

The logo features a large, light blue, curved swoosh that starts on the left and ends on the right, pointing upwards. The text is centered within this swoosh. The words "UK AEROSPACE", "RESEARCH", and "CONSORTIUM" are stacked vertically in a bold, dark blue, sans-serif font. A purple arrowhead is positioned at the end of the swoosh, pointing towards the right.

**UK AEROSPACE  
RESEARCH  
CONSORTIUM**

Six Universities to  
start, now eleven



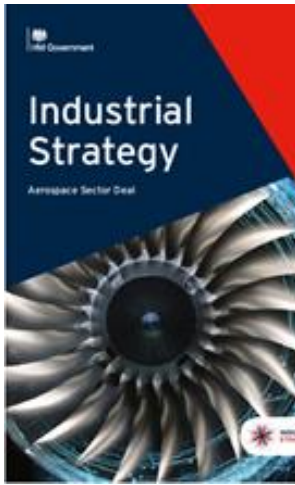
Launch announcement - Farnborough 2018

# Organisation - Workstreams

## Building on ATI Sector Pillars



- Future Propulsion
- Aircraft of the Future
- Smart, Connected and Electric Aircraft
- Aero Structures of the Future
- National Ground and Airborne Test and Research
- High Value Design



### UK Aerospace Research Consortium

▶ UK Aerospace Research Consortium will work in partnership with industry, the Aerospace Technology Institute, research councils and the government to seek to create a UK-wide infrastructure of accessible, integrated and world-class university strategic facilities that align with industry's priorities.

#### People

##### Women in Aviation and Aerospace Charter

Key activities include:

- ▶ Committing to the progression of women in to senior roles.
- ▶ Having one member of the Senior Executive responsible for gender diversity and inclusion.
- ▶ Setting internal targets (where appropriate) for gender diversity in senior management.
- ▶ Publishing progress against targets annually.
- ▶ Industry commits to publicly reporting on the implementation of the Charter.

Technology Institute R&D support is offered for 'open calls'.

- ▶ £13.7m funding from the wider Aerospace R&T programme for further rounds of the National Aerospace Technology Establishment Programme to bring customer companies help SMEs develop technology and bring them to market.

##### UK Aerospace Research Consortium

- ▶ The government welcomes the establishment of this Consortium which will bring a more collaborative approach to university research in the UK and better align R&D activities with industry needs.

##### Cyber and digital security

- ▶ The government welcomes the ongoing activity of the aerospace sector has around cyber security and digital connectivity encourages the sector to progress this work further.

## UK Aerospace Research Consortium

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# Our Mission

“Advancing UK Aerospace Research through University Collaboration”

Embracing the full spectrum of the Sector



**Airplane**



**Airline**



**Airport**



**Airspace**

# Guiding Principles

1. **Actively promote the research base** and engage with the global aerospace industry to maximise use and impact of the UK's research capability, enabling collaborative research and inward investment.



Centralised  
Research  
Coordination

2. **Expand the skills base** for future aerospace technology that aligns with priority needs through integrated graduate and postgraduate learning provisions. Enable students to develop world-class expertise within the UK so that they may provide industry and academia with the next generation of technical capability



Integrated  
National Skills



3. **Work in partnership on facilities** with industry, research councils and government seek to create a UK-wide infrastructure of accessible, integrated and world-class university strategic facilities (National Aerospace Laboratories) that align with industry priority needs.



World Class  
Research  
Facilities

4. Provide a national and international single point of contact for equivalent national bodies aerospace bodies operating in close proximity to the ATI, EPSRC, leading UK and industry consortia.



Centralised  
Research  
Coordination

# Origins

- EPSRC funded 2017/18 aviation electrification studies
- Collaborative Funding Bids (propulsion themed)
  - UK Research Infrastructure Partnership
  - Collaborative Doctoral Training
- Recognition that, together, aerospace heavyweight universities could be greater than the sum of the parts
- Initial focus on electrification but rapidly expanding out
- Not an exclusive club but an inclusive partnership

## What has been happening since?



Always behave like a duck. Keep calm and unruffled on the surface, but paddle like hell underwater.



