

Schedule 2 (Specification)

This Schedule sets out what the Buyer wants.

For all Deliverables, the Supplier must help the Buyer comply with any specific applicable Standards of the Buyer.

Introductions

The UK Government is implementing a wide-ranging package of space regulatory reforms, identified in the Space Regulatory Review (May 2024). This tender is to establish a Rendezvous Proximity Operations (RPO) Sandbox, which is a part of these wider reforms and will help provide operators with greater regulatory certainty and an UK appropriate regulatory framework. The Sandbox will support the UK's ambitions in securing a world-leading position in this emerging technology area to drive growth and enable innovation and ensure that the new and existing technology can be adopted safely.

Policy Context to The Requirement

The UK has a reputation for global leadership in licensing spaceflight operations and was the first country in the world to license Active Debris Removal (ADR) demonstration missions. The UK has stood up an independent regulator for space in the Civil Aviation Authority (CAA) and has a modern and flexible regulatory framework established in the Outer Space Act 1986, Space Industry Act 2018 and Space Industry Regulations 2021.

UK national legislation provides a high-level enabling framework to support the regulation of safe, secure and sustainable missions, governed by orbital operator licences. These licences can enable a range of space missions, from satellites operating in orbit, to operations to remove, refuel and service satellites and activities Beyond Earth Orbit, such as lunar orbiters. However, the Review and feedback from the sector has identified a gap in testing of the UK's regulatory framework to ensure it is flexible and robust for future novel RPO missions.

RPO are missions which involves the ability or operation of two (or more) independent space objects that purposefully manoeuvre to within close "proximity" of each other, via various rendezvous techniques. For example, any servicing activities such as maintenance or refuelling.

Establishing a regulatory sandbox for RPO, led by the CAA, will create an appropriate environment where regulators, Government stakeholders, and industry can define and reduce risks; deepen shared understandings of new technology; make effective use of existing regulation; and identify the need for additional provisions.

The Requirement, expected outputs and recommended approach

Overview

The Supplier will work with the CAA, DSIT, UKSA and other partners to run a Sandbox to evaluate specific regulations or policies to inform the design of appropriate regulatory policy for RPO missions or related activities; support improvement to the regulatory service offered to businesses to help them secure regulatory approval and reach market; and to develop best practices e.g. for compliance. The Sandbox will test novel and innovative mission types

and will use an iterative delivery approach to ensure that mission designs and testing evolves with continuous lessons learned.

It will be difficult to precisely outline a detailed work package at the start of the project, however, the Objectives, Outline Project Plans and expected Outputs are defined below.

Objectives

The Sandbox aims to achieve the following objectives:

#	SMART objective	Provisional metric(s) and targets
1	Identify existing best practice and assess these against the UK regulatory framework. Understand industry requirements for policy clarification and regulatory gaps and barriers, and opportunities. Based on these, inform recommendations for changes to space regulatory policy, regulatory guidance, sector engagement, enforcement models, and best practices	Evidence gathered during the sandbox is used to make recommendations and conclusions for the relevant areas (this may include recommending that regulatory policy stay the same). In the case that the Sandbox does not identify any issues, then a Conclusion report will highlight areas tested and provide detailed analysis justifying this conclusion.
2	Map out the mission profile for RPO missions against the existing and developing licensing framework and identify and implement changes to facilitate the licensing of such missions. Inform compliance and monitoring methods, approaches to RPOs and best practices across a range of activities including manoeuvring assets safely and streamlining licensing approvals. Ensure a pro-innovation approach to licensing, securing resource in the CAA to engage with operators on a range of novel mission types. Explore and implement digital approaches that can support the sandbox approach.	Qualitative feedback from stakeholder interviews after Phase 1: asking for feedback on the licensing process.
		Potential quantification: number of requests for further information from the regulator.
		Number of RPO missions conducted which interface with UK Regulatory framework.
3	Support development of international frameworks (or the refinement of existing frameworks) and ways of working for future novel missions, working towards resolving uncertainty around liability.	At least 1 international framework or additional bilateral agreement following the sandbox that builds on evidence produced in the sandbox
		Potential quantification: Number of follow-on projects with international partners that build on the sandbox
4	Identify key risks arising from such missions from a safety, security sustainability perspective and identify potential de-risking strategies for these.	Qualitative evidence from stakeholder interviews: did the Sandbox findings/recommendations contribute to increased certainty for insurers?
5	Provide regulatory certainty mission type risks and mitigation strategies in the RPO sector to improve confidence of operators/investors and insurers. Provide greater certainty for the insurance sector.	Qualitative evidence from stakeholder interviews: did the Sandbox findings/recommendations contribute to increased confidence by RPO operators and/or investors?

Indicative timeline of activities

The appointment offer will be confirmed by 25th November 2024.

The work will commence by 2nd December 2024.

