



Invitation to Quote

Invitation to Quote (ITQ) on behalf of Natural Environment Research Council

Subject UK SBS Aeromagnetic Sensor, Associated Data Acquisition System and Attitude Compensation Software

Sourcing reference number RE17237

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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UKSBS

Shared Business Services

Table of Contents

Section	Content
1	<u>About UK Shared Business Services Ltd.</u>
2	<u>About our Customer</u>
3	<u>Working with UK Shared Business Services Ltd.</u>
4	<u>Specification</u>
5	<u>Evaluation model</u>
6	<u>Evaluation questionnaire</u>
7	<u>General Information</u>

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 customers improve efficiency, generate savings and modernise.

It is our vision to become the leading provider for our customers 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 customers. This allows our customers 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 its customers, 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 Customers.

Our Customers who have access to our services and Contracts are detailed [here](#).

Section 2 – About Our Customer

Natural Environment Research Council (NERC)

NERC is the UK's main agency for funding and managing research, training and knowledge exchange in the environmental sciences.

NERC's work covers the full range of atmospheric, Earth, biological, terrestrial and aquatic science, from the deep oceans to the upper atmosphere and from the poles to the equator.

The organisation coordinates some of the world's most exciting research projects, tackling major issues such as climate change, environmental influences on human health, the genetic make-up of life on Earth, and much more.

Working internationally, NERC have bases at some of the most hostile places on the planet; running a fleet of research ships and aircraft and investing in satellite technology to monitor gradual environmental change on a global scale. NERC provide forewarning of, and solutions to, the key environmental challenges facing society.

Examples of funded research

- Showing the importance of mature tropical forests to the global climate.
- Developing a safer and cleaner way to mine gold by reducing the use of mercury.
- Studying the hole in the ozone layer - discovered by our British Antarctic Survey - and monitoring climate change.
- Playing a major role in the International Census of Marine Life that monitors our oceans.

NERC also runs six organisations of world renown:

- British Antarctic Survey, in Cambridge.
- British Geological Survey, in Nottingham.
- National Oceanography Centre, in Southampton.
- Centre for Ecology & Hydrology, in Oxfordshire.
- National Centre for Atmospheric Science, in Leeds.
- National Centre for Earth Observation, Swindon.

www.nerc.ac.uk

Section 3 - Working with UK Shared Business Services Ltd.

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	Customer Name and address	NERC - British Antarctic Survey High Cross Madingley Road CAMBRIDGE CB3 0ET
3.2	Buyer name	Pippa Craven
3.3	Buyer contact details	Pippa.craven@uksbs.co.uk
3.4	Estimated value of the Opportunity	£30,000 excluding 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	Tuesday 27 th June 2017 Contracts Finder
3.7	Latest date/time ITQ clarification questions should be received through Emptoris messaging system	Wednesday 5 th July 2017 11.00
3.8	Latest date/time ITQ clarification answers should be sent to all potential Bidders by the Buyer through Emptoris	Friday 7 th July 2017 14.00
3.9	Latest date/time ITQ Bid shall be submitted through Emptoris	Monday 10 th July 2017 14.00
3.10	Anticipated rejection of unsuccessful Bids date	Tuesday 11 ^h July 2017
3.11	Anticipated Award date	Wednesday 12 ^h July 2017
3.12	Anticipated Contract Start date	Wednesday 12 th July 2017

3.13	Bid Validity Period	60 Days
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Section 4 – Specification

Item Description - Aeromagnetic sensor, associated data acquisition system and attitude compensation software

The British Antarctic Survey is seeking to purchase an aeromagnetic sensor, associated data acquisition system and attitude compensation software suitable for operation in an unmanned aerial vehicle (UAV). The platform has an optimal payload of 10kg. For geophysics we aim to operate magnetic and other sensors simultaneously.

The UAV platform will supply the magnetic data acquisition system with DC power (5, 12, or 24V), and optionally a NMEA GPS data stream, 1pps timing pulse, GPS antenna feed, x,y,z data feed from a three axis magnetometer (TFM100-G2), and lidar altimeter data. The platform will be operating in Antarctica from remote field camps for extended missions lasting up to 14 hours. The overall magnetic system must therefore be rugged, reliable and easy to use.

Key Features & Capabilities

Essential Requirements

1/ Dimensions and power

1a/ Weight: The total weight of the magnetic system must be less than 4kg in total including the total magnetic field sensor, logging system and all cabling (assume nominal 1m sensor electronics separation for scoring). Lower weight systems will be favoured.

1b/ Size: The total system must fit within the UAV payload bay (30x30x50cm).

1c/ Cable lengths: The supplier should work with the buyer after the contract is awarded to provide cables customised to the UAV to minimise weight.

