

# Invitation to Quote

Invitation to Quote (ITQ) on behalf of **Science and Technology  
Facilities Council (STFC)**

Subject **UK SBS High Power Laser Mirrors**

Sourcing reference number **RE17354**



**UK Shared Business Services Ltd (UK SBS)**  
[www.uksbs.co.uk](http://www.uksbs.co.uk)

Registered in England and Wales as a limited company. Company Number 6330639.  
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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 Contracting Authorities improve efficiency, generate savings and modernise.

It is our vision to become the leading service provider for Contracting Authorities for 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](#).

## Section 2 – About the Contracting Authority

### Science and Technology Facilities Council (STFC)

STFC is a world-leading multi-disciplinary science organisation, whose goal is to deliver economic, societal, scientific and international benefits to the UK and its people – and more broadly to the world.

STFC support an academic community of around 1,700 in particle physics, nuclear physics, and astronomy including space science, who work at more than 50 universities and research institutes in the UK, Europe, Japan and the United States, including a rolling cohort of more than 900 PhD students.

The organisation's large-scale scientific facilities in the UK and Europe are used by more than 3,500 users each year, carrying out more than 2,000 experiments and generating around 900 publications.

The combination of access to world-class research facilities and scientists, office and laboratory space, business support, and an environment which encourages innovation has proven a compelling combination, attracting start-ups, SMEs and large blue chips such as IBM and Unilever.

#### Examples of funded research

- STFC is providing the design infrastructure for the £23bn UK microelectronics sector that underpins strategically important industries worth £78bn to the UK economy
- STFC's ISIS facility and its users, working in partnership with the NHS, developed a novel material to improve the treatment of cleft lip and palate, speeding up healing times and reducing operating costs
- STFC's Synchrotron Radiation Source was used to understand how conventional anti-malarial drugs work, allowing the development of more effective treatment to reduce the devastating global impact of malaria
- STFC's ISIS facility is identifying new materials that can safely and conveniently store hydrogen, enabling the development of hydrogen-fuelled cars reducing reliance on fossil fuels and cutting carbon emissions

[www.stfc.ac.uk](http://www.stfc.ac.uk)

## 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	Science and Technology Facilities Council (STFC) Rutherford Appleton Laboratory Harwell Oxford Didcot OX11 0QX
3.2	Buyer name	Thomas Ellis
3.3	Buyer contact details	<a href="mailto:Research.Tenders@uksbs.co.uk">Research.Tenders@uksbs.co.uk</a>
3.4	Estimated value of the Opportunity	£50,000 excluding VAT
3.5	Process for the submission of clarifications and Bids	<b>All correspondence shall be submitted within the Emptoris e-sourcing tool. Guidance Notes to support the use of Emptoris is available <a href="#">here</a>. 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.</b>

Section 3 - Timescales		
3.6	Date of Issue of Contract Advert and location of original Advert	Friday 19 <sup>th</sup> January 2018
3.7	Latest date/time ITQ clarification questions shall be received through Emptoris messaging system	Wednesday 24 <sup>th</sup> January 2018 14:00
3.8	Latest date/time ITQ clarification answers should be sent to all Bidders by the Buyer through Emptoris	Thursday 25 <sup>th</sup> January 2018 14:00
3.9	Latest date/time ITQ Bid shall be submitted through Emptoris	Monday 29 <sup>th</sup> January 2018 14:00
3.10	Anticipated selection and de selections of Bids notification date	Monday 05 <sup>th</sup> February 2018
3.11	Anticipated Award date	Monday 05 <sup>th</sup> February 2018
3.12	Anticipated Contract Start date	Wednesday 08 <sup>th</sup> February 2018
3.13	Anticipated Contract End Date	Friday 29 <sup>th</sup> June 2018
3.14	Bid Validity Period	60 Days

## Section 4 – Specification

STFC Rutherford Appleton Laboratory (RAL) require supply of polished substrates ready for the laying down of multilayer dielectric coatings with high Laser Induced Damage Threshold.

