

Innovate UK

Technology Strategy Board

Competition for funding

Game-changing technologies for aerospace

Highly innovative technology
enablers in aerospace (HITEA) 3

REGISTER BY

**9 September
2015 noon**

**Collaborative R&D
and Feasibility Studies**



Innovate UK is to invest up to £10 million in collaborative research and development and feasibility studies to accelerate the commercialisation of highly innovative technologies for civil aerospace.

We are looking for projects that offer solutions to key aerospace industry challenges and for opportunities to bring in technologies and capabilities from outside the traditional aerospace sector.

Proposals for both project types must be collaborative and led by a business. We expect collaborative research and development projects to be mainly industrial research. Large business partners will generally attract up to 50% public funding for their eligible project costs for industrial research and feasibility studies, a medium-sized business up to 60% and a small or micro business up to 70%.

We strongly encourage the participation of SMEs and organisations from outside the traditional aerospace sector.

We also strongly encourage universities and research organisations to participate, where their high-end academic knowledge and innovation expertise will bring significant benefit to projects.

We expect collaborative R&D projects to range in size from total costs of £250,000 to £1.5 million. Feasibility studies are expected to have total project costs of up to £100,000.

The competition opens for both types of project application on 29 June 2015. Collaborative R&D projects will follow a two-stage process. The deadline for registration is at noon on 9 September 2015 and the deadline for expressions of interest is at noon on 16 September 2015. For feasibility studies the deadline for registration is at noon on 5 November 2015 and the deadline for applications is at noon on 12 November 2015.

A consortium-building and networking event will be held at The Oval cricket ground in Kennington, London, on 28 April 2015. There will be a webinar briefing event for potential applicants on 15 July 2015.

Background

The UK aerospace industry leads Europe and is number 2 in the world with a 17% market share. Its strengths include the design and manufacture of some of the most complex and high-value components of modern air and rotorcraft. This has created a high-tech and high-skill industry supporting 230,000 jobs in the UK and with exports of around £25 billion per year ('Flying High: One Year on From Lifting Off').

The civil aerospace sector is growing. Global orders for new aircraft are expected to exceed \$5 trillion between now and 2032 including for:

- 29,000 large aircraft with more than 100 seats worth \$4.4 trillion
- 24,000 business jets worth \$648 billion
- 5,900 regional aircraft with fewer than 100 seats worth \$186 billion
- 40,000 helicopters worth \$165 billion

The success of the industry is underpinned by innovative new solutions and technologies that have grown out of the successful collaboration between business and the science base. To maintain a lead in the highly competitive global aerospace market, the UK needs to stay at the forefront of technology development and application. We must therefore support the development of revolutionary and game-changing new technologies.

The emergence of new aircraft manufacturers, increasing sales of derivative products and the development of the unmanned vehicle sector are changing the industry rapidly. Continuous and intensive research, innovation and technology application are needed to meet this demand sustainably, affordably, reliably and in a safe manner.

Game-changing technologies for aerospace

The success of the Aerospace Technology Institute (ATI) has given new momentum and focus to UK aerospace industry research. This competition complements the work of the ATI and is an opportunity to develop new technology solutions that could shape ATI projects of the future.

This is the third competition under our 'Highly innovative technology enablers in aerospace' (HITEA) programme. The programme aims to accelerate the commercialisation of highly innovative technologies by joining up the often complex innovation landscape to give organisations the right help at the right time.

The scope of this competition was developed with key stakeholders to ensure an appropriate focus on the research priorities needed to support future development within the civil aerospace sector. These include the Aerospace Growth Partnership, the ATI and its Technology Advisory Group and the Engineering and Physical Sciences Research Council.

Scope

We are looking to invest in the next generation of aerospace technology solutions that will provide significant breakthroughs. These will be able to support new platforms and/or be able to enhance the competitiveness of existing products or services. Projects should promote global competitive advantage and economic benefit primarily in the UK civil aerospace sector. We are looking for proposals that offer solutions to key aerospace industry challenges, including ones that bring in technologies and capabilities from outside the traditional aerospace sector.

Potential applicants should consider collaborative R&D projects and feasibility studies that directly contribute to an end product and that are aligned with the following key technology themes:

- 1. new manufacturing solutions that enhance cost effectiveness and affordability and/or support increasing rates of production**, for example novel flexible and adaptive manufacturing techniques. This may include elements of material recycling, remanufacture or reuse
- 2. improved competitiveness through novel or advanced materials and associated processing technologies.** This may include structural or multi-

functional composite, metallic, ceramic and hybrid materials for demanding environments

- 3. technologies that enable improvements to overall vehicle performance and efficiency**, for example advanced aerodynamics, highly efficient propulsion/rotor systems, advanced sensing and connectivity, more electric technologies and increased vehicle automation

- 4. reduced cost of vehicle ownership through novel technologies or process solutions**, for example more electric systems, integrated prognostics, maintenance repair overhaul (MRO)

- 5. new modelling and simulation techniques**, including solutions that reduce design time, reduce barriers to certification, offer reduced cost of development and that better link design and manufacture

The examples given above are not exhaustive. Other projects are acceptable provided they align with one of the above top-level themes.

