



Invitation to Quote

Invitation to Quote (ITQ) on behalf of UK Space Agency
Subject: UKSA Regulatory Development Studies Phase 2
Sourcing Reference Number: PR18170



UK Shared Business Services Ltd (UK SBS)
www.uksbs.co.uk

Registered in England and Wales as a limited company. Company Number 6330639.
Registered Office Polaris House, North Star Avenue, Swindon, Wiltshire SN2 1FF
VAT registration GB618 3673 25
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Version 3.3

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Section 1 – About UK Shared Business Services

Putting the business into shared services

UK Shared Business Services Ltd (UK SBS) brings a commercial attitude to the public sector; helping our Contracting Authorities improve efficiency, generate savings and modernise.

It is our vision to become the leading service provider for the Contracting Authorities of shared business services in the UK public sector, continuously reducing cost and improving quality of business services for Government and the public sector.

Our broad range of expert services is shared by our Contracting Authorities. This allows Contracting Authorities the freedom to focus resources on core activities; innovating and transforming their own organisations.

Core services include Procurement, Finance, Grants Admissions, Human Resources, Payroll, ISS, and Property Asset Management all underpinned by our Service Delivery and Contact Centre teams.

UK SBS is a people rather than task focused business. It's what makes us different to the traditional transactional shared services centre. What is more, being a not-for-profit organisation owned by the Department for Business, Energy & Industrial Strategy (BEIS), UK SBS' goals are aligned with the public sector and delivering best value for the UK taxpayer.

UK Shared Business Services Ltd changed its name from RCUK Shared Services Centre Ltd in March 2013.

Our Customers

Growing from a foundation of supporting the Research Councils, 2012/13 saw Business, Energy and Industrial Strategy (BEIS) transition their procurement to UK SBS and Crown Commercial Services (CCS – previously Government Procurement Service) agree a Memorandum of Understanding with UK SBS to deliver two major procurement categories (construction and research) across Government.

UK SBS currently manages £700m expenditure for its Contracting Authorities. Our Contracting Authorities who have access to our services and Contracts are detailed [here](#).

Privacy Statement

At UK Shared Business Services (UK SBS) we recognise and understand that your privacy is extremely important and we want you to know exactly what kind of information we collect about you and how we use it.

This privacy notice link below details what you can expect from UK SBS when we collect your personal information.

- We will keep your data safe and private.
- We will not sell your data to anyone.
- We will only share your data with those you give us permission to share with and only for legitimate service delivery reasons.

Privacy Notice

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

YOUR DATA

The Contracting Authority will process the following personal data:

Names and contact details of employees involved in preparing and submitting the bid;
Names and contact details of employees proposed to be involved in delivery of the contract;
Names, contact details, biography details

Purpose

The Contracting Authority are processing your personal data for the purposes of the tender exercise, or in the event of legal challenge to such tender exercise

Legal basis of processing

The legal basis for processing your personal data is processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the data controller, such as the exercise of a function of the Crown, a Minister of the Crown, or a government department; the exercise of a function conferred on a person by an enactment; the exercise of a function of either House of Parliament; or the administration of justice.

Recipients

Your personal data may be shared by us with other relevant public authorities where necessary. The Contracting Authority may share your data if required to do so by law, for example by court order or to prevent fraud or other crime.

Retention

All submissions in connection with this tender exercise will be retained for a period of no longer than 7 years from the date of contract expiry, unless the contract is entered into as a deed in which case it will be kept for a period of no longer than 12 years from the date of contract expiry.

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 object to the processing of your personal data.

INTERNATIONAL TRANSFERS

Your personal data will not be processed outside the United Kingdom or the European Union

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 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 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.

Section 2 – About the Contracting Authority

UK Space Agency (UKSA)

The Agency is responsible for all strategic decisions on the UK civil space programme and we provide a clear, single voice for UK space ambitions. The UK Space Agency is at the heart of UK efforts to explore and benefit from space. The UK's thriving space sector contributes £9.1 billion a year to the UK economy and directly employs 28,900 with an average growth rate of almost 7.5%.

Collaboration lies at the core of the UK Space Agency ethos and applies across Government as well as to external organisations including European and global partners such as the European Space Agency (ESA), the European Union, national space agencies and the United Nations.

The Agency provides funding for a range of programmes via programmes such as the National Space Technology Programme and FP7 and works closely with national and international academic, education and community partners.

Spaceflight Regulation:

Driven by UK Government's commitment to space growth described in its National Space Policy, the UK must be ready to license its first domestic commercial launches from the early 2020's.

The advent of the Space Industry Act means the UK Government's regulatory powers over spaceflight activity have increased significantly. The UK Space Agency, together with its co-regulators, the Civil Aviation Authority and the Health & Safety Executive, have been developing a new regulatory framework and licensing service to support the first commercial spaceflight operators.

