Ref. No.: CEH/SRO/2023/0001 Date: 31st March, 2023

Tender Notification for the Procurement of Two Identical High Speed Cameras (Last Date for Submission: 15th April 2023)

This is a Request for quote (RFQ) from domestic (India-based) manufacturers only for procurement of a two identical high speed cameras at the Center of Excellence in Hypersonics, Indian Institute of Science, Bangalore. With respect to this tender, the rules laid out by the Government of India in order No. P45021/2/2017-pp-BE-II issued by the Public Procurement Section, Department or Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 4th June 2020 will be followed. As per this order, the government has defined a 'Class-I local supplier' as "a supplier or service provider whose goods, services or work offered for procurement, has local content equal to or more than 50%". A 'Class-II local supplier' is "a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%". Only Class-I and Class-II local suppliers are eligible to participate in this open domestic tender. Any "Non-local supplier" i.e., "a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%" is ineligible to participate in this tender. The tender should be submitted in two separate sealed envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 5 PM on 15th April 2023.

The bids should be addressed to:

The Chairman, Center of Excellence in Hypersonics, Indian Institute of Science Bangalore 560012, India.

Kind attention: Prof. Srisha Rao M V

email: srisharao@iisc.ac.in, jaggie@iisc.ac.in

1	Section 1	Bid Schedule	As specified by IISc	
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Section 1: Bid Schedule

1.	Tender No	CEH/SRO/2023/0001
2.	Tender date	31st March 2023
3.	Instrument	High Speed Camera (2 nos, identical)
4.	Tender type	i) Technical bid (Part A)ii) Commercial bid (Part B)
5.	Place of tender submission	The Chairman, Center of Excellence in Hypersonics, Indian Institute of Science Bangalore 560012, India. Kind attention: Prof. Srisha Rao M V
6.	Last date and time of tender submission	15 th April 2023, 5 PM
7.	Contact for further clarification	Prof. Srisha Rao M V Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Ph: +91-80-2293-2426 email: srisharao@iisc.ac.in

Section 2: Eligibility Criteria

Prequalification criteria:

- 1. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
- 2. The quotations should be on FOR-IISc Bangalore basis in INR only.
- 3. The Bidder's firm should have existence for a minimum of 3 years (Enclose Company Registration Certificate).
- 4. The Bidder should belong to either Class 1 or Class 2 supplier distinguished by their "local content" as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter.
 - a. Class 1 supplier: Goods and services should have local content of equal to or more than 50%.
 - b. Class 2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.
- 5. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to Class-1 supplier.
- 6. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per Annexure 4.
- 7. The Bidder must be not blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.

Section 3: Technical Specification for the High Speed Camera (2 nos)

Mandatory Specifications of High Speed Camera

S.N.	Parameter (unit)	Specification
1.	Туре	Color
2.	Sensor Type	CMOS
3.	Maximum Pixels of the Frame	1 Megapixel or higher
4.	Frame Rate at Max. Pixel Resolution	10000 fps (or higher) @ 1 Megapixel (or higher)
3.	Maximum Frame Rate at Min. Pixel Resolution	300000 or higher
4.	Minimum Exposure Time	1 μs (standard) or lower
5.	No of bits per pixel (Dynamic Range)	12 bits /color channel = 36 bits in color mode
6.	Light Sensitivity: ISO	Color mode: 10000 or higher
7.	PIV mode	Straddle time 0.75 µs or lower
8.	Binning mode	Enabled
9.	Memory RAM	128 GB
10.	Internal Memory Drive for rapid storage during long recording	SSD Hard Drive
8.	Read out	10 Gb High Speed Ethernet
9.	I/O controls	Trigger, Strobe, Fsync, Event, Timing (out), External Clock (In)
10.	Ethernet Bus/Coupling Hardware	To couple and synchronize multiple cameras
11.	Camera Control Software and SDK	Software to synchronize and control multiple cameras with SDK kit for Labview and Matlab
12.	Cables	Cables for I/O and ethernet cable for readout
13.	Lens compatibility	F Mount Nikkon Lenses
14.	Hard cover carry case	Yes

T2. Mandatory requirements/features:

- 1. The High Speed Cameras should be installed by a technical expert of either the manufacturer or their authorized Indian technician. Complete training should be given on the operation, and maintenance of the high speed camera. The technical expert of should be able to integrate the two cameras and complete the installation by demonstrating the capture of a high speed event in a shock tunnel using two identical high speed cameras to obtain a 3D-Visualization.
- 2. Compatible high quality optical zoom lenses having maximum focal length of 200 mm, one for each camera
- 3. Warranty conditions at least 24 months from the date of installation
- 4. Compatibility with existing 220-240VAC@50Hz single-phase power supply.

5. Delivery: Within 3 to 4 months from the date of purchase order.

T3. Optional requirements/features:

1. Extended Warranty package

T4. Commercial bid price break-up

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

- 1. High Speed Camera with all mandatory items, per unit cost and total cost for two cameras
- 2. Optical Lenses
- 3. Optional Items
- 4. Shipping Charges
- 5. CIP Charges.

