



Global Tender Document

Tender No.: CEH/SRO/2024/Global/0001

For

“High-Speed Pulsed Laser Illumination System for Imaging ”

**Center of Excellence in Hypersonics
Indian Institute of Science, Bangalore – 560012**

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1. Tender Notification

Tender No.: CEH/SRO/2024/Global/0001

| | |
|--|---|
| Scope of Work | High-Speed Pulsed Laser Illumination System for Imaging |
| Estimated Period of Work Completion | 5 (five) Months |
| Name of the Client | Indian Institute of Science, Bangalore |
| Address of the Client | The Chairman Center of Excellence in Hypersonics Indian Institute of Science Bangalore - 560 012 |
| Contact Person/Client Representative | Prof. Srisha Rao M V Associate Professor Department of Aerospace Engineering, IISc. Phone: 080-22932426 Email: srisharao@iisc.ac.in |
| Tender Fee | NIL |
| Date of publishing | 10 th January 2025 |
| Last date and Time for online submission (uploading) of tender | 31 st January 2025, 5.00 PM |
| Date and Time of opening of Tender | 3 rd February 2025, 11.00 AM |

2. General Conditions

The Chairman, Center of Excellence in Hypersonics, Indian Institute of Science invites tenders in two bid (Technical and Financial) system from eligible global bidders, for “**High-Speed Pulsed Laser Illumination System for Imaging**”.

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| 2.1 | Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Government of India or any State Government of Union of India. (authorized signatory should provide an undertaking). Tenders from Joint ventures are not acceptable. |
| 2.2 | All Bidders shall provide the required information accurately and enough as per details in Section 4: Eligibility Criteria |
| 2.3 | The rates quoted should reflect Shipping charges, CIP charges, taxes separately. However, bid evaluation will be done inclusive of all Taxes / Cess. / Royalty etc. The statutory levies as per Govt. guidelines will be deducted. The IISc reserves the right to accept / reject any or all the tenders without assigning any reasons. |
| 2.4 | The quotations should be on CIP-IISc Bangalore basis. |
| 2.5 | Any statutory increase in the taxes and duties subsequent to the bidder’s offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore, subject to the claim being supported by documentary evidence. However, if any decrease takes place, the advantage will have to be passed on to IISc, Bangalore. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from the bidding process. |
| 2.6 | Conditional tenders will not be accepted and is liable for rejection. |
| 2.7 | Even though the Bidders meet the eligibility criteria, they are subject to be disqualified if they have: <ul style="list-style-type: none"> – Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or – Record of poor performance such as abandoning the works, not properly completed the contract, inordinate delays in completion, litigation history, or financial failures etc. – Additionally, IISc shall have the absolute right to take the opinion of other departments/institutes for their opinion/experience about the bidder’s services/sales. Based on such input, IISc may decide about the rejection of a bid of such bidder(s). |
| 2.8 | The Tender document can be downloaded from IISc website (https://iisc.ac.in/all-tenders/) It may be noted that all subsequent notifications, changes and amendments on the project/document would be posted only on the same website. The bidders are advised to visit the IISc Portal and get familiarized with the procedure for submission of the tenders. |
| 2.9 | Content of Tender documents The bidders should go through the Tender Document and submit online response through IISc portal only |
| 2.10 | Amendment of Tender documents Before the deadline for submission of tenders, the IISc may modify the tender documents by issuing corrigendum / addendum. Such corrigendum/ addendum thus issued shall be part of the tender documents and shall be published online in IISc portal. |
| 2.11 | Documents comprising the Tender The Technical Bid submitted by the Bidder shall contain the documents as follows: <ul style="list-style-type: none"> a) Proof of previous experience in similar work (as per eligibility criteria) |

