



In Orbit Demonstration

Request for Information

UK Spaceflight Programme

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Executive Summary

The National Space Strategy¹, published on 1 February 2022, sets out a 10 Point Plan to achieve UK's goals in space, the first of which is to capture the European market in commercial small satellite launch.

The UK's launch programme will deliver the first small satellite launch from Europe in 2022 and the UK aims to become the leading provider of commercial small satellite launch in Europe by 2030.

Since its inception in 2018, the UK Spaceflight Programme has been establishing and supporting the growth of a commercial UK small satellite launch industry through partnerships with launch service providers, spaceports, and wider supply chains.

Achieving the UK's ambition for launch is a joint effort between Government and industry, with any future government intervention responding to the best evidence available.

To aid in gathering this evidence the UKSA is launching three Requests for Information (RFI):

1. The **Launch Service Providers (LSPs)** RFI is directed at LSPs that have ambitions to launch from the UK. The aim of this RFI is to understand both the LSPs plans and capability.
2. The **Small Satellite Missions** RFI is directed at companies running or planning small satellite missions that are to be launched between 2022-2027. We are specifically interested in missions that are currently seeking launch opportunities and whose missions are compatible with launch from UK spaceports.
3. The **In-Orbit Demonstration** RFI is directed at any organisation developing or planning to develop payloads or technologies seeking flight opportunities as hosted payloads or on IODs. The aim of this RFI is to understand the UK landscape of new technologies that are seeking demonstration flight opportunities in the next 5 years.

This RFI (**In-Orbit Demonstration**) will help guide UKSA's approach to in-space technology development and aid our understanding of the UK landscape of new space technologies that are seeking flight opportunities in the next 5 years. We therefore welcome your responses and look forward to your valuable insights.

I am grateful in advance for the time and effort taken in replying to this request for information.

Yours sincerely,

Matthew Archer
Director of Commercial Spaceflight
UK Space Agency

¹ National Space Strategy (UK) (1 February 2022) accessible online here:
<https://www.gov.uk/government/publications/national-space-strategy/national-space-strategy>

How the information you provide will be used and treated

- Responses received together with wider available information will be used to guide UKSA's considerations in relation to supporting the growth of the UK small satellite launch market.
- Information that you provide, not already in the public domain, will be treated as commercially sensitive information. This means that access to this information will be stored in a protected digital folder restricted to UKSA staff involved with the purpose of this RFI.
- The RFI participation process, including how to send your response appears in the section directly after the questionnaire below. Please do not hesitate to get in touch with UKSA via the following email if you would like us to take additional steps to receive or store your response:
spaceflight@ukspaceagency.gov.uk
- All personal data will be protected according to UK General Data Protection Regulations (GDPR) rules.
- All responses collected will be deleted by 31 December 2028 when we expect all initial activities regarding the purpose would have expired. The information gathered will not be used beyond the stated purpose without explicit permission.

RFI Terms

- This RFI is intended to be a request for information only. No contractual obligation is expected to arise from this RFI process.
- This RFI does not commit the UK Space Agency to pay any cost incurred in the preparation or submission of any response to the RFI.
- Responding (or failing to respond) to this RFI will not prejudice you from participating in any future calls for information or to tender proposals.

Definition of Terms

Small Satellite (Small Sat)	Satellite, which includes a payload and a platform, in the 0.1kg-400kg mass range
In-Orbit-Demonstrator (IOD)	A technology demonstration Small Satellite allowing technologies to be tested in orbit.
Space Tug	A propulsive Small Satellite for secondary Small Satellite deployment.
Payload	Part of the satellite that allows it to deliver mission objectives for which it is designed (e.g., science & technology, observation, communication, navigation).
Platform	The structural part of the satellite plus the essential (not bespoke/scientific) subsystems (propulsion, power, thermal, attitude control, communications etc), allowing the payload/instrument(s) to perform its mission (but not strictly part of the payload/scientific instruments).

Questionnaire

In each section, please feel free to include as much relevant information as you like.

Please provide answers including indications of where answers are actual or anticipated or where the information requested is currently unknown (for example subject to ongoing development).

If useful, you may also respond to questions by providing a link to publicly available information or by attaching and referencing a relevant document that contains the information sought.

1	Technology Description	
	Name of organisation	
	Technology provider country/ies	
	Name of the technology	
	Objective of the technology	
	Scope of the technology (e.g., Earth observation, Navigation, Telecommunications, Weather, Quantum, etc)	
	Type of technology (e.g., instrument, equipment, technologies, system experiment, mission concepts, complete systems)	
	What can you achieve through this orbital test that you can't achieve through any other means?	
	Previous space application/heritage of the proposed technology	
	What is your anticipated technology and commercial opportunity to be realised through this test?	
	Please describe if there are synergies with UK government policy goals if known (e.g., tackling climate change, sustainability in space, space science and innovation, improving public services)	

2	Delivery	
	Provide the envisaged delivery timeline for the technology (quarter / year)	
	Provide the technology's current Technology Readiness Level and justification of its Technology Readiness Level (using the definitions in <i>ECSS-E-HB-11A TRL² Assessment Handbook</i>), how this was achieved and verified.	
	Provide the development plan for achieving a Technology Readiness Level of 7 to 8. This will include a schedule with key project milestones,	