1d/ Brackets and attachment: The supplier should provide all necessary brackets and fixings for mounting the magnetic sensor and associated electronics within the UAV payload bay.

1e/ Power supply: The system shall be powered by DC voltage between 12 and 28V. The system will normally be powered from a 12V DC supply.

1f/ Power consumption: The system shall have a power requirement of <60W.

2/ Environmental considerations

2a/ Temperature: The system must be capable of operation in Antarctic conditions. The system shall have at least a minimum operating temperature of -20°C and maximum

operating temperature of 50°C. Systems with lower temperature tolerances are preferred and will be scored as such.

2b/ Shock and vibration: A ruggedized systems capable of withstanding both standard operational g-force and vibration is required.

2c/ Humidity: A sealed or splash proof system is required.

3/ Autonomous operation, data collection and integration

3a/ In flight: The purchased system shall continuously collect and log all magnetic data at a rate of at least 10 Hz and positional data at better than 1Hz throughout a survey flight (up to 14 hours) with no user intervention.

3b/ Start-up and shutdown: The system should automatically collect data from application of power (or soon after) until power is removed at the end of a survey flight. If auto-start-stop is not available systems with simple “push-button” start-up and shutdown procedures will be favoured. Systems which require a software link for start-up/shutdown may also be considered.

3c/ Data recovery: Recorded data shall be stored in such a way that in the event of uncontrolled loss of power data can be recovered.

3d/ System configuration: Software shall be provided for system configuration and diagnostic checks, as well as for downloading data to external media or computer.

3e/ Software updates: Updates and bug fixes shall be provided.

3f/ Time stamp: The system shall time-stamp all data records (at least 1Hz) using a GPS time reference. This may be an internal GPS sensor within the system provided with a GPS antenna feed, or by logging of an external GPS NMEA string, using a GPS 1pps trigger for synchronisation.

3g/ Positional data: The system should log time stamped positional data together with the magnetic data stream.

3h/ Auxiliary data collection: The system may have the capacity to record time stamped auxiliary data such as range to ground from the existing UAV platform lidar.

3i/ Data integration: All data should be integrated into a single file which is readable/extractable using freely available software, or software supplied and maintained as part of this bid.

4/ Compensation

4a/ Software: The system to be purchased shall include software for compensation of the collected magnetic data for platform dynamic movement (including calculation of compensation coefficients if required). Compensation may be applied in real time or during post processing. It is desirable for the supplier to provide the user manual for the

compensation software to allow better understanding of the system to be purchased, and the in-field procedures required, such as flight of a compensation box. The software may be licenced to the buyer with a 'dongle' or software key, but there shall be no limit on how often the software is used by the buyer. Software must be usable without any internet connection.

4b/ Software updates: Updates and bug fixes for the compensation software shall be provided.

4c/ Hardware: The compensation method used may use integrated fluxgate magnetometers to be supplied (preferred), or provide a defined method of logging external fluxgate data so that it is easily integrated with the compensation software.

5/ Sensor type and performance

It is expected that the total magnetic field sensor will be an optically pumped Cs or K type. The sensor performance must be stated, and meet the following:

5a/ Sensitivity <0.01nT.

5b/ Resolution <0.01nT.

5c/ Accuracy better than 3 nT.

5d/ Dynamic range better than 20,000-100,000 nT.

5e/ Sensor operational orientation range to exceed 50° with no break.

5f/ Heading error better than 1nT.

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.

User Training On Site	Training in system use and compensation software shall be provided. The trainer may deliver the training via online training or classroom based training. The trainer should be available to answer questions arising from the training relating to the system and software use.
Service Maintenance and Support	Technical support for the system shall be provided. This will include a best endeavours 24 hour response time for any technical

	queries regarding system operation.
User and Service Manuals	These must be provided upon installation and be in English language
Warranty	<p>Equipment and device parts listed must have a minimum 2 year parts and labour warranty.</p> <p>Warranty will begin upon full receipt and acceptance of all requested items.</p>
Delivery	<p>Equipment and Accessories will be delivered to:</p> <p>NERC - British Antarctic Survey</p> <p>High Cross</p> <p>Madingley Road</p> <p>CAMBRIDGE</p> <p>CB3 0ET</p> <p>Delivery: The specified system should be delivered within 8 weeks of an order being placed. Equipment must be delivered by 1st November 2017.</p>

Section 5 – Evaluation model

The evaluation model below shall be used for this ITQ, which 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, the Customer 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	AW4.1	Contract Terms
Price	AW5.5	E Invoicing
Price	AW5.6	Implementation of E-Invoicing
Quality	AW6.1	Compliance to the Specification
Commercial	SEL3.11	Compliance to Section 54 of the Modern Slavery Act

Scoring criteria

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	100%	40%
Quality	Proj1.1	Weight	30%	60%
Quality	Proj1.2	Delivery	5%	
Quality	Proj1.4	Temperature	5%	
Quality	Proj1.5	Start up/shut down method	10%	
Quality	Proj1.6	Auxillary data logging	5%	
Quality	Proj1.7	Integrated fluxgate sensors	5%	
Quality	Proj1.8	Sensor sensitivity	10%	
Quality	Proj1.9	Sensor accuracy	10%	
Quality	Proj1.10	Sensor orientation range	10%	
Quality	Proj1.11	Sensor heading error	10%	

Evaluation of criteria

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: Score/Total Points available multiplied by 20 ($60/100 \times 20 = 12$)

Where an evaluation criterion is worth 10% then the 0-100 score achieved will be multiplied by 10.