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| | <p>b) Other documents citing aspects fulfilling eligibility criteria.</p> <p>c) Technical Compliance sheet in tabular form showing compliance to the technical specifications in Section 3</p> <p>The Financial Bid:</p> <p>a) Provide prices of individual items on per unit basis followed by total cost as per numbers.</p> <p>b) Price quoted shall be inclusive of all discounts.</p> <p>c) All prevailing duties, taxes, and other levies like CESS/Royalty payable by the contractor under the contract, or for any other cause, shall be included in the rates, prices and total Tender Price submitted by the Bidder.</p> |
| 2.12 | <p>Tender validity</p> <p>Tenders shall remain valid for a period not less than 180 days after the deadline date for tender submission. A tender valid for a shorter period shall be rejected by the IISc as non-responsive. In exceptional circumstances, prior to expiry of the original time limit, IISc may request that the Bidders may extend the period of validity for a specified additional period. The request and the Bidders' responses shall be made in writing or by email.</p> |
| 2.13 | <p>Deadline for submission of the Tenders</p> <p>The Bidder shall submit a set of hard copies of all the documents in two separate covers sealed and marked as “ Technical Bid” and “Financial bid” to IISc, on or before 14th September 2023.</p> <p>The IISc may extend the deadline for submission of tenders by issuing an amendment, in which case all rights and obligations of the IISc and the Bidders previously subject to the original deadline will then be subject to the new deadline.</p> |
| 2.14 | <p>Modification and Withdrawal of Tenders</p> <p>Bidder has all the time to modify and correct till last date and time for Bid submission, as published .</p> <p>The Bidder may withdraw his tender before the notified last date and time of tender submission. No Tender may be modified after the deadline for submission of tenders.</p> |
| 2.15 | <p>Clarification of Tenders</p> <p>To assist in the examination, evaluation, the IISc may, at its discretion, ask any Bidder for clarification of his/her Tender. The request for clarification and the response shall be in writing or by e-mail along with the section number, page number and subject of clarification, but no change in the price or substance of the Tender shall be sought, offered, or permitted.</p> <p>Any effort by the Bidder to influence the IISc in the Tender evaluation, or contract award decisions may result in the rejection of the Bidders' Tender.</p> |
| 2.16 | <p>Examination of Tenders and determination of responsiveness</p> <p>Prior to the detailed evaluation of Tenders, the IISc will determine whether each tender (a) meets the eligibility criteria, and (b) is substantially responsive to the requirements of the Tender documents.</p> <p>A substantially responsive tender is one which conforms to all the terms, conditions, and specifications of the Tender documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the tender documents, the IISc's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Tenders.</p> <p>If a tender is not substantially responsive, it will be rejected by the IISc, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation</p> |

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| | or reservation. |
| 2.17 | <p>Award criteria</p> <p>IISc will award the contract to the Bidder whose Tender has been determined to be substantially responsive to the tender documents and who has offered the lowest evaluated tender price. After technical evaluation the technically qualified bidders will be considered for opening of the financial bids provided that such bidder has been determined to be eligible in accordance with the provisions of this tender document and subsequent technical clarifications offered by the responsive bidders.</p> |
| 2.18 | <p>Right to accept any Tender and to reject any or all Tenders</p> <p>IISc reserves the right to accept or reject any Tender, and to cancel the Tender process and reject all Tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the IISc's action.</p> |
| 2.19 | <p>Notification of award</p> <p>The Bidder whose Tender has been accepted will be notified of the award by the IISc prior to expiration of the Tender validity period by e-mail or confirmed by letter.</p> |
| 2.20 | <p>Cancellation of Tender:</p> <p>Notwithstanding anything specified in this tender document, the purchase committee, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:</p> <ol style="list-style-type: none"> To accept OR reject lowest tender or any other tender or all the tenders. To accept any tender in full or in part. To reject the tender, offer not confirming to the tender terms. |
| 2.21 | <p>Comprehensive Maintenance Contract:</p> <p>An annual maintenance contract for a period of atleast 2 years post warranty should be provided on completion of warranty period. If the equipment cost is A, CMC is B, the lowest bid will be calculated as $L1=A+5*B$.</p> |
| 2.22 | <p>Delivery, Installation and Training:</p> <p>The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The system should be delivered, installed and made functional within 150 days from the date of receipt of purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period. No partial shipment is allowed.</p> <p>The bidder should also arrange for technical training to the local facility technologists and users.</p> |
| 2.23 | <p>Payment Terms:</p> <p>The payments to non domestic vendors will be through a Letter of Credit and milestone of the payment will be determined after the mutual discussions with the successful bidder. As per GFR no advance payment can be made to domestic vendors, unless an equal amount of bank guarantee is provided.</p> |
| 2.24 | <p>Statutory Variation:</p> <p>Any statutory increase in the taxes and duties subsequent to bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will have to be passed on to IISc, Bangalore.</p> |

