Specification of Requirements for UKSAC25\_0015

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| Background |
| The UK Space Agency is an executive agency of the Department for Science, Innovation & Technology (DSIT) and provides technical advice on the [government’s space strategy](https://www.gov.uk/government/publications/national-space-strategy), supporting the UK space sector to deliver the government’s vision.Space is a part of everyday life. Satellites underpin our national economy, from agriculture and banking to aviation and shipping, and support our national security. Space science provides critical data to understand and address global challenges such as climate change, while missions to explore our solar system unite nations and advance humanity’s horizons.We support a thriving space sector in the UK, which generates an annual income of £16.5 billion and employs 47,000 people across the country.Through our [portfolio of programmes](https://www.gov.uk/guidance/uk-space-programmes-and-missions) and projects, we encourage the development of national space capabilities and are an early-stage investor in space research and development. We also promote the UK space sector’s interests and achievements; make connections to join up industry and academia; and represent the UK in international space programmes.We have a powerful global voice, partnering with institutions across the world, including the European Space Agency.More information about the Agency is available here: <https://www.gov.uk/government/organisations/uk-space-agency>The Office of the Chief Engineer (OCE) acts as the technical function within the UK Space Agency. The OCE acts as a principal advisor for technical insight, assessment and assurance capabilities across the Agency related to the technical and programmatic readiness of UK space activities. These activities are broadly mapped into services including (but not limited to) those described in the table below.This Contract has been designed to support the UK Space Agency to develop effective policy and support the implementation of both small-scale and large-scale programmes of work, by providing a call-off mechanism to acquire independent technical and specialist advice from the supplier as required.**Table 1**

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| **Function** | **Description** |
| Assurance | Technical oversight on UK Space Agency-funded projects |
| Insight | Horizon scanning, insight and advice on new space technologies and development approaches |
| Policy | Technical recommendations on direction for new regulatory approaches & commercial opportunities |
| Standards & Best Practice | Technical leadership at forums (national & international) for industry best practice |
| Research & Development | Feasibility assessment and concept development studies into new technologies and mission concepts |
| Coherence | Ensuring consistency of technical implementation across the UK Space Agency, including technical upskilling through internal training |

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| Aims and Objectives |
| The OCE is aiming to enhance its technical capability by utilising specialist external resources where needed – often with fast-paced demands from across the wider Agency and industry. This requirement shall help meet that demand by giving the OCE a flexible way to procure impartial support from external technical expertise, allowing the OCE to deliver the services described above using expertise not currently sitting within the team, as well as add the ability to react quickly to support requests where OCE do not have the resource bandwidth, as well as bolster OCE technical support to projects quickly where needed.Through this procurement, the OCE’s objectives are to:* Add the ability to procure technical/specialist resources on short notice
* Augment OCE expertise in specialist technical areas not currently covered by OCE members
* Provide deeper technical support to the wider Agency portfolio where required, including long-term project support to ensure heritage in engineering support

Through these objectives, the aim is to ensure impartial technical and specialist advice across the Agency activities and perform crucial studies to understand how the government is best placed to achieve its goals of delivering the National Space Strategy.The support provided through this requirement will be split into two lots. This will help the OCE manage the technical support provided by different organisations and deliver into more specific expertise. Expected work package descriptions for Lot 1 and Lot 2 are outlined in Table 2 and Table 3, respectively.**Table 2: Lot 1 – Work Package Description Activities**

