वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद् Council of Scientific & Industrial Research राष्ट्रीय वांतरिक्ष प्रयोगशालाएं National Aerospace Laboratories



INVITATION FOR BIDS/NIT

Tender No. NAL/PUR/CSMST/063/21-Y

Dated: 26-Jul-2021

CSIR- National Aerospace Laboratories (NAL), Bengaluru, India is one of the premier laboratories under Council of Scientific and Industrial Research (CSIR), an autonomous body under Department of Scientific and Industrial Research, Government of India, New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organization. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

The Director, CSIR-NAL invites online quotation for procurement of the following item(s) for day to day research work.

SI.No.	Description of Items	Unit	Quantity
1	Multi Input-Output Data Acquisition and Strain Measurement System.	Set	01
	(Please refer annexure for detailed specification)		

Single / Double Bid	Single	Tender Type	Open
Bid Security (EMD) (in INR)	Bid Security Declaration should be enclosed with quotation	Bid submission end date	16-Aug-2021 10.00 Hrs
Performance Security	3% of the purchase order value	Bid opening date	17-Aug-2021 11.00 Hrs

- 01. Tender Documents may be downloaded from Central Public Procurement Portal <u>https://www.etenders.gov.in</u>. Aspiring Bidders who have not enrolled/ registered in e- procurement should enroll/ register before participating through the website <u>https://www.etenders.gov.in</u>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for online Bid Submission'.
- 02. Tenderers can access tender documents on the website (For searching in the NIC site https://www.etenders.gov.in, kindly go to Tender Search option, select tender type and select ' Council of Scientific and Industrial Research' in organization tab and select NAL-Bengaluru-CSIR in department type Thereafter, Click on "Search" button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website https://www.etenders.gov.in, as per the schedule given in the next page.
- 03. Either the Indian Agent on behalf of the Foreign principal or the Foreign principal can bid directly in a tender but not both. However, the offer of the Indian Agent should also accompany the authorization letter from their principal. To maintain sanctity of tendering system, one Indian Agent cannot represent two different Foreign principals in one tender.
- 04. Unsolicited / conditional / unsigned tenders (Quotations)/Quotations received after the due date and time **shall be summarily rejected**. The Bidder shall comply the terms and conditions of the tender, failing which, the offer shall be liable for rejection.
- 05. The Bidders proposing to supply finished products directly/indirectly from vendors of countries sharing the land border with India should submit copy of registration done with the Ministry of Home Affairs and Ministry of External Affairs.
- 06. If the Products supplied are not from vendors of countries sharing land border with India, the Bidders have to enclose a declaration to that effect.

The bids of those Bidders failing to comply with the above clauses will be summarily rejected.

पी बी सं. 1779, एचएएल एयरपोर्ट रोड, कोडिहल्ली, बेंगलुरु - 560 017, भारत, P B No 1779, HAL Airport Road, Kodihalli, Bengaluru - 560 017, INDIA फोन / Phone : (का./ Off) : +91 - 80 - 2508 6040 - 45, फैक्स / FAX : +91-80-2526 9611

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CSIR-National Aerospace Laboratories, Bengaluru-560 017, INDIA

- 07. Bidders are requested to refer to the instruction regarding Procurement Policies for Make in India issued by Ministry of Commerce and Industry, Department of Industrial Policy and Promotion dated. 28-May-2018 and 4-Jun-2020 and guidelines as and when issued.
- 08. The prospective bidders are requested to refer to the Standard Terms and Conditions available on NAL Internet (<u>www.nal.res.in</u>) under the icon Tender-Purchase before formulating and submitting their bids
- 09. The Director, CSIR- National Aerospace Laboratories, Bengaluru reserves the right to accept any or all the tenders either in part or in full or to split the order without assigning any reasons there for.

Răman Kumar ' Stores & Purchase Officer _

<u>Technical Specifications for Multi Input-Output Data Acquisition and Strain</u> <u>Measurement System</u>