To support this regulatory development the UK Space Agency is funding a series of studies to develop our knowledge on a variety of launch related topics. The second phase of these studies is part of this ITQ.

<https://www.gov.uk/government/organisations/uk-space-agency>

Section 3 - Working with the Contracting Authority.

In this section you will find details of your Procurement contact point and the timescales relating to this opportunity.

Section 3 – Contact details		
3.1	Contracting Authority Name and address	UK Space Agency , an Executive Agency of the Department for Business, Energy and Industrial Strategy (BEIS) of Polaris House, North Star Avenue, Swindon SN2 1SZ
3.2	Buyer name	Melanie Hollingsworth
3.3	Buyer contact details	Email: MajorProjects@uksbs.co.uk
3.4	Estimated value of the Opportunity	Total value of the requirement is £105k divided into three Lots are follows: Lot 1 - Airspace and Shipping Risk Operational Practices and Modelling- £25k excl. VAT Lot 2 - Small Upper Stages Post Mission Disposal - £30k excl. VAT Lot 3 - Launch Vehicle Explosive Siting Study- £25k excl. VAT Lot 4 - Launch Toxic Debris Impact Assessment - £25k excl. VAT
3.5	Process for the submission of clarifications and Bids	All correspondence shall be submitted within the Emptoris e-sourcing tool. Guidance Notes to support the use of Emptoris is available here. Please note submission of a Bid to any email address including the Buyer <u>will</u> result in the Bid <u>not</u> being considered.

Section 3 - Timescales		
3.6	Date of Issue of Contract Advert and location of original Advert	22th November 2018 Location: Contracts Finder
3.7	Latest date/time ITQ clarification questions shall be received through Emptoris messaging system	6th December 2018 11.00 GMT
3.8	Latest date/time ITQ clarification answers should be sent to all	7th December 2018 14.00 GMT

	Bidders by the Buyer through Emptoris	
3.9	Latest date/time ITQ Bid shall be submitted through Emptoris	10 th December 2018 11.00 GMT
3.10	Date/time Bidders should be available if face to face clarifications are required	Not applicable
3.11	Anticipated notification date of successful and unsuccessful Bids *	3 rd January 2019
3.12	Anticipated Award date*	9 th January 2019
3.13	Anticipated Contract Start date*	10 th January 2019
3.14	Contract End date	22 nd March 2019
3.15	Bid Validity Period	90 Days

*Dates are anticipated times only and may change during the tender process.

Section 4 – Specification

Introduction:

The UK Space Agency (UKSA) is an agency of the Department for Business, Energy and Industrial Strategy (BEIS) and will be responsible for the regulation of certain aspects of launch under the Space Industry Act 2018, including all launches to orbit. To support the ongoing regulatory development the UK Space Agency is funding a series of studies to develop the general understanding of a variety of launch related topics. The areas to be studied are split across 3 core themes; technology, operations and safety. The ITQ has been divided into four Lots as follows:

- Lot 1: Airspace and Shipping Risk Operational Practices and Modelling
- Lot 2: Small Upper Stages Post Mission Disposal
- Lot 3: Launch Vehicle Explosive Siting Study
- Lot 4: Launch Toxic Debris Impact Assessment

Lot 1: Airspace and Shipping Risk Operational Practices and Modelling

Maximum budget value: £25k (not including VAT)

The flight corridor for a launch vehicle identifies a region in which all debris from nominal or off-nominal events is contained. The risk to populations residing on land masses is traditionally managed by changing the azimuth or direction of the launch, this is a result of the static nature of the populace. For air and sea, the risk is transitory and so hazard areas are defined along the flight path of a launch vehicle to reduce the risk to aircraft and ships operating in the local area or downrange. The size of these hazard areas are a function of the risk posed to these users (aircraft and ships) and in turn are dependent on the size and type of launch vehicle being considered. For Airspace the hazard areas identified by the launch vehicle operator are delivered through temporary restrictions to airspace and are advised via a Notice to Airmen (NOTAM). For Marine access the hazard areas / marine safety zones identified by the launch vehicle operator are typically detailed in a Notice to Mariners. To allow the Regulator to effectively license future launches from the UK, an understanding of the methodology that could be used to define these hazard areas is needed. In addition, an approach to effectively model the impact to airspace or marine users is needed.

Aims: To deepen our understanding of this topic, the UKSA is looking to understand the methods used globally to define launch hazard areas (both for airspace and the marine access) and how their implementation reduces the risk to airspace or ships in the local area and downrange of the launch point. A methodology is required to define the size of these hazard areas as a function of the type of launch vehicle considered. In addition, the UK Space Agency is seeking an approach to effectively model the impacts to airspace and marine access from the operation of a launch vehicle from the UK.

