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मोतीलाल नेहरू राष्ट्रीय प्रौद्योगिकी संस्थान
 इलाहाबाद-211004 (भारत)

Motilal Nehru National Institute of Technology Allahabad
 Allahabad-211004 (India)

An Institute of National Importance as Declared by NIT Act, GOI, 2007

INVITATION FOR SUPPLY OF FOUR PHASE TWO SRM STACK, FPGA BOARD WITH SOFTWARE, PWM DAUGHTER CARD, SRM MOTOR (8/6) AND SENSORS.

(For Contracts value estimated to cost less than Rs.25laks)

1	Closing Date/Time for submission of Quotations	10/03/2015; 15:30 Hrs.
2	Opening Date/Time of Quotations	10/03/2015; 16:00 Hrs.
3	Quotations to be submitted at	The Office of Faculty-In-charge (Purchase) M.N.N.I.T. Allahabad, Allahabad-211 004 (U.P.)
4	Place of opening of quotations	The Office of Faculty-In-charge (Purchase) M.N.N.I.T. Allahabad, Allahabad-211 004 (U.P.)
5	Tender Fee	Rs. 200.00 (Non-refundable), in form of a Demand Draft drawn in favor of DIRECTOR, MNNIT Allahabad.
6	Earnest Money Deposit (EMD)	Rs. 24,750/- (Rs. In words Twenty Four thousand Seven hundred Fifty only) , in form of FDR /Bank guarantee, from any of the Commercial Banks, drawn in favour of "Director, MNNIT Allahabad" payable at Allahabad, and valid for a period of 45 days beyond the final bid validity period

To,

Dear Sir

You are invited to submit your most competitive quotation for the following goods/equipments. The quotation should be sent directly to the undersigned under Sealed Cover marked "Quotation Reference No., Date", and "The Due Date:

Sl. No.	Brief Description of the Goods	Quantity	Place Of Delivery	Installation Requirement
1.	Supply of Four Phase Two SRM Stack, FPGA Board With Software, PWM Daughter Card, SRM Motor (8/6) And Sensors (Detailed Specification attached at 'Annexure-B')	01 No.	M.N.N.I.T. Allahabad	Yes

The sealed tenders must be submitted in the Office of the Faculty In-charge (Purchase), on or before **due date & time as mentioned above** in the office of the undersigned, in the presence of bidder's authorized representatives, who choose to attend and shall sign a register evidencing their attendance.

The tender/quotations NOT submitted in the prescribed format or Incomplete in any respect will be outrightly rejected.

Faculty in-Charge, Purchase
MNNIT Allahabad

GENERAL TERMS & CONDITION (GCC)

1. **Bid Price**
 - (a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.
 - (b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price.
 - (c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
 - (d) The prices should be quoted in Indian Rupees only for indigenous items. For imported items/Equipments, the prices should be quoted in foreign currency.
 - (e) Each bidder shall submit only one quotation.
2. **Validity of Quotation**

Quotation shall remain valid for a period not less than **120 days** after the deadline date specified for submission.
3. **Evaluation of Quotations**
 - (a) The purchaser will evaluate and compare the quotations determined to be substantially responsive, i.e., which
 - (i) are properly signed; and
 - (ii) conform to the terms and conditions, and specifications.
 - (iii) will be with tender fees, and EMD required, if any.
 - (b) The Quotations would be evaluated separately for each item.
4. **Award of Contract**

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

 - Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.
 - The bidder whose bid is accepted will be notified for the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order if falls under Govt. purchase rules, i.e., GFR-2005
5. **Formats and Signing of Bid**
 - Each & every pages of the submitted bid must carry the page numbers.
 - The bidders are not allowed to make additional and alteration in the tender document, any additions and alteration in the tender document, any additions and alterations shall be at bidder's risk. Conditional/modified tender are liable to be rejected.
 - The tender/quotations NOT submitted in the prescribed format or Incomplete in any respect will be outrightly rejected.
 - If the bid submitted without compliance sheet details of equipments the bid will be outrightly rejected.
 - The bid shall be typed or written in indelible ink and shall be signed by the Bidder/Tenderer or a person or persons duly authorized to bind the Bidder/Tenderer to the Contract. All pages of the bid, except for unamended printed literature, shall be initialed by the person or persons signing the bid.
 - Any interlineations, erasure or overwriting shall be valid only if they are initiated by the persons or persons signing the bid.
 - The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.
6. **Payment condition:** 100% Payment shall be made only after satisfactory delivery and installation of the goods. Advance payment is not permitted.
7. Normal Commercial warranty/ guarantee shall be applicable to the supplied goods.
8. **Payment will be cleared through e-payment mode (Format of e-payment form given at Annexure-D)**

INSTRUCTIONS/GUIDELINES TO BIDDERS (ITB)