**Imperial College  
London**



# UK AEROSPACE RESEARCH CONSORTIUM

[www.ukarc.ac.uk](http://www.ukarc.ac.uk)

The screenshot displays two pages from the UK Aerospace Research Consortium website. The top page is the 'ABOUT UKARC' page, which features the UK Aerospace Research Consortium logo, a navigation menu (HOME, ABOUT, OUR MEMBERS, NEWS, CONTACT), and a main heading 'The UK Aerospace Research Consortium'. Below the heading, there is a paragraph describing the consortium's launch in July 2018 and its purpose, followed by a list of the founding 10 leading aerospace universities. A circular image of an aircraft is also visible. The bottom page is the 'OUR MEMBERS' page, which features the same logo and navigation menu, a main heading 'Advancing UK Aerospace Research through University Collaboration', a 'Find out more' button, and a large image of a wireframe aircraft. Below this, the heading 'The consortium partners' is followed by a list of the 10 founding universities.

**ABOUT UKARC**

**The UK Aerospace Research Consortium**

The UK Aerospace Research Consortium was launched in July 2018 at Farnborough International Airshow to provide the global aerospace community with a centralised point of engagement to the UK's top university aerospace research capabilities.

The founding 10 leading aerospace universities are: University of Bristol; University of Cambridge;

**OUR MEMBERS**

**Advancing UK Aerospace Research through University Collaboration**

[Find out more](#)

**The consortium partners**

The founding 10 leading aerospace universities are University of Bristol; University of Cambridge; Cranfield University; Imperial College of Science, Technology and Medicine; University of Manchester; University of Nottingham; Queen's University Belfast; University of Sheffield; University of Southampton and the University of Strathclyde.





Consortium Agreement  
Governance Structures

Dated \_\_\_\_\_ 2012

## *UK Aerospace Research Consortium*

### Collaboration Agreement

Coventry University  
University of Bristol  
Cambridge University  
Imperial College of Science, Technology and Medicine  
University of Manchester  
University of Nottingham  
Queen's University, Belfast  
University of Sheffield  
University of Southampton  
University of Strathclyde  
Surrey University



## Consortium Agreement Governance Structures

### **Advisory Board**

Consisting of representatives from industry, government and the regulatory authorities.

Provide guidance to the Governing Board on matters relating to industry needs, regulation development, government initiatives, international sector trends

### **Governing Board**

Enable the Consortium implement its Guiding Principles.

### **Working Group**

To deliver a specific tasks as agreed by the Governing Board within a defined duration

### **Theme Group**

To provide the Consortium with updates of technology, governmental, funding and curriculum activities within each Theme.

To promote the Consortium on a national and international basis within the scope of the Theme





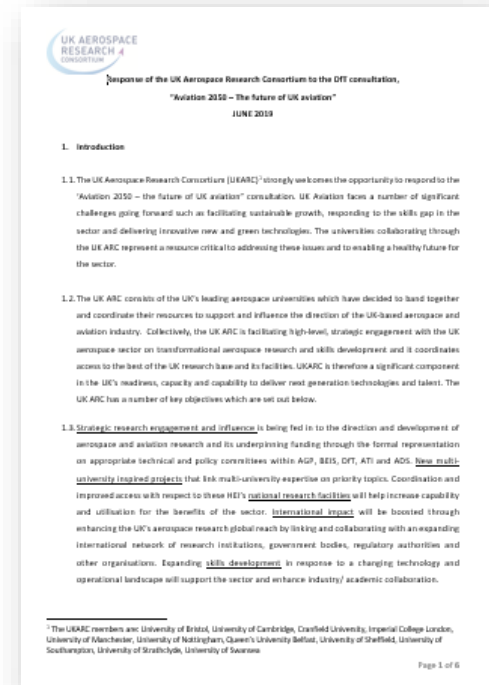
# Working Groups

- WG1 – Aviation 2050 Consultation response
- WG2 – ISCF Future Flight Funding Bid Coordination
- WG3 – UK-ARC Funding
- WG4 - UK-ARC Research Database

# WG1 – Aviation 2050 Consultation

The UK ARC believes that it would be beneficial to government to have an ongoing UK ARC coordinated research dialogue with DfT on the state of the art with respect to research on as many of these topics that are topical or challenging.