Objectives: To achieve the aims above the bidder must satisfy the 3 objectives below :

1. Critically review global practice for defining the hazard areas for airspace and marine access. The methodologies presented should consider risk thresholds as a function of launch vehicle type and number of users that may be impacted by a nominal or failed mission (i.e. the approach should consider nominal debris such as spent stages and debris generated from rapid unscheduled disassembly of the launch vehicle). A sensitivity analysis should be performed to identify the key criteria considered in the sizing of these hazard areas. In addition, an approach should be identified to consider how the hazard areas should be defined as a function of flight/vehicle heritage (i.e. as the launch vehicle transitions from test flights to the start of commercial service). In defining/reviewing the approach for the marine environment consideration should also be given to stationary marine platforms such as oil rigs.
2. Define the process by which the hazard areas identified (airspace and marine) are communicated to the relevant national or international authorities intersected by the flight path
3. Develop a UK Launch Example that implements the hazard area for a typical flight profile from the UK. The example should consider :
 - a. Methodology for modelling and importing airspace and marine traffic (a process and source of data should be defined)
 - b. A typical UK launch window to either polar or sun-synchronous orbit from a vertical launch site in the UK
 - c. Modelling of the impact of the hazard areas on airspace and marine traffic for the UK launch window. Identify potential impacts or concerns resulting from the sizing.

Requirement :

- Deliverables :
 - o Technical note detailing the outputs of the objectives,
 - o Executive summary providing an overview of the outputs of the study. Approximately 2 pages and in a releasable format.
 - o Final presentation, and
 - o Proof-of-concept model and supporting information (model can be developed in Matlab, Excel or in any other commercial software identified by the bidder).
- Meetings :
 - o Kick-off (t0)
 - o Mid-term review (t+1.5 months)
 - o Final review (~t+2.5 months)

Timetable: The study is proposed to be completed in approximately 2.5 months. The deliverables should be completed for review for the final presentation and completion of the whole project by the 22nd March 2019.

Lot 2: Small Upper Stages Post Mission Disposal

Maximum budget value: £30k (not including VAT)

The upper stage of the launch vehicle will be injected into the operational orbit alongside the payload. As an orbital object the upper stage must consider the same space debris mitigation guidelines as apply to satellites on-orbit. These guidelines specify post mission disposal measures such as limiting their lifetime on-orbit after the end of their operational phase, identifying measures to reduce the likelihood of fragmentation (e.g. passivation) and reducing their ground casualty risk. The UK Space Agency is seeking to understand post mission disposal measures in the context of small upper stages. For this study, small upper stages are defined as the orbited stage(s) associated with launch vehicles capable of delivering up to 500 kg to a 500 km, Sun Synchronous Orbit. Those vehicles with a higher payload capacity are out of scope of this study.

Aims: The overall goal of this study is to investigate post mission disposal measures as applied to small upper stages. Key areas to investigate will be; system design approaches (e.g. passivation, containment of secondary structures etc), orbit lifetime and re-entry casualty risk.

Objectives: To achieve the aims above the bidder must satisfy the 4 objectives below :

1. Critically review global approaches for post mission disposal for small launch vehicles. Identify approaches adopted by launch vehicle operators and the international guidelines or national standards which may drive their design choice / operational practice. For each of the approaches for post mission disposal indicate the design impacts with respect to performance, cost, operational complexity etc. The review should consider existing launch vehicles and those which will soon enter operational service (larger launch vehicles than are the focus of this study may be considered to understand international best practice). To note, in the context of this study a small launch vehicle is defined as a launch vehicle capable of delivering a payload of less than 500 kg to a 500 km, Sun Synchronous Orbit.
2. Perform a parametric study for a range of typical small upper stages (variables should include configuration, mass, dimensions/area, number of orbital elements injected) against the following topics (to note, the configurations investigated must be based on the realistic design of upper stages for existing small launchers or those which will soon to enter service and are to be agreed with the UK Space Agency) :
 - a. Lifetime on orbit for a variety of mission profiles that could be accessed from the UK i.e. variable altitude, inclination etc. The intended software to be used to support this investigation should be fully documented in the proposal.
 - b. Re-entry casualty area / risk for a variety of mission profiles that could be accessed from the UK i.e. variable altitude, inclination etc. The investigation should consider how the design of the upper stage impacts the amount of debris which will reach the ground, therefore the sensitivity analysis should include at a minimum the re-entry attitude, fragmentation altitude, size of tank, number of tanks, size of engine, number of engines, shape (e.g. cylindrical stage or disc), materials used, gross mass of the upper stage. It is assumed for these investigations that an object orientated approach is not appropriate and a low-fidelity spacecraft/upper stage orientated approach where sensitivity analyses can be performed would be better

suited. The approach should be documented in the proposal and the bidder is welcome to challenge the assumption above. Given the large number of variables and the effort required to produce this type of analysis, the re-entry investigation should be the primary focus of this activity and should receive the largest proportion time dedicated to it. The intended software to be used to support this investigation should be fully documented in the proposal.

