

Malaviya National Institute of Technology Jaipur

Jawahar Lal Nehru Marg, JAIPUR-302017 (Rajasthan)

**Ministry of Education
(Government of India)**



Single Tender Enquiry

For

Procurement of NI ELVIS III HARDWARE

NIT Number: F5(2015)ST/MNIT/ECE/2022

Date:28.02.2023

**MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY
JLN MARG, JAIPUR-302017**

To,

M/s NI Systems (India) Pvt. Ltd.,
81/1 & 81/2, Salarpuria Softzone, Wing-B, 5th Floor,
Block-A, Bellandur, Varthur Hobli, Bangalore- 560 103

Or (it's authorized dealer/distributor)

M/s
.....
.....

Email id:

Sub: Invitation for Quote for the Purchase "NI ELVIS III Hardware".

Registrar, Malaviya National Institute of Technology Jaipur invites Quote from M/s NI Systems (India) Pvt. Ltd., Bangalore. The hard copy of your offer addressed to the Office of Deputy Registrar (Stores & Purchase) MNIT, JLN Marg, Jaipur- 302017 is required to be submitted on or before Dated 23.03.2023. The important information related to tender are as follows:

Sr. No.	Name of Item	Specifications
01	NI ELVIS III, Hardware only International	As per Annexure- F
02	Emona Signals and Systems Board for NI ELVIS	
03	Emona Communications Board for NI ELVIS III	

1. The bids should contain the following document:

- i. Detailed technical product catalogue.
- ii. Bidder should be the manufacturer / authorized dealer. In case bidder submitted the bid on behalf of OEM than Letter of Authorization from original equipment manufacturer (OEM) specific to the tender enquiry should be enclosed (as per Annexure A).
- iii. A certificate from OEM to the affect that the said good/software is a proprietary item
- iv. A certificate to the affect that the price quoted by you is the lowest and not more than the price quoted to other Educational Institutes in India.
- v. A certificate to the affect that your firm has not been Black Listed/De Listed or put to any Holiday by any Institutional Agency/ Govt. Department/ Public Sector Undertaking in the last three years.
- vi. List of industrial and educational establishments where the items enquired have been supplied must be provided.
- vii. Previous Purchase Order's.

2. Validity: The validity of the offer shall remain valid for 90 days from the date of submission of the offer.

3. **Award of Contract** MNIT, Jaipur shall award the contract to the bidder whose bid has been accepted and determined as responsive.
4. **Installation:** The supplier is required to do the installation and demonstration of the equipment / software within two weeks of the arrival of materials at the MNIT Jaipur, site of installation.
5. **Performance Security:** 3% of the contract value valid till warranty period plus 60 days. The supplier shall require to submit the performance security in the form of irrevocable bank guarantee issued by any commercial bank in the prescribed format (**Annexure - C**) for an amount which is stated at the "Schedule" of the tender document within 10 days from the date of receipt of the purchase order/LC and should be kept valid for a period of 60 days beyond the date of completion of warranty period.
6. **Warranty:** Warranty period shall be (One year comprehensive warranty) from date of installation of Goods and acceptance at MNIT Jaipur. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the contract. If for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall at its discretion make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests. The warranty should be comprehensive on site.
7. **Payment Terms:** For Indigenous supplies, 100% payment shall be made by the Purchaser against delivery, inspection, successful installation, commissioning and acceptance of the equipment at MNIT Jaipur in good condition and to the entire satisfaction of the Purchaser.
 - i. GST Deduction at source as per Order/ notification of the Govt.
 - ii. GST No of MNIT Jaipur is **08AAAJM0351L1Z6**
 - iii. HSN/SAC No of the items must be clearly mentioned in the quotation along with GST No.
 - iv. MNIT Jaipur is exempted from paying custom duty under notification No.51/96 (partially or full) and necessary "Custom Duty Exemption Certificate" can be issued after providing following information and Custom Duty Exemption Certificate will be issued to the shipment in the name of the Institute, no certificate will be issued to third party:
8. **Defective Equipment:** If any of the equipment supplied by the Supplier is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the committee will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the Supplier with 18% interest if such payments for such equipment have already been made. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 7 days on receipt of the intimation from this office at the cost and risk of supplier including all other charges. In case supplier fails to replace above item as per above terms & conditions, MNIT Jaipur may consider "Banning" the supplier.
9. **Liquidated Damages (L.D):** If a supplier fails to execute the order in time as per the terms and conditions stipulated therein, it will be open to the purchaser to recover liquidated damages for delay in delivery and installation from the supplier at the rate 0.5% of the value of the order per week subject to a maximum of 10% of the total order value. The L.D charges can be increased in case of gross violation of the Purchase Order terms as decided by the Director of the Institute.
10. **Cancellation:** MNIT Jaipur reserves the right to accept or reject or cancel any or all enquiries or quotations at any stage without assigning any reason thereof.
11. The bid submission of last Date & Time- **23th March 2023 by 02.00 PM**
12. All disputes are subject to Jaipur jurisdiction.
13. Must ensure to submit Declaration of Local Content. (Annexure-B)