Feasibility studies should focus on more disruptive technologies and design solutions that offer significant benefits and advancements for future platforms in civil aerospace, including the translation of significant technical breakthroughs into defined end products/solutions.

Funding allocation and project details

We have allocated up to £10 million to fund collaborative R&D projects and feasibility studies that address the technical challenges outlined in the scope.

Successful applicants can attract grant funding towards their eligible project costs. The percentage of costs that we pay varies, depending on the type of research being carried out and the type of organisation involved.

For this competition both project types must be business-led and collaborative. We expect collaborative research and development projects to be mainly industrial research.

Large business partners will generally attract up to 50% public funding for their eligible project costs for industrial research and feasibility studies, a medium-sized business up to 60% and a small or micro business up to 70%.

Collaborative R&D projects under themes 1-5 are expected to last up to 36 months, and total eligible project costs are expected to be between £250,000 and £1.5 million. Feasibility studies into disruptive technologies are expected to last up to 18 months and have total eligible project costs of up to £100,000.

We are specifically encouraging companies outside the aerospace sector that can bring technical knowledge and expertise to a consortium and work with the industry on applications that are targeted primarily at civil aerospace.

Applications are assessed on individual merit by an independent panel of experts. We may apply a portfolio approach across the themes identified in the scope and between collaborative R&D and feasibility studies.

To find out if your business fits the EU definition of an SME, see:

http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index_en.htm

Application process

Collaborative R&D

This is a two-stage competition that opens for applicants on **29 June 2015**.

Stage 1 - applicants submit an expression of interest which is assessed.

Stage 2 - we invite selected applicants to submit an application.

Each partner in a project can receive funding towards their project costs – the funding is a percentage of the total eligible project costs and varies, depending on the size and type of organisation and the type of research.

For general guidance see:
interact.innovateuk.org/funding-rules
or watch our video
[youtube.com/watch?v=cExDpxTL8JY](https://www.youtube.com/watch?v=cExDpxTL8JY)

Looking for partners to work on your project?
Go to **connect.innovateuk.org**

Game-changing technologies for aerospace

The deadline for registration is at noon on **9 September 2015** and the deadline for expressions of interest is at noon on **16 September 2015**. The second stage deadline for invited applications is at noon on **12 November 2015**.

Feasibility Studies

The competition for feasibility studies opens on **29 June 2015**. The deadline for registration is noon on **5 November 2015**. The deadline for applications is noon on **12 November 2015**.

A consortium-building and networking event will be held at The Oval cricket ground, Kennington, London, on **28 April 2015**. This event will highlight the main features of the competition, and provide opportunities to pitch technology ideas, display technology and network with experts from the aerospace industry and other related sectors. Applicants are strongly recommended to attend this event. You can register for the event at connect.innovateuk.org/events and keep up to date with the latest news via the aerospace group on [_connect](https://connect.innovateuk.org/group/aerospace/) (<https://connect.innovateuk.org/group/aerospace/>).

Key dates

Collaborative R&D

Networking event	28 April 2015
Competition opens	29 June 2015
Competition briefing	15 July 2015
Registration deadline	noon 9 September 2015
Expressions of interest (EOI) deadline	noon 16 September 2015
Stage 2 opens for invited applicants	12 October 2015
Deadline for invited applications	noon 12 November 2015

Feasibility Studies

Networking event	28 April 2015
Competition opens	29 June 2015
Competition briefing	15 July 2015
Registration deadline	noon 5 November 2015
Deadline for invited applications	noon 12 November 2015

There will also be a webinar briefing for potential applicants on **15 July 2015**.

NB: All deadlines are at noon

More information

For more information and all the documents you need to read before you apply, including the *Guidance for Applicants*, go to the web page for this competition by using the search function at interact.innovateuk.org/. You can also watch a video about our applications process (<https://www.youtube.com/watch?v=S-rnSpMiPc>)

To apply you must first register with us through the competition page on the website. Registration opens when the competition opens and closes a week before the deadline for expressions of interest.

Competition helpline: 0300 321 4357

Email: support@innovateuk.gov.uk

Help for SMEs to grow faster

Small businesses that combine the funding they receive from us with additional business support are more likely to grow faster. If you are an SME and receive funding through this competition, you will automatically gain access to a growth workshop, an online diagnostic and a growth expert to help you develop a growth plan. This may include coaching, mentoring, entrepreneurial skills training.

Publicity

As part of the application process all applicants are asked to submit a public description of the project. This should adequately describe the project but not disclose any information that may impact on intellectual property, is confidential or commercially sensitive. The titles of successful projects, names of organisations, amounts awarded and the public description will be published once the decision to offer an award has been communicated to applicants by email. Information about unsuccessful project applications will remain confidential and will not be made public. E-mail pressoffice@innovateuk.gov.uk with any queries.



Innovate UK is the new name for the Technology Strategy Board – the UK's innovation agency. We know that taking a new idea to market is a challenge. We fund, support and connect innovative businesses through a unique mix of people and programmes to accelerate sustainable economic growth.

The Technology Strategy Board is an executive non-departmental public body sponsored by the Department for Business, Innovation and Skills, and is incorporated by Royal Charter in England and Wales with company number RC000818. Registered office: North Star House, North Star Avenue, Swindon SN2 1UE.

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