3. Considering global approaches and the investigations performed during the study, identify suitable conditions for post mission disposals measures for launch vehicles operated from the UK. The recommendations should consider the appropriateness of these measures for both the current and forecasted launch traffic and also suggest any new technologies that could be used to improve the environment.
4. Recommendations for further work (Identify areas for further work such as refining assumptions, reducing uncertainties etc)

Requirement:

- Deliverables:
 - o Technical note detailing the outputs of the objectives
 - o Executive summary providing an overview of the outputs of the study. Approximately 2 pages and in a releasable format.
 - o Final presentation
- Meetings:
 - o Kick-off (t0)
 - o Mid-term review (t+1.5 months)
 - o Final review (~t+2.5 months)

Timetable: The study is proposed to be completed in approximately 2.5 months. The deliverables should be completed for review for the final presentation and completion of the whole project by the 22nd March 2019.

Lot 3: Launch Vehicle Explosive Siting Study

Maximum budget value: £25k (not including VAT)

A launch site may contain a number of dangerous / hazardous substances including but not limited to the propellant for the launch vehicle and satellite payload (solid and liquid) either stored or in the flight configuration, explosive charges for separation systems etc. The UK has existing regulations (most notably COMAH) that requires users to establish operational procedures to reduce the risks posed by these substances, although it may be conceivable that a launch site may fall below the threshold at which these regulations will apply. In addition, most launch sites cases will implement separation distances to maintain separation between the explosives building and neighbouring inhabited buildings and/or footpaths, roads and railways. The separation distances and operational practices for other industries using similar materials (i.e. explosives, flammables and oxidisers) are identified in regulations such as the Health and Safety at work act, COMAH and the Health and Safety Executive Explosives Regulations 2014 - Guidance on Regulations – Safety provisions. It is noted, that the separation distances drive the sizing of a spaceport facility and therefore a detailed understanding of the appropriateness of existing UK Regulations

is vital. The UK Space Agency is seeking the production of a detailed scenario that applies siting criteria to a theoretical vertical spaceport designed to accommodate a small launch vehicle. The scenario shall reveal the appropriateness of existing legislation given realistic/derived quantities of propellant involved at a vertical launch site, provide insight into how the UK regulations may compare to the International standards (most notably those defined by the FAA-AST in the US) and how the vehicle size and concept of operations drives these sizings.

Aims: To produce a detailed scenario for the explosive separation distances at a vertical spaceport designed to accommodate a small launch vehicle . The scenario should consider the impact of vehicle size and operational concept and compare the sizings to those specified by international standards (most notably those defined by the FAA-AST in the US).

Objectives: To achieve the aims above the bidder must satisfy the 3 objectives below :

1. Critically review the UK explosive regulations and their application and appropriateness to a vertical spaceport designed to accommodate a small launch vehicle. The review should include :
 - a) An investigation of the typical types and quantities of dangerous / hazardous substances that will be housed at a spaceport. A variety of vehicle sizes that would be consistent with the UK ambition to establish commercial launch from the UK from the 2020's.
 - b) UK definitions and methodologies to deriving the explosive separation distances. Insight into the applicability/appropriateness of the UK Regulations to launch vehicle operations, and recommendations on how a site should be managed should it fall below the thresholds for existing regulation of accident hazards.
 - c) Compare-contrast the appropriateness of UK regulations to international regulations applied to launch sites given the quantities of propellant envisaged, most notably those defined by the FAA-AST in the US. This should include the challenges of managing a launch site compared to other explosive storage sites.
2. Produce a detailed scenario for the explosive separations distances at a theoretical vertical spaceport designed to accommodate a small launch vehicle. The scenario should consider the impact of the vehicle size (e.g. wet mass, propellant type, configuration (e.g. boost core, single stick)) and operational concept on the separation distances. The sizings for a UK launch site following UK regulations should be compared to a site defined using international standards, most notably those defined by the FAA-AST in the US. All methodologies used to derive the separation distances should be well documented. It is likely, that the verification of the siting models will require dedicated analysis of the explosion of a launch vehicle and the subsequent generation of debris. If this is the case, specific insight into the appropriateness of the modelling, particularly in terms of the debris models for a

small launch vehicle is required. To note, at a minimum the following two cases for the separation distance should be considered a) stored propellant (consideration of solid, liquid and hybrid launch vehicles of the size envisaged for a small launch vehicle) and explosives (e.g. separation systems) prior to vehicle loading, b) vehicle erected at the launch site, loaded with propellant with the payload integrated prior to intentional ignition. In addition, the bidder should consider the conditions soon after launch where the altitude of the vehicle still means that it will have significant impact on the vehicle in case of failure.