14. Must ensure the price bid/financial bid be furnished as per the price bid format (Annexure-D)
15. Must ensure to submit duly signed checklist (as per Annexure- E)

Deputy Registrar (S&P)

MANUFACTURERS' AUTHORIZATION FORM

[The Tenderer shall require the Manufacturer to fill in this Form in accordance with the Instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer].

Date: [insert date (as day, month and year) of Bid Submission]

Tender No.: [insert number from Invitation for Bids]

To: [insert complete name and address of Purchaser] WHEREAS

We [insert complete name of Manufacturer], who are official manufacturers of [insert type of goods manufactured], having factories at [insert full address of Manufacturer's factories], do hereby authorize [insert complete name of Tenderer] to submit a bid the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the Terms and Conditions, with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer] Title: [insert title]

Duly authorized to sign this Authorization on behalf of: [insert complete name of Tenderer] Dated on day of,

[insert date of signing]

DECLARATION OF LOCAL CONTENT

[For Local Content of Products, Services or Works]

(To be given on Company Letter Head – For tender value below Rs.10 Crores)

(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above Rs.10 Crores)

To,
The Registrar
MNIT Jaipur

Subject: Declaration of Local Content

Tender reference No. _____

1. Country of Origin of Goods being offered: _____
2. With reference to Order No. P- 45021/2/2017-PP(BE-II) dated 16-09-2020 of DPIIT, Ministry of Commerce and Industry, Govt. of India, we fall under the following category of supplier (please tick the correct category) for the items for which this tender has been floated and being bided.
 - Class I local supplier – has local content equal to more than 50%. Local contents added at _____ (name of location).
 - Class II local supplier – has local content more than 20% but less than 50%. Local contents added at _____ (name of location).
 - Non-local supplier – has local content less than or equal to 20%. Local contents added at _____ (name of location).
3. We are solely responsible for the above mentioned declaration in respect of category of supplier. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which we may be debarred for up to 2 years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Signature of Bidder/ Agent

Name: _____

Designation: _____

Organization Name: _____

PERFORMANCE BANK GUARANTEE

(To be executed on Stamp Paper of Rs. 100/- or such higher value as per the Stamp Act of the State in which the Guarantee is issued. Stamp Paper should be in the name of the Bank Issuing the Guarantee.)

BANK GUARANTEE NO. :

DATED :