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| Systems Engineering / domain expertise support | Allocation of systems engineer(s) and/or domain-level expertise on a review panel. This will involve review of data pack deliverables, provision of review item discrepancies (RIDs), and participation of review meetings to agree actions to close the review gate where appropriate.Anticipated support duration: 4 weeks, every 6 months (highly variable: project dependent) |
| Review gate organisation and conduct | Allocation of a system engineer to organise, hold, and participate in technical review gates. This may require development of a review terms of reference including elements such as schedule, RID categorisation, and acceptance criteria; collation of RIDs and dissemination to the appropriate teams; and conducting review co-location meetings (in-person/hybrid where appropriate). These review gates may be for any part of the mission lifecycle (system or component level reviews, for example: Requirements Reviews, Design Reviews, Test or Acceptance ReviewsAnticipated support duration: 1-2 weeks, every 6 months (highly variable: project dependent) |
| Oversight board participation | Allocation of a domain expert to provide regular oversight on a project management board (or similar). This would typically be 0.5-1 day meetings every quarter (intensity will vary) with review of activity update documents (e.g. quarterly reports, project activity slides, risk/benefits registers) with the provision of feedback and support on the project direction from a technical and management perspective.Anticipated support duration: 1-3 days, every 3 months |
| Bid application reviews | Allocation of systems engineer(s) and/or domain-level expertise on a bid application review panel. The panellist would contribute towards a balanced, unbiased review of applications to ensure technical quality and feasibility, programmatic success and management of risks for a prospective funded project.Anticipated support duration: 1-2 weeks, programme dependent |
| Support on technical and programmatic feasibility studies | Allocation of systems engineering expertise to support technical and programmatic feasibility studies conducted by the OCE. This may include delivering technical assurance on the study, supporting through requirements management, trade-off studies, additional mission concept analysis, development of systems engineering management plans in support of a pre-phase A study. The contributions may be part of a larger study being conducted by the OCE, and could include studies conducted via Lot 2 of this Requirement.Anticipated support duration dependant on feasibility study c. 4 weeks |

**Table 3: Lot 2 – Work Package Description Activities**

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| Technical and programmatic feasibility studies | Allocation of domain-level experts and/or systems engineering expertise to conduct or participate in technology or mission concept studies. These will typically be pre-phase A feasibility studies to assess concept identification, concept of operations development, mission analysis, technology hurdles and systems engineering plans where relevant. The contributions may be part of a larger study being conducted by the OCE. There is the expectation that access to relevant analysis software is available if required.Anticipated support duration: highly variable – up to 6 months, study request dependent |
| Technology reports | Allocation of a domain expert to provide insight into latest technological trends, new technology developments, technology readiness level assessments and market assessments. The expert will be able to provide horizon scanning documents, technical notes, policy assessment or road mapping documents to the appropriate depth where required.Anticipated support duration: 2-4 weeks |
| Oversight board participation | Allocation of a domain expert to provide regular oversight on a project management board (or similar). This would typically be 0.5-1 day meetings every quarter (intensity will vary) with review of activity update documents (e.g. quarterly reports, project activity slides, risk/benefits registers) with the provision of feedback and support on the project direction from a technical and management perspective.Anticipated support duration: 1-3 days, every 3 months |
| Bid application reviews | Allocation of systems engineer(s) and/or domain-level expertise on a bid application review panel. The panellist would contribute towards a balanced, unbiased review of applications to ensure technical quality and feasibility, programmatic success and management of risks for a prospective funded project.Anticipated support duration: 1-2 weeks, programme dependent |

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| The bidding organisation can make use of consortia where appropriate. For both lots, it is expected that specialised technical competencies in the space domain will be required – this includes competencies in (but not limited to) these areas:* Spacecraft systems engineering
* Launch vehicles
* Spacecraft payloads
* Spacecraft hardware
* Ground segments
* Spacecraft operations
* The space environment
* Assembly, integration, and verification/testing (AIV/T)