1. Bidders who had supplied the Government departments, PSUs/NITs/IITs/IIITs and reputed Institutions and Organizations should only apply.
2. The bidder should enclose the client list with contact address along with Phone/Fax for reference, for the quoted item.
3. Please quote the prices of F.O.R. Motilal Nehru National Institute of Technology Allahabad, Allahabad.
4. The Bidders are requested to submit their Quotation with EMD in the form of Demand Draft/ Bank Guarantee/ Short term Deposit of the cost of equipments/items in favor of "The Director, MNNIT, Allahabad" payable at Allahabad. Quotation without EMD will be summarily rejected. EMD's of all Bidders will be returned back after the purchase order /contract agreement is issued to successful bidder.
5. Successful Bidders must have to submit the performance security @ 10% of the purchase order or contract value and it will be retained up to the warranty period.
6. The bidder should enclose relevant documents wherever necessary to substantiate his eligibility.
7. The Institute is eligible for and can provide necessary documentation for Custom/Excise and Octroi exemption on demand, if permitted under rule.
8. Motilal Nehru National Institute of Technology Allahabad, Allahabad, reserves the right to reject, accept any or whole or part of any of the tender without assigning any reason thereof and no claim will be heard. In case of dispute, the decision of The Director, MNNIT, and Allahabad will be final and binding.
9. If the successful bidder is not able to supply the goods items within the delivery date specified in the purchase order, the purchase order will be automatically treated as cancelled after expiry of delivery date period. The vendor will have to submit an undertaking in this regard that this condition is acceptable to him. In case of extra ordinary circumstances the vendors must send a request for extension of validity of purchase orders, with proper justification prior to the expiry of validity date for consideration.
10. In case of sophisticated equipments, an on-site training needs to be provided with no extra cost.
11. The quotation must be accompanied by leaflets/operation manuals/books etc.
12. Wherever applicable the vendors must quote the branded /desired items.

CHECK LIST
(ON THE LETTER HEAD OF THE BIDDER)

The Bid will be the compilation of following documents, along with required supporting documents. No document in support of minimum eligibility criteria will be accepted / entertained after opening of tender.

Sl. No	Documents
1.	Cover letter by bidder (On the Letter Head of the Bidder)
2.	Tender Fee
3.	Earnest Money Deposit (EMD), if required
4.	Clintial List for quoted item
5.	Annexure-A : Bid Proposal Sheet (On the Letter Head of the Bidder)
6.	Annexure-B : Compliance of bidder with reference to various equipments (On the Letter Head of the Bidder)
7.	Annexure-C : PRICE BID (On the Letter Head of the Bidder)
8.	Annexure-D : PROFORMA FOR DIRECT PAYMENT/TRANSFER TO BANK ACCOUNT BY MNNIT ALLAHABAD

ANNEXURE-A

BID PROPOSAL SHEET
(ON THE LETTER HEAD OF THE BIDDER)

To
Faculty In-charge (Purchase)
MNNIT Allahabad, Allahabad

Subject: Supply and installation of “**SRM Drive System**” at MNNIT Allahabad, Allahabad.

Dear Sir,

We, the undersigned Tenderers, having read and examined in detail the specifications as specified in this document in respect of Supply and installation of **SRM Drive System** at MNNIT Allahabad, Allahabad do hereby propose to supply the required products and services.

Tender No.				
Tender Fees submitted		YES / NO (Please strike off whatever is not applicable)		
Amount	Mode	Date of Issue	Name of Bank	Valid up to
	Demand Draft			
EMD submitted		YES / NO (Please strike off whatever is not applicable)		
Amount	Mode	Date of Issue	Name of Bank	Valid up to
	Demand Draft			