Dear Sirs,

1. THIS DEED OF GUARANTEE made on this.....day of between **MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY, JAIPUR** (hereinafter called the "MNIT" which expression shall unless excluded by or repugnant to the context includes its successors and assignees) of the one part and the (hereinafter called the "**Bank**" which expression shall unless excluded by or repugnant to the context include its successors and assignees) of the other part.
2. AND WHEREAS as per clause..... Of the purchase order in question the supplier shall furnish a Performance Bank Guarantee of 03% of P.O. Value i.e. Rs. (in words) only) valid for the period of two months beyond warranty period as and by way of security for satisfactory working of the AND WHEREAS at the request of the supplier, the Bank executes these presents.
- 3.0 THIS DEED WITNESSETH AND IT IS HEREBY AGREED AND DECLARED BY AND BETWEEN PARTIES HERETO AS FOLLOWS:
 - 3.1 The Bank hereby guarantees to the MNIT, Jaipur that the equipment / service contracted are capable of performing the work as demanded by the MNIT, Jaipur. In the event of equipment / service failing to perform to the satisfaction of the MNIT, Jaipur, which shall be final and conclusive of the factum of non-performance, the Bank shall indemnify and keep the indemnified to the extent of of P.O. Value i.e. Rs. (Rupees) valid for the period of two months beyond the warranty period against any loss or damage that may be caused to or suffered by the MNIT, Jaipur consequent to non-performance of the contracted equipment / services to be supplied by the supplier.
 - 3.2 In consideration of the aforesaid premise and at the request of the supplier, we the Bank hereby irrevocably and unconditionally guarantee that the supplier shall perform in an orderly manner their contractual obligations in accordance with the terms and conditions set forth in the Purchase order dated and in the event of the supplier's failure to do so, the Bank unconditionally pay to the MNIT, Jaipur on demand, any amount up to the value mentioned in Clause 3.1 above without any reference to the supplier and without questioning the claim.
 - 3.3 The guarantee herein shall remain in full force for a period of two months beyond the warranty period from the date of certification by the MNIT, Jaipur of successful installation and commissioning of the equipment/ service contracted. Date of start of warranty period will be notified by MNIT, Jaipur to the Bank.
 - 3.4 The decision of the MNIT, Jaipur regarding the liability of the Bank under the guarantee and the amount payable there under shall be final and conclusive and binding on us without question. The Bank shall pay forthwith the amount demanded by the MNIT, Jaipur not withstanding any dispute, if any, between the MNIT, Jaipur and the supplier.

- 3.5 The Bank further agrees that the guarantee herein shall remain in full force during the pendency of aforesaid period mentioned in Clause 3.3 above and also any extension of the guarantee which has been provided by the Bank for this purpose beyond the aforesaid period provided, further, that if any claim accrues or against the Bank by virtue of this guarantee, should be lodged with us within a period of 60 days from the date of expiry of the guarantee period.
- 3.6 This Guarantee shall not be affected by any change in constitution of the supplier, MNIT, Jaipur or us not shall it be affected by any change in constitution or by any amalgamation or absorption or reconstruction thereof otherwise, but will ensure for and be available to and endorsable by the absorbing amalgamated company or concern.
- 3.7 The MNIT, Jaipur has the fullest liberty without affecting the guarantee to postpone at any time or from time any of the powers exercisable by it against the supplier, either to enforce or forbear the clause governing guarantee in the terms and conditions of the said contract and Bank shall not be released from its liabilities under the guarantee by any matter referred to or by reason of time being given to the supplier or any other forbearance, act or omission on the part of the MNIT, Jaipur or any material or things whatsoever which under the law relating to sureties shall but for the provisions hereof have the effect of so releasing the Bank from its liabilities.
- 3.8 We further agree that the MNIT, Jaipur shall have the fullest liberty without affecting in any way our obligations hereunder with or without our consent or knowledge to vary any of the terms and conditions of the said contract or to extend the time of delivery from time to time.
- 3.9 The Bank undertakes not to revoke this guarantee during its currency except with the previous consent in writing of the MNIT, Jaipur.
- 3.10 We further agree that in order to give full effect to the guarantee herein contained MNIT, Jaipur shall be entitled to act as if we were its principal debtors in respect of its claim against the Supplier hereby guaranteed by us as aforesaid and we hereby expressly waive all our rights of suretyship and other rights if any which are in any way inconsistent with the above provision of this Guarantee.

Notwithstanding anything herein before, liability of the Bank under this guarantee is restricted to Rs. (Rupees only) and it will remain in force up to the period specified in Clause 3.3 unless a suit to enforce any claim under the Guarantee is filed against the Bank before the period specified in Clause 3.4. All your rights under this Guarantee shall be forfeited and we shall be relieved and discharged from all liabilities thereunder.