**Examples**Examples for each lot are provided to give insight to bidders into the potential work packages that may be requested through this requirement. It is requested that the bidder provides example proposals, including pricing sheets, for these examples.Lot 1:1. The UK Space Agency is conducting a mission-level study on an in-orbit servicing, assembly and manufacturing (ISAM) mission through its Space Sustainability program, up to mission phase C. As part of the mission, the OCE is conducting technical assessment of progress via review gates using ECSS-standard reviews, e.g. Preliminary and Critical Design Reviews (PDR/CDR). As part of the review panel, the bidder is requested to provide systems engineering knowledge and domain expertise to support review of the data packs delivered through these review gates.
2. As part of our Space Science programme, the UK Space Agency is funding development of a bespoke science instrument to perform fundamental science aboard a spacecraft constructed and launched by one of our prominent international partners. As part of our commitment to spending money wisely, the Agency regularly conducts management board meetings with the principal investigator and the instrument team to ensure programme management and technical progress. As part of these management board meetings, the bidder is requested to provide a payload/instrumentation engineer with experience in the aforementioned domain to assess progress, provide support and technical know-how during quarterly review meetings.

Lot 2:1. The UK Space Agency is looking to conduct a study on re-entry dynamics relevant to the Space Surveillance and Tracking capability through our National Space Operations Centre (NSpOC). As part of the study, the OCE has been tasked with understanding how a range of UK-licenced spacecraft would re-enter the atmosphere given specific conditions. The study would make use of highly complex aerothermodynamic models to assess how these spacecraft would re-enter and demise given uncontrolled re-entry. The study outputs would detail probability distributions of fragments or areas of debris footprint where required.
2. The OCE is conducting a pre-phase A mission concept study to help understand feasibility towards one of the Agency's key programmes. This will require collaboration with the OCE lead in engineering activities including: identification of key stakeholder requirements, mission concept development, development of the concept of operations, mission analysis studies as well as associated trade-offs. This may also require programmatic analysis such as rough order of magnitude (ROM) costing to enhance understanding of the mission needs. The bidder will be required to output mission parameters, high-level CAD models of spacecraft designs, and requirements documents.
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| *Requirements* |
| Item # | Work Category | Requirement Guidance | Contract Deliverables | Lead Time | Acceptance Criteria |
| 1 | ? | Lot 1 – Technical AssuranceThe contracted resource will include systems engineers and subject matter experts within fields pertinent to the space sector. This includes topics as described in the Aims and Objectives above.Throughout the lifetime of the WPD, the contracted resource will be embedded with the appropriate OCE workstream and lead, and will provide expertise as per technical assurances activities that are provided by the OCE, which includes (but are not limited to):* Participation in technical milestone reviews
* Participation in review panels for funding applications
* Attendance of regular project review meetings
* Providing ad-hoc technical advice across the project and programme teams
* Contribute where appropriate towards studies ran by the OCE
 | May include (details in Table 2):* Systems Engineering / domain expertise support
* Review gate definition, organisation and conduct
* Oversight board participation
* Bid application reviews
* Provision of ad-hoc advice as an Agency programme’s technical advisor
* Support on technical feasibility research studies where appropriate
 | Requirement would be raised with an initial indicator of acceptance within 3 working days. A detailed proposal inc. costings, hours required, CV of resource allocated from the prime contractor shall be provided within 10 working days of requirement being raised.The OCE will review and confirm proceeding within 5 working days following, and set up a kick off meeting between the Agency contract manager and the supplier.The contracted resource will then be onboarded within 4 weeks of OCE accepting proposal maximum, unless otherwise specified/required, giving no longer than 7 weeks before the resource is onboard. | Acceptance criteria may vary depending on the work package. As an example for assessment of technical deliverables:The supplier will provide review comments to the OCE 1 week before the deadline. These review comments will be signed off and reviewed by the relevant programme team, and may be collated in the form of a RIDs sheet to be delivered to the project team.  |
| 2 | ? | Lot 2 – Research and Development Study SupportThe contracted resource will deliver technical desk-based studies into the OCE portfolio of R&D activities. These would be on specific topics in the space domain and will contribute towards insights used by the wider Agency and helping to inform Agency direction where required.Depending on the study, this activity may be provided remotely with inputs provided by the OCE, or it may require concurrent engineering activities alongside OCE team members to deliver the study outcomes. The requirement may also need access to specialised engineering software to perform the activities. | May include (details in Table 3):* Technical and programmatic feasibility studies
* Technology reports (inc. insights, horizon scanning reports, technical notes)
* Oversight board participation
* Bid application reviews
 | As above. | Acceptance criteria may vary depending on the work package. Unless specified differently:The supplier will send the final deliverable to the Agency for comments and/or review at least 2 weeks before the deliverable is due. The deliverable will be reviewed by the OCE and relevant programme teams. The Agency shall provide feedback within 5 working days and the supplier shall incorporate feedback and resubmit for approval. |

