



HM Government



FUTURE AVIATION SECURITY SOLUTIONS



INFORMATION PACK

A joint initiative between
the Department for Transport (DfT) and the Home Office



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Introduction

The **Future Aviation Security Solutions (FASS)** programme was established in 2016 to drive innovation in aviation security that would match the evolution of potential threats and support industry and academia in delivering security solutions to end users. It is a joint initiative between the Department for Transport (DfT) and the Home Office with a budget of £25.5 million until 2021.

Passengers and their belongings, staff, cargo and in-flight supplies are all screened prior to going airside or boarding an aircraft to ensure that threats and prohibited articles are not taken on board. This could involve physical screening methods, use of detection equipment and trained personnel.

Although the UK has one of the most robust aviation security regimes in the world, we are seeking innovative ideas to improve aviation security of the future. Novel solutions to detect and prevent threats and prohibited articles from being taken onboard an aircraft are welcomed in this call for FASS Industrial PhD Partnerships (IPPs). Items of interest could include:

- Threats such as explosives, chemical, biological and radiological (including component parts and materials).
- Prohibited articles such as flammable items and solids, gases and pressure containers or weapons such as firearms (including components) or knives.
- Anything else that could pose a risk to aviation security.

Proposals for FASS IPPs related to all areas of aviation security are invited to apply. We encourage applications from all disciplines including behavioural science, physics, chemistry, and mathematics, however this list is non-exhaustive. For example, your idea could be but not limited to:

- **Physical detection of threats** – for example, how could items be screened using a completely innovative methodology? Could you develop novel tools to help solution developers create new technologies, by generating new explosive stimulants or quantifiable levels of vapour?
- **Analysis of aviation data to facilitate screening staff** – for example, how could large amounts of complex data be analysed within short timeframes? Could you develop a greater understanding of the opportunities and limitations of machine learning? How could equipment in the future be automated and networked?
- **Development of screening staff** – for example, what is the best means to train operators to recognise areas that require further investigation when using new equipment? How could screening staff be empowered to flag items that could contain threats or prohibited articles?
- **Holistic means of aviation security** – for example, could you determine how operators and screening technologies can work together to be as effective as possible? Is there a better way to carry out aviation security?

The **Connected Places Catapult (CPC)** will be supporting the selection process of the successful candidates in order to help FASS allocate their £1 million of funding to the successful Industrial PhD Partnerships.

FASS IPPs may be up to four years in length, with projects starting by October 2020 and completing by 31st October 2024. The studentships must be in partnership with an industry supplier including commercial airports. Industry suppliers will need to provide a financial contribution to the PhD and/or an investment in kind by supply of capital equipment/technology to enable the project to proceed.

Eligibility

Applications must have one lead academic partner and one lead industry partner. There can be additional academic or industrial partners contributing to the project if required. Each additional partner will require their own letter of support which includes a summary of their activity within the studentship.

Organisations eligible for funding from any Research Council are eligible to be an academic partner as long as they have the ability to award and support a PhD student. Academic institutions cannot act be an industry partner.

The lead industrial partner must have a presence in the UK and be able to contribute to the PhD something which the academic partner would not be able to fulfil without the industry partner to promote true collaboration.

Industrial partners can be of any size (e.g. micro, SME, Prime etc) but they must be able to support a PhD student for the duration of the four year project. For this call airports are welcome to apply as industry partners.

Multiple applications from university or industry partners will be considered but applicants should be aware that a portfolio approach will be taken in the selection of successful projects which will include a diverse range of project types and project partners.

If you are unsure if your organisation is eligible, please contact us at fassipp@cp.catapult.org.uk

Considerations Before Applying

As a part of the application process you should consider the following aspects before applying:

- There must be a University and an Industry Partner involved in the proposed research.
- A collaboration agreement must be signed between the academic and industry partner before the student starts the PhD. If you haven't found a university or industry partner, please attend one of our brokerage events. If you can't make any of the brokerage events, please contact us and we will try to assist you.
- The University must be able to sign the Grant Award Agreement issued by DfT as this is non-negotiable.
- The University will be responsible for recruiting a student who will be able to fulfill the project brief.
- There must be staff support available from both the university and industry partner with complimentary backgrounds to support the PhD project.
- The project proposal meets the objectives of FASS and CPC by revolutionising the future of aviation security while also developing future talent in the area of aviation security and promotes seamless aviation travel and transport of goods.
- The studentship must be delivered within the four-year timeframe starting in October 2020. This time frame can be extended under certain circumstances with prior agreement from FASS/DfT.