3. Establish key recommendations on the key criteria and associated thresholds that drive the sizing of the explosive separations distances at a vertical spaceport designed to accommodate a small launch vehicle. The criteria should include at a minimum; classification of launch vehicle size, quantify and type of propellant stored at a launch site, activities performed at a launch site.

Scope:

Requirement:

- Deliverables:
 - o Technical note detailing the outputs of the objectives,
 - o Executive summary providing an overview of the outputs of the study. Approximately 2 pages and in a releasable format.
 - o Final presentation, and
 - o Proof-of-concept model and supporting information (model can be developed in Matlab, Excel or in any other commercial software identified by the bidder).
- Meetings:
 - o Kick-off (t0)
 - o Mid-term review (t+1.5 months)
 - o Final review (~t+2.5 months)

Timetable: The study is proposed to be completed in approximately 2.5 months. The deliverables should be completed for review for the final presentation and completion of the whole project by the 22nd March 2019.

Lot 4: Launch Toxic Debris Impact Assessment

Maximum budget value: £25k (not including VAT)

Public safety is the primary objective of regulations concerning launch vehicles, which requires an understanding the hazards and risks of launch activity. The safety analysis associated with launch requires consideration of the risk posed by launch which may include the effects of toxic release. To understand the risk presented in more detail, the UKSA is investigating flight safety analyses, including the component parts to calculate failure probabilities, modelling of vehicle trajectories and debris and calculation of the risk to the public. One of the hazards which the UK Space Agency is looking to understand in more detail is the effect of debris contaminated by toxic material. Spacecraft may contain toxic materials such as hydrazine for propellant, which must be accounted for, but the mass of these materials on board the small satellites that will be launched from the UK

is small. Additionally, unlike debris or overpressure effects from explosions, toxic material has an effect until it disperses or degrades, which needs to be considered in any consequence modelling.

Aims: This package of work aims to investigate the methods that may be used to model how the toxic material affects third parties, and how to strike the balance in the modelling approach.

Objectives: To achieve the aims above the bidder must satisfy the 3 objectives below :

1. Critically review literature and best practice on the inclusion of toxic release in flight safety analysis and quantitative risk assessment. Aspects such as common propellants, toxic dispersion, lifetime in the local environment and human impact should be considered. It should also contain a discussion about whether a model should only include the effect of toxic debris on the ground or also air dispersed material. The review should also include:
 - a. Methods used or required by other space launch regulators;
 - b. Approaches from other industries.
2. Describe a recommended approach to include toxic release from launch vehicles within a flight safety analysis, based on literature, best practice and expert knowledge. This should pay attention to the relevance of the approach within the UK context (i.e. likely launch vehicles, payloads etc), and the appropriate level of fidelity required. It should also document all assumptions, inputs and uncertainties. If third party software is required, this should be clearly noted. Sources of any data used within the approach should references and the original datasets included.
3. Create a prototype model relevant to the UK launch context, that can be integrated within the tool currently being develop by the UKSA. This should have the relevant level of rigour and fidelity identified in the other objectives or should document where it does not fit. The following inputs and outputs should be considered to enable integration with the UKSA tool:
 - a. Inputs: Vehicle information (propellants, structural materials), location of toxic debris
 - b. Outputs: Casualty or fatality area

Scope:

Requirement:

- Deliverables:
 - o Technical note detailing the outputs of the objectives,
 - o Executive summary providing an overview of the outputs of the study. Approximately 2 pages and in a releasable format.
 - o Final presentation, and
 - o Proof-of-concept model and supporting information (model can be developed in Matlab, Excel or in any other commercial software identified by the bidder).
- Meetings:
 - o Kick-off (t0)
 - o Mid-term review (t+1.5 months)

- o Final review (~t+2.5 months)

Timetable: The study is proposed to be completed in approximately 2.5 months. The deliverables should be completed for review for the final presentation and completion of the whole project by the 22nd March 2019.

Payments

Payment for the Lots 1,2,3 and 4 will be paid in arrears upon completion of all the work in the requirements unless the bidder requests a stage payment profile. Suggested stage payments will only be paid in arrears against defined deliverables and bidders must provide evidence that this payment profile will not pass any risk back to UKSA. UKSA reserve the right to reject a stage payment profile that does not comply with this.

Terms and Conditions

Bidders are to note that any requested modifications to the Contracting Authority Terms and Conditions on the grounds of statutory and legal matters only, shall be raised as a formal clarification during the permitted clarification period.

Section 5 – Evaluation model

The evaluation model below shall be used for all Lots in this ITQ, will be determined to two decimal places.

Where a question is 'for information only' it will not be scored.