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| Price |
| *Insert any specific information relating to price and how you would like the potential bidder to price the goods/services. A separate attachment ( Price Schedule) will be drafted using the information provided within this section.**Give clear instructions to bidders on how you want them to price, for example “provide a total cost of each deliverable / Work Package broken down into components with a full description of each component and its associated costs”.* ***Explain how you are going to pay the supplier:**** *Payment upon successful delivery and acceptance of Work Packages/Deliverables,*

***Suppliers will be expected to bid for the work on a capped time and materials basis based on the Rate sheet submitted with their application***  *capped time & materials,* * *Capped time and materials: Unlike a time and materials approach, a capped time and materials approach limits the amount you pay for the work. If you reach the limit before the work is completed, the supplier must finish the work at their own expense. If the supplier finishes ahead of schedule, you only pay them for the time it took to complete the work.*
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| Tasking and Contract Management  |
| The OCE view this contract as strategic to UK Space Agency activities and as a result desire a collaborative approach with the supplier(s) awarded lot(s) because of this requirement, and as a result the Agency will be assigning a contract manager to manage the day to day running of the contract(s). Suppliers shall be required to appoint a sole contract manager to manage the relationship between the Agency and the supplier.A regular touchpoint meeting between the Agency and the contract managers will be established to inform the supplier(s) of expected upcoming work packages for the next period as well as a review of the last period to ensure high contract performance. The frequency of this meeting will be set by the contract manager and the supplier, but is anticipated to be every month or bimonthly.As requirements arise, the Agency contract manager will detail each task within a Work Package Description (WPD) form (template available at Annex X). These WPDs will be aligned to a Work Package within the structures specified in Table 1, and will specify the inputs and Outputs/Outcomes required. The process for this is expected to be:* The OCE Lead in collaboration with relevant programme teams will draft a work package description (WPD), which clarifies the inputs to the work, expected outputs/outcomes, and the indicative timeframe for delivery and any specific information we require from the supplier.
* The WPD will be sent to Agency contract manager to approve at which point the WPD will be sent to the supplier in the appropriate Lot by the Agency contract manager
* The supplier shall respond with an indication of interest to support the WPD within 3 working days, and then provide a fully costed proposal within 10 working days. This should include a full breakdown of costs to complete each request, and the CVs of the delegated engineer(s) or subject matter expert(s) highlighting their technical relevancy to the WPD.
* The OCE will review the proposal and confirm whether or not to proceed. If the decision is made to proceed with the proposal, a kick off meeting will be planned between the Agency contract manager and the supplier, where detailed task inputs and onboarding will be discussed.
* Supplier contract manager shall arrange a kick-off meeting to discuss the Work Package with the Agency
* The contracted resource will be onboarded and provided task inputs as required within the required timeframe.

Once the resource is onboarded, they will be managed by the appropriate OCE lead as required and will have further interactions with UK Space Agency program leads, experts, or external project teams as necessary to achieve the outputs. The outputs will be delivered to the OCE lead as the technical manager for the work package.While the Lots of the Contract are designed to be predominantly standalone there may be occasions where Work Packages arise that will contain a mixture of work that would be classed as both lots. In that event that the Agency will issue the Work Package to the contract managers of both suppliers to jointly submit a proposal to deliver the work package. The Agency will not be determining the breakdown of its work packages and supplier(s) are expected to agree the responsibilities between themselves as commercial entities. For the avoidance of doubt if for whatever reason the suppliers are unable to jointly submit a proposal for the work, the Agency reserves the right to tender requirement via its usual processes.The Agency reserves the right to reject suppliers’ proposals if, in the sole opinion of the Agency, the work does not represent value for money or does not effectively deliver the work requested.When the requirement for additional resources arises, the process will be as follows: |