### **Essential requirements**

#### **Substrate**

E1 - Material	Fused silica suitable for High Power Laser use.
E2 - Dimensions	315 by 300 mm (+0.0 mm, -1.0 mm) The corners to be rounded such that the diagonal distance is 420.0 mm ( $\pm 2.0$ mm) Thickness to be 40 mm (+0.0 mm, -1.0 mm)
E3 - Operational Aperture	285 mm by 270 mm centred, over which all specifications apply
E4 - Wedge	15 arc minutes ( $\pm 1$ arc minute) running along long side
E5 - Edges	Fine Ground

#### **Coating**

E6 - Reflectivity	High Reflectivity (>99.8%R) for broad bandwidth
E7 - Central Operational Wavelength	1053 nm
E8 - Angle of operation	45 degrees
E9 - Polarisation	'p' (TM) Polarisation

#### **Wavefronts**

E10 - Reflected Wavefront	Flat to $< \lambda/6$ P-V at 1053 nm over operational aperture Gradients $< \lambda/10$ per cm at 1053 nm over operational aperture
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The Operational Wavelength range must at least cover the full range of 1033-1073nm

### **E11 - Markings**

#### **Permanent Markings**

Each substrate shall have a unique number supplied by the Laboratory sandblasted around the edge.

#### **Removable Markings - to be made in pencil**

Each mirror shall be marked around the edge with a unique serial number to be furnished by the Laboratory of the form YY/NN/Surf1/ XX/Z where :

- YY is the Year (last 2 digits)
- NN is the Optic Number within that year
- H is the coating on front surface
- XX is the operational angle of the coating

- Z is polarisation ('s' or 'p')

Surf1 and Surf 2 can be HR (for >99.5%), 'X'%R for other reflectivities, AR for anti-reflection and U for uncoated

The actual reflectivity shall be marked around the edge of the substrate

### **E12 - Documentation**

Each mirror will be supplied with reflected wavefront interferograms calculated at the operational wavelength and measured spectra showing reflectivity for the operating bandwidth for the coating at the angle of operation.

### **E13 - Packing**

Minimum Packing requirement: Each mirror shall be initially wrapped in at least two layers of soft lens tissue, followed by at least two layers of acid free wrapping tissue. This shall then be wrapped in at least two layers of bubble wrap, have a descriptive identifying label including the serial number attached to the bubble wrap, and sealed in a polythene bag. A small sachet of silica gel shall be enclosed within this bag. This package shall then be wrapped in a suitable cushioning wrap and put in a container suitable for the mode of conveyance selected.

The outer wrapping to be marked "Only to be opened in a clean room by technical staff familiar with the contents" and "FRAGILE - GLASS – HANDLE WITH CARE".

### **Desirable requirements**

#### **Substrate**

D1 - Internal defects	< 100 µm diameter, with area < 0.03 mm <sup>2</sup> per 100 cm <sup>3</sup>
D2 - Finish	Best laser quality polish
D3 - Scratch/Dig	better than 10/5
D4 - Corners	1 mm Nominal 45 degree chamfer around circumference on both sides.

#### **Coating**

D5 - Hard multilayer dielectric coating	
D6 - Dispersion properties	Coating to be designed to reduce second and third order dispersion to the minimum compatible with other specifications
D7 - Operating Bandwidth	Specified reflectivity (±1%) between 1033 and 1073 nm
D8 - Scatter	Minimal
D9 - Damage threshold	> 4 J cm <sup>-2</sup> for 100 ps pulses, >10 Jcm <sup>-2</sup> for 1 ns pulses
D10 - Cleaning	Capable of withstanding vigorous rubbing using lens tissues soaked in acetone, ethanol or isopropanol
D11 - Defects in coating	To be free of defects > 100 µm
D12 - Area of defects	< 0.02 mm <sup>2</sup> / cm <sup>2</sup>
D13 - Crazeing	No evidence of crazeing after frequent vacuum cycles
D14 - Operating Environment	Frequent cycles between air/vacuum pressure down to 10 <sup>-9</sup> bar.

**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 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, 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	AW4.1	Contract Terms
Commercial	AW4.2	Contract Terms 2
Quality	AW6.1	Compliance to the Specification
Quality	PROJ1.2	Operational Wavelength Range
Quality	PROJ1.5	LIDT
-	-	Invitation to Quote – received on time within e-sourcing tool

Scoring criteria			
<b>Evaluation Justification Statement</b>			
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	40%
Quality	PROJ1.3	Operating Bandwidth	20%
Quality	PROJ1.4	Bandwidth Data	20%
Quality	PROJ1.6	LIDT data	20%

## 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:

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

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. 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: Score/Total Points multiplied by 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.

## **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.ukpbs.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. Unless formally requested to do so by UK SBS e.g. Emptoris system failure
- 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 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 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.
- 7.16 Do not contact any UK SBS staff or the Contracting Authority 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 the Contracting Authority 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 must 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 as part of the evaluation process.
- 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. / UKSBS.
- 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 60 days or your Bid will be rejected.
- 7.34 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.
- 7.35 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 The Government is introducing its new Government Security Classifications (GSC) classification scheme on the 2<sup>nd</sup> 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](#)