Due to timing and budgetary pressures, there will be a condensed and ambitious delivery staging plan. There may also be additional ITTs issued to support the work of this ITT, including a separate ITT issued in September 2024 for a Landscape Review to produce a report analysing and comparing UK regulatory framework with others as a baseline for the Sandbox to test against.

This plan runs for 18 months, with key Gateway decision points to ensure the project remains viable, achievable and within budget. However, it should be noted that budget has only been secured for Stage One and work is ongoing internally to secure additional funding for FY 25/26.

Given the novelty of the Sandbox, it is vital that the delivery approach maximises a continuous learning approach to iterate the missions tested. The outline delivery plan, with identified milestones and outputs may change as the project is delivered and lessons are learnt, however, it is proposed that the work be structured as follows:

Project Point	Timing	Milestones	Outputs
Stage One (De-scoped)	Oct24 – Mar25 Circa 5 months	M1a. Targeted Landscape study (Separate ITT issued)	O1a. Outline of existing RPO laws, regulations and policies in force or in development. HMG's interpretation of the UK's international obligations. Assessment of other legislative and regulatory frameworks against the UK's legislative and regulatory framework. O1b. Identification of scope of mission context and early identification of key asks for the policy direction. O1c. Assessing interface between regulatory framework and commercial contracting to identify gaps and opportunities.
		M1b. Targeted Mission concept definition	O1d. Product requirements for full-scope and de-scope O1e. Minimum Viable Product defined
		M1c. Digital Engineering Review	O1f. Plan and assessment of timeline and approach to identify possible early areas for development.
		M1d. Iterative Simulation	O1g. Identification of key bottlenecks, areas of uncertainty and areas that could be de-risked.
		M1e. – Opportunities for improvement	O1h. Recommendations for an optimal RPO licensing regime.

Gateway One	Mar25	M1f. Decision to Progress	O1i. Lessons Learned and recommendations for Stage Two, including scope of products O1j. Assessment of progress against business case for a decision to progress
Stage Two (1 or 2 fuller scoped Missions)	Apr25-Dec25 Circa 9 months	M2a. Confirm Landscape	O2a. Extensive compendium of global existing RPO laws, regulations, and policies in force or in development. HMG's interpretation of the UK's international obligations.
		M2b. Define Mission Concepts	O2b. Two or three complex mission concepts defined (number and types of missions TBC following Stage One), including launch vehicle, location, in-orbit activities, and end-of-life. O2c. Determination of in-scope products
		M2c. Extensive Simulation	O2d. Identification of key bottlenecks and areas of risks and uncertainty
		M2d. Opportunities for Improvement	O2e. Recommendations for an optimal RPO licensing regime.
Gateway Two	Dec25	M2e. Approval of Lessons learned	O2f. Lessons Learned and recommendations for Stage Two, including scope of products O2g. Assessment of progress against business case for a decision to progress
Stage Three	Dec25-Mar26	M3a. Digital Twin	O3a. Verification/validation of outputs from sandbox discussion in a digital simulation – to give regulator confidence in proposed way forward.
		M3b. Ground Testing	O3b. Verification/validation of findings from sandbox in physical ground testing demonstration. Intent for regulator to sign off approach to consider its application to future licences.
Project Close	Mar26	M3c. Project close and lessons captured	O3c. Lessons learned and recommendations captured.

Monitoring & Evaluation

Bidders will be expected to demonstrate an understanding of the Monitoring & Evaluation requirements including providing KPIs to the CAA and DSIT as requested and cooperating with stakeholder interviews to be carried out by DSIT after each stage of the work.

Monitoring

The supplier is expected to cooperate with the collection of monitoring data, providing monitoring information to DSIT and/or the CAA where requested by DSIT or the CAA. The provisional list of KPIs for the project is below for transparency (n.b. this may change as Stage One progresses).

Key Performance Indicator	Frequency of data collection	Who will collect data	Reason for inclusion
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Evidence gathered during the sandbox is used to make recommendations for regulatory policy in these areas (eg. Guidance, compliance, enforcement etc)	During stakeholder interviews as part of evaluation (March 2025 onwards)	DSIT / evaluators	Associated to SMART objective 1
Qualitative feedback from stakeholder interviews after Phase 1: asking for feedback on the licensing process	During stakeholder interviews as part of evaluation (March 2025 onwards to establish baseline, but effects not expected until later)	DSIT / evaluators	Associated to SMART objective 2
Licensing approvals: user feedback suggesting good customer experience	Annually starting March 2026	CAA	Associated to SMART objective 2
Number of requests for further information from the regulator.	Measured annually from 2 years after end of funding period	CAA	Associated to SMART objective 2
Influences or leads to the creation of at least 1 international framework or agreement following the sandbox that builds on evidence produced in the sandbox or implements its recommendations.	Annually starting March 2026	DSIT	Associated to SMART objective 3
Number of follow-on projects with international partners that build on the sandbox	Annually starting March 2025	CAA	Associated to SMART objective 3
Number of RPO missions conducted which interface with UK Regulatory framework.	Annual starting March 2026	CAA	Associated to SMART objective 2
Qualitative evidence from stakeholder interviews: did the Sandbox findings/recommendations contribute to increased certainty for insurers, RPO operators and investors?	During evaluation/lessons learnt exercise from March 2025	Evaluators	Associated to SMART objective 4 and 5