COUNTERSIGNED

Signature	:	Signature	:
Name	:	Name	:
Designation	:	Designation	:
Organization	:	Organization	:

FORMAT FOR PRICE BID SUBMISSION

(In letterhead of the supplier with seal)

1	2	3		4	5 Price per unit (Rs.)			6	7 Delivery Charges (Rs.)				8
Sl. No.	Name of Goods	Part Item Sl. No.	Name of Part-Item	Accounting unit & quantity	Ex-factory/ ex-warehouse/ ex-show room off-the shelf	GST payable	Overall Basic unit price (Col. a+b)	Total Item price	Packing and forwarding	Transit Insurance, Other duties and taxes, if any (other than sales tax) and incidental costs	Any other charges (please specify)	Total Inland Transportation	Total Bid Price (Rs.)
1	2	3		4	5(a)	5(b)	5(c) = 5(a)+5(b)	6 = 4x 5(c)	7(a)	7(b)	7(c)	7= 7(a)+7(b)+7(c)	(6)+(7)
1	NI ELVIS III, Hardware only International												
2	Emona Signals and Systems Board for NI ELVIS												
3.	Emona Communications Board for NI ELVIS III												
GRAND TOTAL													

Total bid price (for Indian components) in Indian Currency*: (in figures) :

(in words):

Signature of Bidder/ Agent

Name: _____

Designation: _____

Organization Name: _____

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR

The bidders submitting quotations for the supply of items must ensure to fill the checklist as mentioned below:

S.No.	Document/Details sought for	Page No.	Yes	No
1	Detailed technical product catalogue.			
2	Bidder must be manufacturer/authorized distributor/dealers and they have to enclose a certificate of authorization of manufacturer in format at Annexure –A, (Authorization certificate in any other format will not be valid) OEM itself or any one authorized dealer on behalf of OEM a may participate in bid. OEM and its dealers both may not participate at the same time.			
3	A certificate from OEM to the effect that the said good /software is a proprietary item			
4	A certificate to the affect that the price quoted by you is the lowest and not more than the price quoted to other Educational Institutes in India.			
5	A certificate to the affect that your firm has not been Black Listed/De Listed or put to any Holiday by any Institutional Agency / Govt. Department / Public Sector Undertaking in the last three years.			
6	List of industrial and educational establishments where the items enquired have been supplied must be provided.			
7	Previous Purchase Order's.			
8	Declaration of Local Content			
9	Performance Bank Guarantee: 3% of the contract value valid till warranty period plus 60 days.			
10	Warranty: Standard OEM warranty not less than 1 year comprehensive warranty			