CONTROLLER				
1	No. Of Slots	8 Slot		
, 2	Speed	1.3 GHz and Better		
3	Processor	Intel Atom E3930 Dual Core or better		
4	On Board FPGA	KINTEX-7 70T or better		
5	Ethernet Port	Dual Ethernet		
6	RS232 /RS 485	One Each		
7	USB	3 High Speed USB Ports		
8	Memory (Non Volatile)	4 GB SSD with Memory card support for future expansion up to 32 GB		
9	On board DRAM	2 GB DDR 3 or better		
10	Operating System	Linux Real Time (64 – Bit)		
11	Software Compatibility for development of application software	LabVIEW		
12	Power Supply	24V DC		
13	Quantity	1 No.		
	ANALOG I	NPUT MODULE		
1	No. of Channels	Configurable as 16 Differential or 32 Single ended		
2	ADC Resolution	16 Bits		
3	Sampling Rate	250kS/S		
4	Input Range	±200 mV to ±10 V		
5	Input Impedance During ON	> 10GΩ		
6	Input Impedance During OFF	4.7 kΩ minimum		
7	Overvoltage Protection	±30 V		
8	Quantity	1 No.		
	ANALOG OU	JTPUT MODULE		
1	No. of Channels	16		
2	DAC Resolution	16 Bits		
3	Sampling Rate	25ks/s/ch Simultaneous		
4	Power On Output Stage	Channel s Off		
5	Output Impedance	2 Ω		
6	Current drive	±16 mA all channels maximum ±4 mA per channel typical		
7	Isolation	Channel to Earth Isolation		
8	Output Voltage Range	±10V		
9	Over Voltage Protection	±27 V at 25 °C		
10	Quantity	1 No.		
	DIGITAL INPUT	TOUTPUT MODULE		
1	No. of Channels	16 DI and 16 DO		
2	Type of Input	Sinking		
3	Input Range	0 to 30 VDC		
4	Input Digital Logic Level	Off State ≤5 V		

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		On State ≥10 V		
4	Input Update Rate	7 μs (DI)		
5	Input Current	4mA per Channel		
6	Input impedance	$30 \text{ k}\Omega \pm 5\%$		
	Type of Output	Sourcing		
	Power On Output Stage	Channel s Off		
	External Power Supply	6 to 30V DC		
	Output Update Rate	500 µs (DO)		
	Output Current	All channels on 125 mA maximum (per channel One channel on 500 mA maximum		
	Quantity	1 No.		
COUNTER/ PULSE GENERATION MODULE				
1	No. of Channels	4 programmable as either input or output		
2	Digital Logic Level	LVTTL, single-ended		
3	Resolution	32 Bits		
4	Maximum I/O switching	4 channels16 MHz		
	frequency	2 channels20 MHz		
5	Connectivity	BNC		
6	Quantity	1 No.		
	BRIDGE ANALO	DG INPUT MODULE		
1	No. of Channels	4		
2	Bridge completion	Half and Full - Internal Quarter - External		
3	ADC Resolution	24 Bits		
4	Sampling Rate	51 kS/s/ch simultaneous or better		
5	Input Range	±25 mV/V		
6	Connectivity	RJ 50		
7	IEPE Excitation Current	2mA Minimum		
8	TEDS	Yes		
9	Quantity	1 No.		
Other General Requirement of the System				
1	Operating Temperature	-20 °C to 55 °C or better		
2	Operating Random Vibration	5 g _{rms} , 10 Hz to 500 Hz		
3	Certification	All modules should be CE certified products		

Note:

- 1. The items should be supplied with manuals, supporting softwares, and drives for C/C++, VB, LabVIEW etc.
- 2. The quotation should contain the required and suitable accessories like connector, cables, power supply, monitor 24 inch, keyboard, mouse, etc.
- 3. The item should be demonstrated at CSIR-NAL for all its specifications and features.
- 4. The firm shall provide onsite warranty for 1 year from the date of acceptance by CSIR-NAL.

Vendor Qualification Criteria:

1. As the demanded items are required to use as a single system, order will be placed on a single vendor who offers the lowest bid, complying to all the technical requirement, for all the items together.

- 2. Vendors should submit authorization from OEM for the hardware addressed to The Director, CSIR-NAL.
- 3. Any update to the driver software should be provided free of cost during the warranty period.
- 4. The vendor should have supplied a similar system in the past to NAL or any other Governmental Institute like DRDO, HAL or similar organizations.

BID-SECURING DECLARATION FORM

Date:			

Bid No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

(a)	have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during
	the period of bid validity specified in the form of Bid, or
(b)	having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
	(i) fail or refuse to execute the contract, if required, or
	(ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration).

Name: (insert complete name of person signing he Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of: (insert complete name of Bidder)

Dated on ______ day of ______(insert date of signing)

Corporate Seal (where appropriate)

Note:

- 1. In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid.
- 2. Bid Security declaration must be signed in by the Proprietor/CEO/MD or equivalent level of Officer of the company.