Example if a Bidder scores 60 from the available 100 points this will equate to 6% by using the following calculation: Score/Total Points available multiplied by 10 ($60/100 \times 10 = 6$)

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. Please be aware that the final score returned may be different as there may be multiple evaluators and their individual scores will be averaged (mean) to determine your final score.

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 x 50 = 40)

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

Once the evaluation process and due diligence is complete, should the result of the process result in a tied place(s) then the names of suppliers shall be placed in individual sealed envelopes by the responsible UK SBS procurement person, these shall then be placed in an additional sealed single envelope and shall be presented to the Chief Procurement Officer or his nominated delegate to draw an envelope. The first envelope drawn shall be considered as the successful supplier. The paper from the drawn envelope containing the suppliers name shall be signed and dated by the responsible UK SBS person and Chief Procurement Officer or his nominated delegate which shall then be scanned and retained in the procurement case folder.

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.
- 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 typically 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 your customer is and what they want – a generic answer does not necessarily meet every customer'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 and concise 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 check and recheck your Bid before dispatch.

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

DO NOT

- 7.12 Do not cut and paste from a previous document and forget to change the previous details such as the previous buyer's name.
- 7.13 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.
- 7.14 Do not share the Procurement documents, they are confidential and should not be shared with anyone without the Buyers written permission.
- 7.15 Do not seek to influence the procurement process by requesting meetings or contacting UK SBS or the Customer to discuss your Bid. If your Bid requires clarification the Buyer will contact you.
- 7.16 Do not contact any UK SBS staff or Customer staff without the Buyers written permission or we may reject your Bid.
- 7.17 Do not collude to fix or adjust the price or withdraw your Bid with another Party as we will reject your Bid.
- 7.18 Do not offer UK SBS or Customer staff any inducement or we will reject your Bid.
- 7.19 Do not seek changes to the Bid after responses have been submitted and the deadline for Bids to be submitted has passed.
- 7.20 Do not cross reference answers to external websites or other parts of your Bid, the cross references and website links will not be considered.
- 7.21 Do not exceed word counts, the additional words will not be considered.
- 7.22 Do not make your Bid conditional on acceptance of your own Terms of Contract, as your Bid will be rejected.

Some additional guidance notes

- 7.23 All enquiries with respect to access to the e-sourcing tool and problems with functionality within the tool may be submitted to Crown Commercial Service (previously Government Procurement Service), Telephone 0345 010 3503.
- 7.24 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.
- 7.25 Question numbering is not sequential and all questions which require submission are included in the Section 6 Evaluation Questionnaire.
- 7.26 Any Contract offered may not guarantee any volume of work or any exclusivity of supply.
- 7.27 We do not guarantee to award any Contract as a result of this procurement
- 7.28 All documents issued or received in relation to this procurement shall be the property of the Contracting Authority.
- 7.29 We can amend any part of the procurement documents at any time prior to the latest date / time Bids shall be submitted through Emptoris.
- 7.30 If you are a Consortium you must provide details of the Consortiums structure.
- 7.31 Bidders will be expected to comply with the Freedom of Information Act 2000 or your Bid will be rejected.
- 7.32 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
- 7.33 Your bid will be valid for 60days or your Bid will be rejected.
- 7.34 Bidders may only amend the Contract terms if you can demonstrate there is a legal or statutory reason why you cannot accept them. If you request changes to the Contract and the Contracting Authority fail to accept your legal or statutory reason is reasonably justified we may reject your Bid.
- 7.35 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.
- 7.36 If you fail mandatory pass / fail criteria we will reject your Bid.
- 7.37 Bidders are required to use IE8, IE9, Chrome or Firefox in order to access the functionality of the Emptoris e-sourcing tool.
- 7.38 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.

- 7.39 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.
- 7.40 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.

- 7.41 From 2nd April 2014 the Government is introducing its new Government Security Classifications (GSC) classification scheme 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 from 2nd April 2014. 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](#)
- [Tenders Electronic Daily](#)
- [Equalities Act introduction](#)
- [Bribery Act introduction](#)
- [Freedom of information Act](#)