Any other important point requested in the bid invitation letter

Technical Specification

<p>NI ELVIS III Hardware</p>	<ul style="list-style-type: none"> • Seven hardware instruments plus control I/O containing 16 AI, 4 AO, and 40 DIO • 4-channel, 100 MS/s (400 MS/s single channel), 50 MHz oscilloscopes with 14-bit resolution • 16-channel, 100 MS/s logic analyzer/pattern generator • 16-channel, 1 MS/s analog input with 16-bit resolution • 40 DIO lines individually programmable as input, output, PWM, or digital protocols • Bode Analyzer, IV Analyzer • Processor and FPGA - Xilinx Z-7020 Speed - 667 MHz, Cores-2 • Memory Nonvolatile 1 GB Volatile DDR3 512 MB Clock frequency 533 MHz Data bus width 16 bits • Supported operating system Linux Real-Time (32-bit) • USB host port - USB 2.0 Hi-Speed, with standard A connector, 900 mA • USB device port - USB 2.0 Hi-Speed, with standard C connector • Network interface 10Base-T, 100Base-TX, and 1000Base-T Ethernet • Compatibility - IEEE 802.3 • Communication rates - 10 Mbps, 100 Mbps, 1000 Mbps auto-negotiated • Maximum cabling distance - 100 m/segment • Software includes interactive web and desktop soft front panels, instrumentation support for Windows and Mac, API support for LabVIEW
<p>Emona Signal and Systems Board for NI ELVIS</p>	<ul style="list-style-type: none"> • AN INTRODUCTION TO THE ELVIS + TEST EQUIPMENT Students are introduced to the ELVIS instruments used in the experiments. • SPECIAL SIGNALS – CHARACTERISTICS AND APPLICATIONS Students investigate how signals are distorted when a system's response is affected by inertia, and discover signals that are useful for probing a system's behavior. The lab also introduces how these systems respond to sine wave inputs. Finally, students are guided in creating clipped signals. • SYSTEMS: LINEAR AND NON-LINEAR Students discover the special role of sinusoids in linear systems and apply linearity tests to various systems. • UNRAVELING CONVOLUTION Students carry out a step-by-step dissection of the convolution process in a discrete-time system. • INTEGRATION, CORRELATION & MATCHED FILTERS Students investigate the processes of integration, convolution, correlation, and "matched filters". Students see these processes in action with real signals in the time domain and learn their use in practical applications. • EXPLORING COMPLEX NUMBERS AND EXPONENTIALS Students learn the fundamentals of complex numbers and the exponential and their significance in signals analysis. • BUILD A FOURIER SERIES ANALYZER Students compose arbitrary periodic signals from a series of sine and cosine waves, confirm the Fourier series equation, compute Fourier coefficients of a waveform, and build a Fourier Series analyzer. • SPECTRUM ANALYSIS OF VARIOUS SIGNAL TYPES Students use a spectrum analyzer to observe real signals in the frequency domain, and discover important relationships between time and frequency domain characteristics of various classes of signals. • TIME DOMAIN ANALYSIS OF AN RC CIRCUIT

	<p>Students will analyze the RC circuit using steps, impulses, exponential pulses, and sinusoids to compare theory and practical results. Students then will synthesize and test an RC network using a 1st order feedback structure.</p> <ul style="list-style-type: none"> • POLES AND ZEROS IN THE LAPLACE DOMAIN Students discover how poles and zeros can be used to visualize frequency responses graphically at a glance, in a minimal-math zone. Students will be able to use this knowledge to intuitively design low order continuous-time responses. • SAMPLING AND ALIASING Students explore the relationship between sampling rates and aliasing to gain an intuitive understanding of sampling theorems and best practices for minimum sampling rates. • GETTING STARTED WITH ANALOG-DIGITAL CONVERSION Students experiment with analog-to-digital conversion using pulse code modulation, learning the decoding process, quantization issues, and reconstruction of the output signal. • DISCRETE-TIME FILTERS WITH FIR SYSTEMS Students relate the response of a discrete-time FIR filter to its transfer function, and use the zeros of the transfer function to visualize frequency responses graphically. Students use this knowledge to intuitively design low order discrete-time responses. • POLES AND ZEROS IN THE Z PLANE WITH IIR SYSTEMS Students design recursive/IIR discrete-time responses. • DISCRETE-TIME FILTERS – PRACTICAL APPLICATIONS Students gain an understanding of the importance of sensitivity and dynamic range issues that arise in the practical implementation of discrete-time filters, as well as explore the issues relating to optimal sampling rate selection
<p>Emona Communications Board for NI ELVIS III</p>	<p>CH1 – Introduction to the COMMUNICATIONS BOARD CH2 – Modeling Equations CH3 - FFT & Spectra CH4 – AM Modulation CH5 – AM Demodulation CH6 – Double Sideband Modulation and Demodulation (DSBSC) CH7 – SSB Modulation and Demodulation CH8 – FM Modulation CH9 – FM Demodulation CH10 – FSK Modulation and Demodulation CH11 – Binary Phase Shift Keying (BPSK) CH12 – QPSK Modulation and Demodulation CH13 – Introduction to DSSS (Spread Spectrum) CH14 – SNR and BER Measurements CH15 – Principles of OFDM CH16 – Sampling and Reconstruction, PAM CH17 – Carrier Regeneration with the COSTAS LOOP CH18 – ASK Modulation and Demodulation CH19 – Principles of SUPERHETERODYNE CH20 - AM and FM via SDR using IQ Signals CH21 – BPSK, DPSK & QPSK via SDR using IQ Signals CH22 – OFDM via SDR using IQ Signals</p>