We suggest that an aviation research forum, coordinated through the UK ARC, is established with a view to ongoing periodic meetings to ensure that best available research knowledge is incorporated in to development of aviation policy and regulation.





# WG2 – Future Flight Funding Bid Coordination

## INDUSTRIAL STRATEGY CHALLENGE FUND - FUTURE FLIGHT CHALLENGE

### UK AEROSPACE RESEARCH CONSORTIUM POSITION PAPER

INDUSTRIAL STRATEGY CHALLENGE FUND - FUTURE FLIGHT CHALLENGE

UK AEROSPACE RESEARCH CONSORTIUM POSITION PAPER

MARCH 2019

#### 1. Introduction

1.1. The UK Aerospace Research Consortium (UKARC)<sup>1</sup> strongly welcomes the ambition of the Future Flight Challenge and endorses the programme's core focus and objectives. Electrification of aviation responds to strong drivers to reduce emissions, reduce costs and open new markets in urban and regional air transport. This seismic shift towards a new age of aviation represents a significant research, industrial and commercial opportunity for the UK.

1.2. The UK Aerospace Research Consortium brings together leading UK universities, acting collectively to facilitate high-level, strategic engagement with the UK aerospace sector on transformational aerospace research and coordinated access to the best of the UK research base. UKARC is therefore a significant component in the UK's readiness, capacity and capability to deliver the technology for this new age of aviation.

1.3. This position paper sets out the views of the UK Aerospace Research Consortium on the Future Flight Challenge (FFC) and perspectives on the key enabling role UKARC has to make real the FFC ambitions. UKARC can play a key role in delivering the Future Flight Challenge by ensuring coordinated research programmes, provide world class independent test and integration facilities and multi-disciplinary talent development.

1.4. Future Flight will see a multi-million new joint government-industry investment to develop the next generation of electric planes and autonomous aircraft by 2025. Given industry needs, international competition and the technical challenges around the Future Flight agenda, it is imperative to equip the UK with an integrated approach to the development and deployment of technologies and services suitable to deliver this ambition.

<sup>1</sup> The UKARC members are: University of Bristol, University of Cambridge, Cranfield University, Imperial College London, University of Manchester, University of Nottingham, Queen's University Belfast, University of Sheffield, University of Southampton, University of Strathclyde, University of Swansea

- Network Thematic Focus
- Network International Research and Scientific Basis
- Network Aims and Objectives
- Network Benefits
- Network Membership and Management
- Network Outputs
- Network Work Packages

UK Aerospace Research Consortium

EPSRC Network Grant Application

November 2018

**Submission Applicants** (Alphabetical Order)

University of Bristol

Cambridge University

Cranfield University

Imperial College of Science, Technology and Medicine

University of Manchester

University of Nottingham

Queens University, Belfast

University of Sheffield

University of Southampton

University of Strathclyde

University of Swansea



# WG4 - UK-ARC

## Research Database

The development of a UK-ARC research expertise & equipment database for the purposes of; benchmarking against international capability and the identification of national capability gaps.

*Guiding Principle 1. Work in partnership with industry, research councils and government seek to create a UK-wide infrastructure of accessible, integrated and world-class university strategic facilities (National Aerospace Laboratories) that align with industry priority needs.*



# Strategy ahead

- Complete consortium agreement and Network application
- Build Future Flight consortia
- Facilities database on UK ARC website
- Support the new Aviation 2050 strategy
- Present and stand presence at ATI conference
- Planning for Farnborough 2020
- Research dialogue with ATI, UKRI and government



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