- (i) **ADDITIONAL PURCHASE/WORK ORDER:** We understand that the MNNIT Allahabad, Allahabad, in case of the requirements may also place repeat purchase order/work order on the company. In such cases, we shall accept and execute all the purchase/work order placed on us by MNNIT Allahabad, Allahabad.
- (ii) **BID PRICING:** We further declare that the prices stated in our proposal are in accordance with your Terms & Conditions in the bidding document. We further understand that the quantities as specified in this Tender may increase or decrease at the time of Award of Purchase Order as per the requirements of MNNIT Allahabad, Allahabad.
- (iii) **QUALIFYING DATA:** We confirm that we satisfy the qualifying criteria and have attached the requisite documents as documentary proofs. In case you require any further information/documentary proof in this regard during evaluation of our bid, we agree to furnish the same in time to your satisfaction.
- (iv) **CONTRACT PERFORMANCE SECURITY:** We hereby declare that in case the contract is awarded to us, we shall submit the performance Guarantee Bond in the form of Bank Guarantee for the amount mentioned at **clause No. 5 in ITB** of the total order value.
- (v) **PAYMENT TERMS:** We hereby declare that in case the contract is awarded to us, we agree with payment terms specified in the tender documents.
- (vi) **CERTIFICATE AND DECLARATION:**
 - a) I/We certify that no addition/modification/alteration has been made in the Original Tender Document. If at any stage addition /modification /alteration is noticed in the Original Document, I/We will abide by the terms and conditions contained in the original tender document, failing which MNNIT Allahabad reserves the right to reject the tender and/or cancel the contract
 - b) It has been certified that all information provided in tender form is true and correct to the best of my knowledge and belief. We hereby declare that our proposal is made in good faith, without collusion or fraud. No forged /tampered document(s) are produced with tender form for gaining unlawful advantage. We understand that MNNIT Allahabad is authorized to make enquiry to establish the facts claimed and obtained confidential reports from clients.
 - c) In case it is established that any information provided by us is false / misleading or in the circumstances where it is found that we have made any wrong claims. Further MNNIT Allahabad is also authorized to blacklist our firm/company/agency and debar us in participating in any tender/bid in future.
 - d) I / We assure the Institute that neither I /We, nor any of my /our workers, will do any act which is improper / illegal during the execution in case the tender is awarded to us.
 - e) I / We assure the Institute that I / We will NOT be outsourcing any work specified in the tender document, to any other firm.
 - f) Neither I / We, nor anybody on my /our behalf will indulge in any corrupt activities /practices in my /our dealing with the Institute.
 - g) Our Firm / Company / Agency is not been blacklisted or banned by any Govt. Department, PSU, University, Autonomous Institute or any other Govt. Organization.
 - h) I/We certify that, I have understood all the terms & conditions (GCC and ITB etc.), as indicated in enquiry of the tender document, and hereby accept all the same completely.
 - i) I/We, further certify that I/We, possess all the statutory /non-statutory registrations, permissions, approvals, etc., from the Competent Authority for providing the requisite services,
 - j) We understand that you are not bound to accept the lowest or any bid you may receive.
 - k) I/We hereby declare that this tender on acceptance communicated by you shall constitute a valid and binding contract between us.
 - l) I/We certify that the submitted quotation is duly paginated and contains from page no. 1 to

Date:

Signature and Seal of the Manufacturer/Bidder

Technical Compliance of Goods
(ON THE LETTER HEAD OF THE BIDDER)