The evaluation team may comprise staff from UK SBS and the Contracting Authority and any specific external stakeholders the Contracting Authority deems required. After evaluation the scores will be finalised by performing a calculation to identify (at question level) the mean average of all evaluators (Example – a question is scored by three evaluators and judged as scoring 5, 5 and 6. These scores will be added together and divided by the number of evaluators to produce the final score of 5.33 ($5+5+6=16 \div 3 = 5.33$))

Pass / fail criteria		
Questionnaire	Q No.	Question subject
Commercial	SEL1.2	Employment breaches/ Equality
Commercial	FOI1.1	Freedom of Information Exemptions
Commercial	AW1.1	Form of Bid
Commercial	AW1.3	Certificate of Bona Fide Bid
Commercial	AW3.1	Validation check
Commercial	SEL3.11	Compliance to Section 54 of the Modern Slavery Act
Commercial	SEL3.13	General Data Protection Regulations (GDPR)
Commercial	AW4.1	Contract Terms Part 1
Commercial	AW4.2	Contract Terms Part 2
Price	AW5.5	E Invoicing
Price	AW5.6	Implementation of E-Invoicing
Quality	AW6.1	Compliance to the Specification
Quality	AW6.2	Variable Bids

Scoring criteria for Lot 1: Airspace and Shipping Risk Operational Practices and Modelling, Lot 2: Small Upper Stages Post Mission Disposal, Lot 3: Launch Vehicle Explosive Siting Study, Lot 4: Launch Toxic Debris Impact Assessment.

Evaluation Justification Statement

In consideration of this particular requirement the Contracting Authority has decided to evaluate Potential Providers by adopting the weightings/scoring mechanism detailed within this ITQ. The Contracting Authority considers these weightings to be in line with existing best practice for a requirement of this type.

Questionnaire	Q No.	Question subject	Maximum Marks
Price	AW5.2	Price	30%

	PROJ1.1	Approach/ Methodology	20%
	PROJ1.2	Staff to Deliver	15%
	PROJ1.3	Understanding the Project Topic	20%
	PROJ1.4	Project Plan and Timescales	10%
	PROJ1.5	Risk Management	5%

Evaluation of criteria for Lot 1: Airspace and Shipping Risk Operational Practices and Modelling, Lot 2: Small Upper Stages Post Mission Disposal, Lot 3: Launch Vehicle Explosive Siting Study, Lot 4: Launch Toxic Debris Impact Assessment.

Non-Price elements

Each question will be judged on a score from 0 to 100, which shall be subjected to a multiplier to reflect the percentage of the evaluation criteria allocated to that question.

Where an evaluation criterion is worth 20% then the 0-100 score achieved will be multiplied by 20%.

Example if a Bidder scores 60 from the available 100 points this will equate to 12% by using the following calculation:

$$\text{Score} = \{\text{weighting percentage}\} \times \{\text{bidder's score}\} = 20\% \times 60 = 12$$

The same logic will be applied to groups of questions which equate to a single evaluation criterion.

The 0-100 score shall be based on (unless otherwise stated within the question):

0	The Question is not answered, or the response is completely unacceptable.
10	Extremely poor response – they have completely missed the point of the question.
20	Very poor response and not wholly acceptable. Requires major revision to the response to make it acceptable. Only partially answers the requirement, with major deficiencies and little relevant detail proposed.
40	Poor response only partially satisfying the selection question requirements with deficiencies apparent. Some useful evidence provided but response falls well short of expectations. Low probability of being a capable supplier.
60	Response is acceptable but remains basic and could have been expanded upon. Response is sufficient but does not inspire.
80	Good response which describes their capabilities in detail which provides high levels of assurance consistent with a quality provider. The response includes a full description of techniques and measurements currently employed.
100	Response is exceptional and clearly demonstrates they are capable of meeting the requirement. No significant weaknesses noted. The response is compelling in its description of techniques and measurements currently employed, providing full assurance consistent with a quality provider.

All questions will be scored based on the above mechanism unless expressly stated in the question. Where there is a difference in scoring between evaluators for an individual question, a moderation meeting will be held to discuss the response and agree a consensus score. Where an agreement is not reached on a consensus score of an individual question, the question will be scored using the average (mean) of all the evaluators' scores. Please be aware that there may be multiple evaluators. If so, their individual scores will be averaged (mean) to determine your final score as follows:

Example

Evaluator 1 scored your bid as 60

Evaluator 2 scored your bid as 60

Evaluator 3 scored your bid as 40

Evaluator 4 scored your bid as 40
Your final score will $(60+60+40+40) \div 4 = 50$

Price elements will be judged on the following criteria.

The lowest price for a response which meets the pass criteria shall score 100.
All other bids shall be scored on a pro rata basis in relation to the lowest price. The score is then subject to a multiplier to reflect the percentage value of the price criterion.

For example - Bid 1 £100,000 scores 100.