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Disputes and Jurisdiction:

Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.

3. Technical Specifications

Mandatory Specifications of High-Speed Pulsed Laser Illumination System

| S.N. | Parameter (unit) | Specification |
|------|--|---|
| 1. | Wavelength | Visible, typical – 500 nm - 650 nm |
| 2. | Power | 400 W – 500 W [Multiple power options may be quoted separately] |
| 3. | Laser Class | 3B or 4 |
| 4. | Laser Beam Quality | Low Coherence, Beam diameter compatibility with 3mm/5mm liquid light guide |
| 5. | Sync signal | Typical 5V TTL pulse from a pulse generator/synchronization unit |
| 6. | Pulsing Rate | Single pulse to greater than or equal to 5 MHz |
| 7. | Continuous Duty Cycle | Typical 0.03% |
| 8. | High-Speed Duty Cycle | 100% |
| 9. | Maximum Laser operating time in high-speed mode | 30 microseconds or greater [longer duration is preferred] |
| 10. | Minimum laser pulse duration | 10 nanoseconds -50 nanoseconds [lower pulse duration is preferred] |
| 11. | Laser timing unit (synchronization/control unit) | Necessary <ul style="list-style-type: none"> • Able to set the repetition rate and the pulse duration independently • Provide sync signals as output • Have the option to have an external sync input and provide 5V TTL signals for the laser with a prescribed delay [multiple configurable output channels needed to synchronize multiple instrumentations] |
| 12. | Liquid Light Guide | Necessary, compatible with beam diameter, length at least 2 meters to 5 meters (separate quotes can be provided for different lengths) |
| 13. | Beam expander – 25 mm and 50 mm | Necessary, |
| 14. | Laser Safety Equipment | Laser Goggles for the wavelength |
| 15. | Hard carry case | Must be included, |
| 16. | Electrical connections | Compatibility with existing 220-240VAC@50Hz single-phase power supply. |
| 17. | Warranty | At least 36 months from the date of installation |
| 18. | No of Units | Maximum 2 |

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| | | <ul style="list-style-type: none"> • Commercial bid should contain information about per unit price • IISc reserved the right to decide the final number of units to be purchased |
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Installation and Training

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| 1 | The High-Speed Pulsed Laser Illumination System should be installed by a technical expert of either the manufacturer or their authorised Indian technician. |
| 2 | Complete training should be given on operating and maintaining the High-Speed Pulsed Laser Illumination System. |
| 3 | The operation of the illumination system should be demonstrated on the existing high-speed schlieren system at the laboratory. |

Warranty

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|---|---|
| 1 | Warranty conditions: <ul style="list-style-type: none"> • Comprehensive Warranty covering all mandatory parts in this tender of at least 36 months from the date of complete onsite installation. • The Bidders should clearly document warranty conditions in the tender document including accessories. |
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Optional Items

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|---|---------------------------------|
| 1 | Extended Warranty package |
| 2 | Optical filters |
| 3 | Neutral Density Optical Filters |

Delivery

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|---|--|
| 1 | Within 5 months from the release of the Purchase Order |
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Commercial Bid Price Break Up

In the commercial bid, please provide the price of individual components, preferably in the following manner.

