ATI-supported project: aiming to accelerate the adoption of electrical technology in aviation through the design, build and flight test of a high-performance electric powertrain
AIRLIFT	ATI-supported project: Additive Industrialisation Future Technology
AM	Additive manufacturing
ARCADE	ATI-supported project: Aerodynamic Research Testing Capability and Data Enhancement
ASD	AeroSpace and Defence Industries Association of Europe
BEIS	Department for Business, Energy & Industrial Strategy
CAA	Civil Aviation Authority
CR&D	Collaborative Research & Development
DAM	ATI-supported project: Developing Design for Additive Manufacturing
DfT	Department for Transport
DIT	Department for International Trade
DRAMA	ATI Project: Digital Reconfigurable Additive Manufacturing facilities for Aerospace
EPSRC	Engineering and Physical Sciences Research Council
ETW	European Transonic Wind Tunnel
EUREKA	A global network for R&D and innovation collaboration
GARTEUR	Group for Aeronautical Research and Technology in Europe
GDPR	General Data Protection Regulation
Innovair	Sweden's national strategic innovation programme for aerospace
ISCF	Industrial Strategy Challenge Fund
IUK	Innovate UK
MEGCAP	ATI-supported project: More Electric Generation & Controls for Aircraft Power
NATEP	National Aerospace Technology Exploitation Programme
OAAM	ATI-supported project: Open Architecture Additive Manufacturing
OSNEY	ATI-supported project: Osney Thermofluids Lab, University of Oxford
PHOENIX	ATI-supported project: an unmanned air system focused on efficient propulsion and increased endurance
R&D	Research and Development
SANTANA	ATI-supported project: System Advances in Nacelle Technology Aerodynamics
SAVANA	ATI-supported project: Satcom and VHF Architectures for Nextgen Avionics
SECT-AIR	ATI-supported project: Software Engineering Costs and Timescales – Aerospace Initiative for Reduction
SME	Small or Medium-sized Enterprise
SMPP	ATI-supported project: Scalable Multi-Platform Power
STEM	Science, Technology, Engineering & Maths
UHBR	Ultra-High-Bypass ratio
UKRI	UK Research and Innovation



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