Sl. No.	Specification	Quantity	Compliance (Yes/No)	Quoted Model
	SRM Drive System	01 No.		
1.	4-Phase AHBC (Asymmetric Half Bridge Converter) IGBT based Inverter Stack for SRM Motor (3-phase uncontrolled rectifier + 4-phase controlled inverter)			
	<p>3 phase Rectifier+4 Phase Inverter Input AC Voltage =415 V, DC Voltage Vdc = 600 V, Output four-phase AC Voltage Vac = 300 V 4-Φ, Output Frequency Fac = 50 Hz, Switching Frequency Fsw = 10 kHz max at output current of 15A, Ambient Temperature = 40 deg C, High surge current carrying capability, Cooling Method Forced Air Cooled, Closed Thermal contact switch should be used for protection against thermal runaway and the position of the thermal switch normally closed when its temperature is below 80 deg C and normally open when it is above 80 deg C, DC capacitor bank is connected in between the rectifier and inverter as source to the inverter. The snubbers should be very close to the device to reduce the inductance between the switches and the capacitors. Interlocking time for gate driver between the input signals is 3μs.</p>			
2.	4-Phase Specially Construction with two open IGBT Switch and open DC terminals Inverter Stack for SRM Motor (3-phase uncontrolled rectifier + 4-phase controlled inverter)			
	<p>3 phase Rectifier+ 4 Phase Inverter Input AC Voltage=415 V, DC Voltage Vdc = 600 V, Output four-phase AC Voltage Vac = 300 V 4-Φ, Output Frequency Fac = 50 Hz, Switching Frequency Fsw = 10 kHz max at output current of 15A, Ambient Temperature = 40 deg C, High surge current carrying capability, Cooling Method Forced Air Cooled, Closed Thermal contact switch should be used for protection against thermal runaway and the position of the thermal switch normally closed when its temperature is below 80 deg C and normally open when it is above 80 deg C, DC capacitor bank is connected in between the rectifier and inverter as source to the inverter, The snubbers should be very close to the device to reduce the inductance between the switches and the capacitor. Interlocking time for gate driver between the input signals is 3μs. Special Purpose with open terminals for DC Bus and two switch open. Special construction in which a pair of phase winding is sharing a diode and IGBT switch.</p>			
3.	FPGA Board details			
	<p>FPGA Device : Spartan 3AN FPGA device Integrated color TFT LCD panel (240x320) with touch screen. Stereo audio capabilities including Line in/out/headphones, audio CODEC with I2S-compatible interface, analog mixer, audio power amplifier and high-quality speakers. USB hub, providing connection of up to three USB 2.0 devices, with interfacing handled by an ISP1760 Hi-Speed USB Host Controller. SVGA interface (24-bit, 80MHz). Variety of standard communications interfaces: RS-232, RS-485, PS/2, 10/100 Fast Ethernet, USB 2.0, MIDI ,Dual SD card readers – for use by user FPGA and Host Controller respectively. IR receiver–supports data transmitted using a 38kHz carrier frequency, Programmable clock (6 to 200MHz) and fixed clock (20MHz) – both available to user FPGA. 4-channel 8-bit ADC, SPI-compatible – providing maximum sample rate of 200kps. 4-channel 8-bit DAC, SPI-compatible – operating at clock rates of up to 40MHz 4x isolated Relay channels. 4x PWM power drivers, 8-way general purpose DIP-Switch, 8 RGB LEDs, 5 PDA-style pushbutton switches. User prototyping area. I/O expansion headers, with power supply selection links. On-board memories accessible by user FPGA-256KB x 32-bit common-bus SRAM (1MB), 16M x 32-bit common-bus SDRAM (64MB), 8M x 16-bit common-bus 3.0V Page Mode Flash memory (16MB), dual 256KB x 16-bit independent SRAM (512KB each) Four 8Mbit SPI flash memory devices – one containing Primary boot image for Host Controller, one containing golden boot image for Host Controller, two for use by user FPGA (for boot/embedded purposes) SPI Real-Time Clock with 3V battery backup. 5V DC power connector with power switch, plus testpoints for all major supplies on the board (and GND). High-speed PC interconnection through USB 2.0 allows for fast downloading and debugging. Software for FPGA Board.</p>			
4.	PWM Daughter Card Details			
	<p>The Daughter card board capable of generating 12 nos. of 15V PWMs. It should also have 16 channel, 14 bit, 1 MSps, 10V bipolar ADC's. Option to use the card with Altium NB3000 as well as with other controllers with 3.3V/5V logic levels This card should support Xilinx system generator software with all peripherals directly available as blocksets. Matlab Simulink blocksets should be provided for ADC's, Sinewave, Carrier wave, comparator etc and these should be compatible with system generator.</p>			
5.	SRM Motor with mechanical Loading arrangement			
	<p>4 Phase, 3HP, 230 V Switched reluctance motor with Mechanical loading arrangement 3000 rpm, Motor Type: 8/6, 2.2 KW, 11A , Continuous Duty Insulation Class F Along with FEM Model of the machine with required power supplies for Sensors</p>			
6.	Sensors			
	<p>Voltage and current sensors for feedback Voltage sensor 0-1000V AC/DC measurement and output is linear signal conditioned 0-5V DC Current Sensor 0-25/50/75A AC measurement and output is linear signal conditioned 0-5V DC 1024 ppr Encoder for Speed Feedback</p>			

PRICE BID
(ON THE LETTER HEAD OF THE BIDDER)

Sl. No.	Brief Description of the Goods	Quantity	Quoted Unit Rate in Rs	Total Amount (in Rs.)		Tax	
				In Figures	In Words	VAT	Any other charges (if any)
1.	Supply of Four Phase Two SRM Stack, FPGA Board With Software, PWM Daughter Card, SRM Motor (8/6) And Sensors Video Conferencing Setup (Detailed Specification attached at 'Annexure-B')	01 No.					

We agree to supply the above goods in accordance with the technical specifications for a total contract price of _____ within the period specified in the Invitation for Quotations.
We also confirm that the normal commercial warrantee/guarantee of _____ months shall apply to the offered goods.

Signature and Seal of the Manufacturer/Bidder

Note:

- Preference will be given to ISO 9001-2000 certified manufacture/supplier, who can ensure the manufacturing of the machine as per the required testing standards/tender specifications within the specified tolerance limit.
- Bidders should provide copies of original Memorandum and Articles of Association, defining the constitution of legal status, place of registration and place of business of the company.

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ANNEXURE-D

PROFORMA FOR DIRECT PAYMENT/TRANSFER TO BANK ACCOUNT BY MNNIT ALLAHABAD

Sl. No.	Particulars	Information
1.	Firm [Beneficiary] Name	
2.	Code No. allotted by the MNNIT Allahabad [If code is not allotted yet, please enclose a cancelled cheque and copy of PAN card. Cancelled cheque & PAN card is to be submitted only once]	
3.	Complete Bank Account No. of the Firm [beneficiary]. [in case of change in bank account vendor should write to Account Office]	
4.	Bank Name	
5.	Branch Address	
6.	IFSC Code No.	
7.	Permanent Account Number	
8.	Mobile No. [for SMS]	
9.	Email ID [for information]	

We undertake that all information provided above is correct and MNNIT Allahabad will not be responsible in case of any error on the part of firm.

[Seal and Signature of the firm]