**Key Performance Indicators (KPIs)**

*Key performance indicators should be set by the customer to ensure the contractor is measured on what is important to the customer. Severity levels have been set against the Model Services Contract thresholds and aligned to the reporting requirements under the Procurement Act 2023.*

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| **No.** | **Key Performance Indicator Title** | **Definition** | **Frequency of Measurement** | **Severity Levels** |
| KPI-01 | Deliverables at contract level | The supplier shall proactively manage the execution of work to ensure timely delivery of outputs and achievement of acceptance by relevant approvers within the Agency.The supplier shall prepare and deliver reports for technical and non-technical audiences as required to meet objectives. | Monthly | **Target Performance Level** (Good): [100%]**Minor KPI Failure** (approaching Target): [80%]**Serious KPI Failure** (Requires Improvement): [60%]**Severe KPI Failure**: (Inadequate) [<50%] |
| KPI-02 | Service Reports | The supplier shall provide monthly progress reports to the Agency contract manager and OCE at a ‘service’ level, providing status for key contractual items such as invoicing status, deliverables, schedules, absences, staff changes, risks and issues and CSAT scores. The supplier shall also provide brief fortnightly written updates to the OCE project lead, detailing the status of activities supported, problems encountered, meetings held, and other items such as may be agreed. | Monthly | **Target Performance Level** (Good): [100%]**Severe KPI Failure**: (Inadequate) [<75%] |
| KPI-03 | Turnaround | From the date of the requirement being raised with the supplier, the resource shall be onboarded within the agreed upon timeframe (by default 7 weeks). | Monthly | **Target Performance Level** (Good): [100%]**Minor KPI Failure** (approaching Target): up to 1 week later than agreed**Serious KPI Failure** (Requires Improvement): 1-2 weeks later than agreed**Severe KPI Failure**: (Inadequate) over 2 weeks later than agreed |

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| Other Considerations |
| Bidders should note that although UKSA is intending to use RM6235 (Space Enabled and Geospatial Services) for this procurement, the Special Terms relating to Intellectual Property shall not apply and the Core Terms shall apply (all new IP developed shall be owned by the Buyer).  |

**Annex 1 – Work Package Request**

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| **Please indicate with an ‘X’ the nature of the proposed Work Package if *more than one indicator applies please use more than one ‘X’ to indicate (definisitions of the activities can be found in the SOR***  |
| **Lot 1 -**  |
| Systems Engineering / domain expertise support |  | Review gate organisation and conduct |  | Oversight board participation |  |
| Bid application reviews |  | Support on technical and programmatic feasibility studies |  |  |
| **Lot 2 -**  |
| Technical and programmatic feasibility studies |  | Technology reports |  | Oversight board participation |  |
| Bid Application reviews |  |  |  |

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| **Estimated Value of Work Package** | **£** |

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| **Background** |
| *Provide an overview of the background to the requirement identifying any important context, that a supplier may need to be aware of. Specific outputs required should not be included within this section.*  |

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| **Aims and Objectives** |
| *Provide an overview of the aims and objectives of the specific procurement, identifying the reasons behind the procurement and what the overall aim of the procurement is. Information should be provided to set context to tenderers and to identify the overall objectives for the procurement.*  |

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| ***Requirements*** |
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| **Other Considerations** |
|     Their is an expectation that suppliers will carefully manage any actual or perceived conflicts of interest for example put ethical walls, NDAs in place so that teams working on these requirements are separate from bidding teams. Prior to Commencing any Work Package, the supplier shall consider any conflicts of interest both within the supplier and it’s supply chain and identify them and the mitigations.  |