Evaluation

DSIT intends to conduct a light-touch process evaluation for Stage One, starting either at or before 'Gateway One', which will include interviews with key stakeholders in the programme. We expect that this will include project managers and other personnel from the bidder. Therefore a willingness to participate in these interviews is expected. Other reasonable requests may be made to the supplier to share information with DSIT to contribute to this evaluation.

Further monitoring & evaluation plans will be developed depending on the approval of Stages Two and Three of the programme.

Contract management

The project will be overseen by a project team with representatives from DSIT and the supplier. In addition to setting the expectations in the project initiation meeting, the DSIT

representatives will also comment on any draft deliverables of the project, which the contractor will have to take on board.

The supplier will also consult the project team regarding crucial decisions on the project and send a weekly written update to the project team.

Meetings shall either take place virtually, at the supplier's premises or at DSIT's offices at 22 Whitehall, London.

GDPR compliance

Wherever personal data processing, sharing and collection is involved, the Supplier will be required to comply with GDPR requirements. For personal data, all necessary steps should be taken to:

- Ensure that storage and handling of the data is in line with data protection ethics and the law.
- Depersonalise data where necessary e.g. for publication or presentation.

Protection of information & security arrangements:

The supplier is required to implement appropriate arrangements for data security at all times. Such procedures must meet the General Data Protection Regulation and the Data Protection Act 2018. Processes should be in place for data being submitted by clients and audit firms and safeguard against data loss, including appropriate risk management procedures. The Department reserves the right to vary the contract to ensure compliance with DPA 2018.

The work will attempt to avoid the collection of personal data (only where unavoidable). Only anonymised responses and analysis will be provided to the Department.

Quality assurance

The Supplier must undertake appropriate quality assurance of all deliverables and guarantee the accuracy of all outputs to the Department.

The Supplier is required to provide details of the quality assurance. All raw data must be provided to the Department. During the project, the Supplier will also be required to detail what quality assurance processes they have undertaken during the research.

The Department may also conduct its own quality assurance, so will require access to all underlying data sources. The Supplier will work closely with the customer, responding to any additional requests for information that may be required to conduct the quality assurance. The Supplier is responsible for ensuring delivery of error free reports and any other datasets used. If any errors are found in reports up to a year after the contract has ended then the Supplier is responsible to rectify those errors and provide corrected products to the Department, at no cost to the Department.

Publication

The department reserves the right to publish any other relevant documents associated this work.

Period of Contract:

The contract shall have an initial contract end date of 31 March 2025 or until the contractor satisfactorily delivers the requirement. There will be a Gateway point where a decision will be made on extending the contract to 31 March 2026. The Department reserves the right to extend the contract by a further 12 months purely at the discretion of the Department.

Price and Payments:

As part of the response to this procurement, under Question AW5.2 Bidders will be asked to provide their maximum rates that will be applicable for this Contract.

All rates provided within this schedule will be fixed rates for the full potential duration of this Contract (31/03/2026). Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

A breakdown of billable days or hours of work undertaken the previous week must be provided by the supplier promptly each week, along with the relevant invoice, to assist DSIT cost control and payment processes.

DSIT's target is to pay all approved invoices within a maximum period of 10 days.

Payment Milestones

Payment milestones have been set out in the indicative timelines above. Payment of these milestones will be made upon delivery of the specified activities. The timing of this delivery may diverge from the indicative timeline provided. Details of the value of these milestones is set out below:

Milestones	Sub-activities	Delivery Date
Milestone 1	Milestone 1a, 1b, 1c, 1d and 1e	March 2025
Milestone 2	Milestone 2a, 2b, 2c, 2d and 2e	December 2025
Milestone 3	Milestone 3a, 3b and 3c	March 2026

Consortium Bids and Subcontracting

In the case of a consortium tender only one submission covering all of the partners is required but consortia are advised to make clear the proposed role that each partner will play in performing the contract as per the requirements of the specification. We expect the bidder to indicate who in the consortium will be the lead contact for this project, and the organisation and governance associated with the consortia.

If a consortium is not proposing to form a corporate entity, full details of alternative proposed arrangements should be provided.

Should Bidders intend to sub-contract any element of their work, they must provide details as to how they will manage any sub-contractors and the nature of the work that will be subcontracted.