Section 4: Terms and Conditions

- 1. All documentations in the tender should be in English.
- 2. Tender should be submitted in two envelopes (two bidsystem).
 - a) Technical Bid (Part-A) Technical bid consisting of all technical details and checklist for conformance to technical specifications. The proposal should contain a compliance table. The compliance table should include all the items of the technical specifications in the same order and format. The first additional column should describe product specifications. The next column should indicate compliance in a "Yes" or "No" response.
 - b) Commercial Bid (Part-B) Indicating item-wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.
- 3. The technical bid and price bid should each be placed in separate sealed covers, superscribing on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscribed with the Tender No, Tender Description & Due Date.
- 4. The SEALED COVER superscribing tender number and due date & should reach the office of the Chairman, Center of Excellence in Hypersonics, Indian Institute of Science Bangalore 560012, India. Kind attention: Prof. Srisha Rao M V, on or before the due date mentioned in the tender notice. In case the due date happens to be a holiday, the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
- 5. The covering letter should clearly state that whether the vendor is a Class-II local supplier. Failing this the bid will be automatically rejected.
- 6. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.
- 7. The lead-time for the delivery of the equipment should be less than 3 to 4 months from the date of receipt of necessary documents. It should be clearly mentioned in the technical and commercial bids.
- 8. The vendor must provide a compliance statement in a tabular form concerning each technical specification in the tender document duly supported by the manufacturer's literature and published papers. Any other claim will not be accepted and may lead to the rejection of the bid.
- 9. Wherever requested, data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed as technically non-compliant.
- 10. The institute reserves the right to verify the accuracy and seek clarification of submitted specifications after opening the technical bids. Based on such clarification, if specifications are found to be unsuitable, the technical committee reserves the right to disqualify vendors. Any discrepancy between the promised and verified specifications will be deemed as technical non-compliance.
- 11. The technical bid should also contain warranty details and terms. Further, any periodic maintenance requirements for regular operation should be specified in detail, along with the extent of coverage under warranty for such maintenance activity.
- 12. The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid. The vendor is responsible for the installation of the system at the institute, along with the training of end-users.

- 13. In the commercial bid, the price should be inclusive of all discounts. The price quotation should include the cost of installation and training of potential users if any. Please quote the price of each dye laser component, separately.
- 14. The quotations should be on FOR-IISc Bangalore basis in INR only.
- 15. 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.
- 16. The vendor must submit a list of all Indian customers (only Government of India organizations) where similar systems have been installed. References from this list can be used to disqualify vendors with a poor track record of service, build quality, system performance, or poor availability of spares. 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).
- 17. The vendor shall include up to five testimonials from existing users of a similar laser system indicating the performance of the laser and maintenance satisfaction.
- 18. Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
 - a) To accept OR reject the lowest tender or any other tender or all the tenders.
 - b) To accept any tender in full or inpart.
 - c) To reject the tender, offer not conforming the tender terms.
- 19. The indenter reserves the right to relax any or all of the above conditions without assigning any reason.

Annexure 1:

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

Sr. No.	Туре	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/Partnership	
3.	Deed) 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:	Date:
Designation, Seal	

Annexure 2:			
Declaration regarding experience			
То,			
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 of two identical high speed camera			
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 two high speed cameras.			
(Signature of the Bidder) Name: Designation, Seal	Date:		
(Signature of the OEM) Name: Designation, Seal	Date:		

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: Supply of two identical high speed camera

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	Blacklisted / debarred	Reason	Time Period
	company is debarred/	by Government / Semi		
	blacklisted / having	Government		
	pending case	Organizations or		
		Institutions / having		
		pending case		

(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:	Date:
Designation, Seal	

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: Supply of two identical high speed camera

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: Date:
Designation, Seal

Annexure 5:

Details of items quoted:

- a. Company Name
- b. Product Name
- c. Part / Cataloguenumber
- d. Product description / main features
- e. Detailed technical specifications
- f. 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.

Section 5 – Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned below:

Please provide the price of individual components, preferably in the following manner.

- 1. High Speed Camera with all mandatory items, per unit cost and total cost for two cameras
- 2. Optical Lenses
- 3. Optional Items
- 4. Shipping Charges
- 5. CIP Charges.

Items requested in the mandatory specification section

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in				
	the technical specification				
2	(details of essential				
	items)				
3.	Warranty (years)				
4.	FOR-IISc Bangalore only				

Items requested in the optional specification section

1001	tems requested in the optional specification section						
S	S.No	Description	Cat. Number	Quantity	Unit Price	Sub total	
]	l.	Optional items noted in					
		the technical specification					
2	2	(details of Optional					
		items)					
3	3.	Warranty (years)					
_	1.	FOR-IISc Bangalore only					

Section 6 - Checklist

The following items must be checked before the bid is submitted.

- 1. Sealed Envelope "A": Technical Bid
 Technical bid (signed by the authorized signatory and sealed) with the below documents:
 - a. Annexure 1: Bidders details
 - b. Annexure 2: Declaration regarding experience
 - c. Annexure 3: Declaration of trackrecord
 - d. Annexure 4: Declaration of acceptance of terms and conditions
 - e. Annexure 5: Details of item quoted.

2. Sealed Envelope "B": Commercial Bid

Your quotation must be submitted in two separate sealed envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date. These envelopes should be put in a bigger cover which should also be sealed and duly superscribed with Tender No., Tender description & Due Date.