Bid 2 £120,000 differential of £20,000 or 20% remove 20% from price scores 80

Bid 3 £150,000 differential £50,000 remove 50% from price scores 50.

Bid 4 £175,000 differential £75,000 remove 75% from price scores 25.

Bid 5 £200,000 differential £100,000 remove 100% from price scores 0.

Bid 6 £300,000 differential £200,000 remove 100% from price scores 0.

Where the scoring criterion is worth 50% then the 0-100 score achieved will be multiplied by 50.

In the example if a supplier scores 80 from the available 100 points this will equate to 40% by using the following calculation: $\text{Score/Total Points} \times 50$ ($80/100 \times 50 = 40$)

The lowest score possible is 0 even if the price submitted is more than 100% greater than the lowest price.

For the avoidance of doubt any bid exceeding the maximum budget for the Lot will be deemed non-compliant and will not be considered further.

Section 6 – Evaluation questionnaire

Bidders should note that the evaluation questionnaire is located within the **e-sourcing questionnaire**.

Guidance on completion of the questionnaire is available at
<http://www.uksbs.co.uk/services/procure/Pages/supplier.aspx>

PLEASE NOTE THE QUESTIONS ARE NOT NUMBERED SEQUENTIALLY

Section 7 – General Information

What makes a good bid – some simple do's 😊

DO:

- 7.1 Do comply with Procurement document instructions. Failure to do so may lead to disqualification.
- 7.2 Do provide the Bid on time, and in the required format. Remember that the date/time given for a response is the last date that it can be accepted; we are legally bound to disqualify late submissions. Responses received after the date indicated in the ITQ shall not be considered by the Contracting Authority, unless the Bidder can justify that the reason for the delay, is solely attributable to the Contracting Authority
- 7.3 Do ensure you have read all the training materials to utilise e-sourcing tool prior to responding to this Bid. If you send your Bid by email or post it will be rejected.
- 7.4 Do use Microsoft Word, PowerPoint Excel 97-03 or compatible formats, or PDF unless agreed in writing by the Buyer. If you use another file format without our written permission, we may reject your Bid.
- 7.5 Do ensure you utilise the Emptoris messaging system to raise any clarifications to our ITQ. You should note that we will release the answer to the question to all Bidders and where we suspect the question contains confidential information we may modify the content of the question to protect the anonymity of the Bidder or their proposed solution
- 7.6 Do answer the question, it is not enough simply to cross-reference to a 'policy', web page or another part of your Bid, the evaluation team have limited time to assess bids and if they can't find the answer, they can't score it.
- 7.7 Do consider who the Contracting Authority is and what they want – a generic answer does not necessarily meet every Contracting Authority's needs.
- 7.8 Do reference your documents correctly, specifically where supporting documentation is requested e.g. referencing the question/s they apply to.
- 7.9 Do provide clear, concise and ideally generic contact details; telephone numbers, e-mails and fax details.
- 7.10 Do complete all questions in the questionnaire or we may reject your Bid.
- 7.11 Do ensure that the Response and any documents accompanying it are in the English Language, the Contracting Authority reserve the right to disqualify any full or part responses that are not in English.
- 7.12 Do check and recheck your Bid before dispatch.

What makes a good bid – some simple do not's Ⓜ

DO NOT

- 7.13 Do not cut and paste from a previous document and forget to change the previous details such as the previous buyer's name.
- 7.14 Do not attach 'glossy' brochures that have not been requested, they will not be read unless we have asked for them. Only send what has been requested and only send supplementary information if we have offered the opportunity so to do.
- 7.15 Do not share the Procurement documents, they are confidential and should not be shared with anyone without the Buyers written permission.
- 7.16 Do not seek to influence the procurement process by requesting meetings or contacting UK SBS or the Contracting Authority to discuss your Bid. If your Bid requires clarification the Buyer will contact you. All information secured outside of formal Buyer communications shall have no Legal standing or worth and should not be relied upon.
- 7.17 Do not contact any UK SBS staff or the Contracting Authority staff without the Buyers written permission or we may reject your Bid.
- 7.18 Do not collude to fix or adjust the price or withdraw your Bid with another Party as we will reject your Bid.
- 7.19 Do not offer UK SBS or the Contracting Authority staff any inducement or we will reject your Bid.
- 7.20 Do not seek changes to the Bid after responses have been submitted and the deadline for Bids to be submitted has passed.
- 7.21 Do not cross reference answers to external websites or other parts of your Bid, the cross references and website links will not be considered.
- 7.22 Do not exceed word counts, the additional words will not be considered.
- 7.23 Do not make your Bid conditional on acceptance of your own Terms of Contract, as your Bid will be rejected.
- 7.24 Do not unless explicitly requested by the Contracting Authority either in the procurement documents or via a formal clarification from the Contracting Authority send your response by any way other than via e-sourcing tool. Responses received by any other method than requested will not be considered for the opportunity.