Timescales for Application

Date	Activity
2nd September 2019	Call Opens
12th September 2019	Leeds Brokerage Event
19th September 2019	Birmingham Brokerage Event
1st October 2019	Her Majesty's Government Day Information Event
31st October 2019	Expression of Interest Form Submission Deadline
8th January 2020	Application Form Submission Deadline
February 2020	Announcement of Successful Applications

Key Criteria

The primary aim of FASS is to provide high quality research within the remit of aviation security and creating frictionless movement of people and goods whilst also developing the UK's skills base in aviation security.

Successful studenthip applications will consider the following about:

Project information

- Will the project be undertaking novel, innovative research focused on aviation security?
- Does the project have the potential to have an impact on the future of aviation security?
- Does the application demonstrate a robust partnership between university and industry partners?
- Is the project feasible in the four-year time frame?
- Can you agree to the Grant Award Conditions set by FASS?

Academic and Industry Facilities

- How effectively do the university and industry facilities support the proposed project?
- How does the proposed project meet the needs of the university and industry partners?
- What are the broader opportunities to be made available to the student, e.g. generic techniques and transferable skills training?
- What opportunities are there for gaining experience in both academic and industry environments?

Collaboration

- Could the project be done without the collaboration? Due to the truly collaborative and integrated nature of FASS IPP, the studenthip cannot be considered a true partnership if, upon removal of input from the non-academic partner, the project could continue.
- What time will the student spend with the industry partner and what value will this add to the project?
- What are the opportunities to be made available by the company to the student for business-related training?

Management and Supervision

- Are there clear day-to-day arrangements in place for supervision of the student at both the academic and non-academic partner?
- Do the project supervisors have the specialist capabilities necessary to supervise the student's advanced research and generic skills training? In the case of new supervisors, have appropriate provisions been made, for e.g. with co-supervision?
- Has a secondary academic supervisor been identified?

Funding and Financial Contributions

FASS IPPs hope to bring applications from all UK universities and businesses no matter the size of the applying organisations. The academic and industry partner will need to provide a financial contribution to the PhD and/or a contribution in kind to enable the project to proceed. Please ensure you provide a detailed breakdown of the funding proposal in your submission including details of any funding contributions from industry.

Applications are expected to include a fully costed proposal inclusive of VAT for the PhD partnership which includes course fees, stipend, travel costs, attendance at events and any other costs associated with the PhD. Applicants should also be prepared to justify these costs.

There is further guidance available in the Grant Terms and Conditions for a more extensive list of eligible and ineligible expenditure that the academic partner will be expected to manage.

FASS expect that each student will be available to present at least once during the studentship about their project at a FASS nominated event.

In addition to this FASS and CPC will deliver an annual cohort event for all successful PhD students and project partners. This will provide the opportunity for the students to share experiences and discuss their project progress.

Appointing a Student

Successful academic partners will be required to advertise and appoint a student to fulfil the studentship. When appointing the student, the following guidance must be adhered to:

- The student must be eligible for home student finance funding.
- The student must not be allocated more than 6 hours per week of teaching related activity including teaching or activity associated with teaching throughout the project.
- Successful universities will be required to submit the universities Equality and Diversity Policy or equivalent before appointing a PhD Student.
- The PhD must start by October 2020

How to Apply

FASS and CPC will be hosting two brokerage events in which to explain more about the call and the terms and conditions when applying.

The Brokerage Events will be hosted at:

Nexus Building, Leeds, 12:30pm to 16:00pm 12th September 2019

The International Convention Centre, Birmingham, 10:30am to 14:00pm to 19th September 2019

There will be an additional event in London on 1st October 2019 which will provide information about the call without the brokerage activity.

All documentation about the call can be found on the **Connected Places Catapult's website**.

It is recommended that an expression of interest form be submitted to the team by 31st to allow for personalised feedback on your initial application proposal.

EOI Form can be found here and should be submitted to **fassipp@cp.catapult.org.uk**

Final applications must be submitted to **fassipp@cp.catapult.org.uk** by Wednesday 8th January at 23:59pm. Applications will be expected to include the following documents:

- An application form
- A CV of the academic supervising the PhD student
- A letter of support from the academic partners head of department or equivalent.
- A letter of support from the industry partners head of department or equivalent.
- Any additional letters of support from project partners stipulating their role in the project and signed by a suitably senior person.
- Evidence of the Equality and Diversity Policy when recruiting students

Successful applications will be notified by Wednesday 12th February.

FASS will fund proposals at their discretion via a portfolio approach. To qualify to be considered for funding, proposals must meet the threshold of 500 points out of 1000. A further portfolio approach will be taken to ensure a diverse range of proposals are funded. Therefore, even if the minimum number of points is met, this does not guarantee the award of grant funding.

Contact Us

If there are any questions about the studentships or the application process please contact **fassipp@cp.catapult.org.uk**

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