² <https://ecss.nl/home/ecss-e-hb-11a-technology-readiness-level-trl-guidelines-1-march-2017/>

	starting at the Mission Definition Review (if relevant) leading to the Flight Readiness Review. Describe how the technology will be successfully demonstrated in-orbit within the required in-orbit operational period.	
	If your technology generates data, will it be available for use by external entities? Will it be freely available or commercially available? Describe how it will be exploited.	
	How is the technology intended to be flown (hosted payload/ deployed from a space tug/ integrated onto a spacecraft platform)?	
	Has the hosted payload platform, space tug or spacecraft platform been identified to support the launch of the technology? If so, please provide details (e.g., platform or space tug manufacturer, class ² and size).	
	Describe any challenges already overcome and any technical, programmatic, or financial challenges foreseen in successfully developing the technology.	

3	Technical Specification	
	Mass estimate (kg)	
	Dimensions (e.g. 140x180 mm base, 220 mm height)	
	Power budget (average, peak)	
	Data rates and volume	
	Thermal requirements	
	Any other unique requirements if applicable, such as environmental, optical, pointing etc	
	Describe the orbit required or preferred for the technology, the mission duration, and any mission constraints.	

4	Funding & Cost	
	Until which TRL level (as described in ECSS-E-HB-11A TRL Assessment Handbook) is the Technology funded to?	
	Projected ROM cost to achieve TRL 7 or 8 (as described in ECSS-E-HB-11A TRL Assessment Handbook). If possible, provide cost breakdown (i.e., including platform and launch flight opportunities)	

(2)

Class 1	250.1Kg – 400Kg
Class 2	100.1Kg – 250Kg
Class 3	20.1Kg – 100Kg

Class 4	1Kg – 20Kg
Class 5	<1kg

RFI Participation Process

- Please provide answers in each section of the RFI Questionnaire above. This includes indications of where answers provided are actual or anticipated or where the information requested is unknown (for example subject to ongoing development).
- Submissions of the completed questionnaire should be sent as either a Microsoft Word or PDF (Portable Document Format) to: Spaceflight@ukspaceagency.gov.uk with “IOD-RFI” as the subject line.
- Please include all additional information as attachments with a total data size no larger than 25Mb. Please send subsequent responses if necessary due to data size limitations.
- The deadline for responses is close of play, 29/07/2022.
- If you need more time or if you have any questions/queries about the process, please contact Spaceflight@ukspaceagency.gov.uk.
- An email confirmation of receipt from UKSA will be sent within a one-week period to the designated point of contact.

Any other information

Please include any other information deemed relevant to your response.

Privacy Notice

This notice sets out how we will use your personal data, and your rights. It is made under Articles 13 and/or 14 of the UK General Data Protection Regulation (UK GDPR).

YOUR DATA

The data

We will process the following personal data:

Names and contact details of employees involved in preparing and submitting responses to the Request for Information.

Purpose

We are processing your personal data for the purposes of the Request for Information (RFI) described within the accompanying RFI.

Legal basis of processing

The legal basis for processing your personal data is Consent.

Recipients

Your personal data may be shared by us with other Government Departments or public authorities where necessary as part of the RFI exercise. We may share your data if we are required to do so by law, for example by court order or to prevent fraud or other crime.

As your personal data will be stored on our IT infrastructure it will also be shared with our data processors Microsoft and Amazon Web Services.

Retention

All responses collected including personal data will be deleted by 31 December 2028 when we expect all initial activities regarding the purpose would have expired. The information gathered will not be used beyond the stated purpose without explicit permission.

Automated decision making

Your personal data will not be subject to automated decision making.

YOUR RIGHTS

You have the right to request information about how your personal data are processed, and to request a copy of that personal data.

You have the right to request that any inaccuracies in your personal data are rectified without delay.

You have the right to request that any incomplete personal data are completed, including by means of a supplementary statement.

You have the right to request that your personal data are erased if there is no longer a justification for them to be processed.

You have the right in certain circumstances (for example, where accuracy is contested) to request that the processing of your personal data is restricted.

You have the right to object to the processing of your personal data where it is processed for direct marketing purposes.

You have the right to withdraw consent to the processing of your personal data at any time.

You have the right to request a copy of any personal data you have provided, and for this to be provided in a structured, commonly used, and machine-readable format.

INTERNATIONAL TRANSFERS (if applicable)

Your personal data will be processed in the UK.

As your personal data is stored on our IT infrastructure and shared with our data processors Microsoft and Amazon Web Services it may be transferred and stored securely outside the European Economic Area. Where that is the case, it will be subject to equivalent legal protection through the use of Model Contract Clauses.

COMPLAINTS

If you consider that your personal data has been misused or mishandled, you may make a complaint to the Information Commissioner, who is an UK independent regulator. The Information Commissioner can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF
0303 123 1113
casework@ico.org.uk

Any complaint to the Information Commissioner is without prejudice to your right to seek redress through the courts.

CONTACT DETAILS

The data controller for your personal data is the Department for Business, Energy & Industrial Strategy (BEIS). You can contact the BEIS Data Protection Officer at:
BEIS Data Protection Officer
Department for Business, Energy and Industrial Strategy
1 Victoria Street
London
SW1H 0ET
Email: dataprotection@beis.gov.uk

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