1. Cost of the High-Speed Pulsed Laser Illumination System per unit cost and total cost for 2 nos
2. Cost of Control/Synchronization unit (if applicable) per unit cost and total cost for 2 nos
3. Cost of Liquid Light Guide per unit cost and total cost for 2 nos
4. Optional Items
 - a. Cost of optical filters and neutral density filters per unit cost and total cost for 2 nos
 - b. Cost of Extended Warranty per unit cost and total cost for 2 nos
5. Other Optional items
6. Shipping Charges
7. CIP Charges

4. Eligibility Criteria

| Sl. No | Requirement | Compliance |
|---------------|---|-------------------|
| 1 | Only the Original Equipment Manufacturer or their authorized representatives across the globe shall participate in the bid. | NA |
| 2 | The order will be placed only on the bidder who participated in the bid. | NA |
| 3 | History of having supplied similar High-Speed Pulsed Laser Illumination System to other Government organizations/Educational Institutes. A list of such purchases must be supplied. | Yes/No |
| 4 | The bidder must show, through demonstration/video/publications, the capability to synchronize, control and acquire high-speed images using the high-speed pulsed laser illumination system coupled with a high-speed camera. High-quality image capture of extremely short-duration events must be shown. | Yes/No |
| 5 | Technically trained manpower who can install the High-Speed Pulsed Laser Illumination System onsite and provide a demonstration of the working system on a shock tunnel flow visualization | Yes/No |
| 6 | Technically trained manpower to provide training to end users at IISc | Yes/No |

Annexure 1:

Details of the Bidder: The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

| Sr. No. | Type | Details |
|---------|---|---------|
| 1. | Name of the Bidder | |
| 2. | Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed) | |
| 3. | Registration No/ Trade License, (attach attested copy) | |
| 4. | Registered Office Address | |
| 5. | Address for communication | |
| 6. | Contact person- Name and Designation | |
| 7. | Telephone No | |
| 8. | Email ID | |
| 9. | Website | |
| 10. | PAN No. (attach copy) | |
| 11. | GST No. (attach copy) | |

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 2:

Declaration regarding experience

To,

The Chairman,
Center of Excellence in Hypersonics
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Prof. Srisha Rao M V

Ref: Tender No:

Dated:

Sub: Supply High-Speed Pulsed Laser Illumination System for Imaging.

I have carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has _____ years of experience in supplying and installing High-Speed Pulsed Laser Illumination System.

(Signature of the Bidder)

Name:

Date:

Designation, Seal

(Signature of the OEM)

Name:

Date:

Designation, Seal

Annexure 3:

Declaration of track record

To,
The Chairman,
Center of Excellence in Hypersonics
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Prof. Srisha Rao M V

Ref: Tender No:

Dated:

Sub: High-Speed Pulsed Laser Illumination System for Imaging

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender.

I hereby declare that my company / firm is not currently debarred / blacklisted by any Government / Semi-Government organizations / institutions in India or abroad. I further certify that I am competent officer in my company / firm to make this declaration.

OR

I declare the following:

| Sr. No. | Country in which the company is debarred/ blacklisted / having pending case | Blacklisted / debarred by Government / Semi Government Organizations or Institutions / having pending case | Reason | Time Period |
|---------|---|--|--------|-------------|
| | | | | |

(Note: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

(Signature of the Bidder)
Name:
Designation, Seal

Date:

Annexure 4:

Declaration of acceptance of terms and conditions

To,
The Chairman,
Center of Excellence in Hypersonics
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Prof. Srisha Rao M V

Ref: Tender No:

Dated:

Sub: High-Speed Pulsed Laser Illumination System for Imaging

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 5:

Details of items quoted:

- a. Company Name
- b. Product Name
- c. Part / Catalogue number
- d. Product Description / main features
- e. Detailed technical specifications
- f. Specification Compliance Sheet
- g. Remarks, if applicable

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.