Some additional guidance notes

- 7.25 All enquiries with respect to access to the e-sourcing tool and problems with functionality within the tool must be submitted to Crown Commercial Service (previously Government Procurement Service), Telephone 0345 010 3503.
- 7.26 Bidders will be specifically advised where attachments are permissible to support a question response within the e-sourcing tool. Where they are not permissible any attachments submitted will not be considered as part of the evaluation process.
- 7.27 Question numbering is not sequential and all questions which require submission are included in the Section 6 Evaluation Questionnaire.
- 7.28 Any Contract offered may not guarantee any volume of work or any exclusivity of supply.
- 7.29 We do not guarantee to award any Contract as a result of this procurement
- 7.30 All documents issued or received in relation to this procurement shall be the property of the Contracting Authority. / UKSBS.
- 7.31 We can amend any part of the procurement documents at any time prior to the latest date / time Bids shall be submitted through Emptoris.
- 7.32 If you are a Consortium you must provide details of the Consortiums structure.
- 7.33 Bidders will be expected to comply with the Freedom of Information Act 2000 or your Bid will be rejected.
- 7.34 Bidders should note the Government's transparency agenda requires your Bid and any Contract entered into to be published on a designated, publicly searchable web site. By submitting a response to this ITQ Bidders are agreeing that their Bid and Contract may be made public
- 7.35 Your bid will be valid for 90 days or your Bid will be rejected.
- 7.36 Bidders may only amend the contract terms during the clarification period only, only if you can demonstrate there is a legal or statutory reason why you cannot accept them. If you request changes to the Contract terms without such grounds and the Contracting Authority fail to accept your legal or statutory reason is reasonably justified, we may reject your Bid.
- 7.37 We will let you know the outcome of your Bid evaluation and where requested will provide a written debrief of the relative strengths and weaknesses of your Bid.
- 7.38 If you fail mandatory pass / fail criteria we will reject your Bid.
- 7.39 Bidders are required to use IE8, IE9, Chrome or Firefox in order to access the functionality of the Emptoris e-sourcing tool.
- 7.40 Bidders should note that if they are successful with their proposal the Contracting Authority reserves the right to ask additional compliancy checks prior to the award of any Contract. In the event of a Bidder failing to meet one of the compliancy checks

the Contracting Authority may decline to proceed with the award of the Contract to the successful Bidder.

- 7.41 All timescales are set using a 24-hour clock and are based on British Summer Time or Greenwich Mean Time, depending on which applies at the point when Date and Time Bids shall be submitted through Emptoris.
- 7.42 All Central Government Departments and their Executive Agencies and Non-Departmental Public Bodies are subject to control and reporting within Government. In particular, they report to the Cabinet Office and HM Treasury for all expenditure. Further, the Cabinet Office has a cross-Government role delivering overall Government policy on public procurement - including ensuring value for money and related aspects of good procurement practice.

For these purposes, the Contracting Authority may disclose within Government any of the Bidders documentation/information (including any that the Bidder considers to be confidential and/or commercially sensitive such as specific bid information) submitted by the Bidder to the Contracting Authority during this Procurement. The information will not be disclosed outside Government. Bidders taking part in this ITQ consent to these terms as part of the competition process.

- 7.43 The Government introduced its new Government Security Classifications (GSC) classification scheme on the 2nd April 2014 to replace the current Government Protective Marking System (GPMS). A key aspect of this is the reduction in the number of security classifications used. All Bidders are encouraged to make themselves aware of the changes and identify any potential impacts in their Bid, as the protective marking and applicable protection of any material passed to, or generated by, you during the procurement process or pursuant to any Contract awarded to you as a result of this tender process will be subject to the new GSC. The link below to the Gov.uk website provides information on the new GSC:

<https://www.gov.uk/government/publications/government-security-classifications>

The Contracting Authority reserves the right to amend any security related term or condition of the draft contract accompanying this ITQ to reflect any changes introduced by the GSC. In particular where this ITQ is accompanied by any instructions on safeguarding classified information (e.g. a Security Aspects Letter) as a result of any changes stemming from the new GSC, whether in respect of the applicable protective marking scheme, specific protective markings given, the aspects to which any protective marking applies or otherwise. This may relate to the instructions on safeguarding classified information (e.g. a Security Aspects Letter) as they apply to the procurement as they apply to the procurement process and/or any contracts awarded to you as a result of the procurement process.

USEFUL INFORMATION LINKS

- [Emptoris Training Guide](#)
- [Emptoris e-sourcing tool](#)
- [Contracts Finder](#)
- [Equalities Act introduction](#)
- [Bribery Act introduction](#)
- [Freedom of information Act](#)