

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
INDIAN INSTITUTE OF SPACE SCIENCE AND TECHNOLOGY (IIST)
THIRUVANANTHAPURAM**

Tender for Realtime Computer for Hardware in the loop Simulation

Bids to be submitted online

Tender No.: IIST/PURCHASE AND STORES/IN202300052601 dated 08-04-2024

A. Tender Details

Tender No :	IIST/PURCHASE AND STORES/IN202300052601
Tender Date :	08-04-2024
Tender Classification:	GOODS
Purchase Entity :	PURCHASE AND STORES
Centre :	INDIAN INSTITUTE OF SPACE SCIENCE AND TECHNOLOGY (IIST)

Realtime Computer for Hardware in the loop Simulation

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A.1 Tender Schedule

Bid Submission Start Date :	08-04-2024 13:00
Bid Clarification Due Date :	11-04-2024 12:00
Bid Submission Due Date :	30-04-2024 14:10
Bid Opening Date :	30-04-2024 14:15
Price Bid Opening Date :	14-05-2024 14:15

B. Tender Attachments

NA

Instructions To Vendors

1. Instruction to Tenderers along with Terms and Conditions

1. This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted. Quotation/Open Authorization shall be submitted online [only] complying the specified schedule with technical specifications, including pamphlets and catalogues.

2. This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the Techno-Commercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same. Tenderers are advised NOT TO UPLOAD any documents revealing the price of the main equipment, accessories, spares or AMC in technical & Commercial bid. They are however, requested to upload UNPRICED BIDS (i.e. Price details masked) showing appropriate breakup of components of main equipment, individual accessories and spares as desired.

3. This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

4. Foreign vendors are not permitted to quote 1. Only Class -I and Class-II Local suppliers as per make in India policy are eligible to participate in the bid. 2. The percentage of local content should be specifically mentioned in the offer, without which will be summarily rejected 3. Preference will be given to Class-I Local Supplier and in their absence, class-II Local supplier will be considered.

5. Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.

6. The vendor have to compulsorily submit the compliance statement online otherwise their offer will not be considered for further evaluation. Before entering the compliance statement, vendors are advised to refer the detailed specification provided.

7. The Technical Specification/ Drawing/ Product Catalogues/ Works Carried by vendor/ Make offered etc. as a single PDF file without any financial details has to be uploaded online mode by the vendor.
8. Last minute clarification on tenders will not be entertained.
9. If any bidder submits forged / false document along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.
10. In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / Udyog Adhar / NSIC Registration Certification along with your offer. Micro and Small Vendors are not exempted from the submission of Security Deposit.
11. Our standard delivery term is FOR, IIST. In case any vendor offers delivery term of Ex-works, Packing and Forwarding charges if any should be indicated separately either as a percentage of the quoted rate or as a Lumpsum amount.
12. Our standard payment term is 100% within 30 days for indigenous orders.
13. Please upload the Technical Details / Catalogue / Data Sheets (whereever applicable)
14. Security Deposit : - Wherever the offer value is Rs. 5.00 Lakhs or above, the successful tenderer should submit Security Deposit @3 % of the order value by way of Bank Guarantee / FD Receipt. The Bank Guarantee shall be obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of all contractual obligations.
15. The offer should be valid for a period of minimum 180 days [for Two Part Tender] from the date of Tender opening.
16. The other attached forms are our standard terms and conditions, which are to be complied with. If any conflict arise between the specific terms and standard terms, then in those cases, the specific terms will prevail over the standard terms.
17. Wherever samples are required to be submitted along with the quotation, offer without sample will not be considered.
18. ARBITRATION - In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not

possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be in English only. Work under the Contract shall be continued by the CONTRACTOR during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the DEPARTMENT or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained.

19. Liquidated damages: The delivery period quoted by you and stipulated in the Purchase Order shall be deemed to be the essence of the order and delivery must be completed not later than the dates specified therein as otherwise IIST shall have the right to recover a sum @ 0.5% of the order value per week/part of a week or 0.5% of the value of the stores for which the delivery is delayed for each week of delay, as the case may be, subject to a maximum of 10% of the order value.

20. Any bidder from a country which shares a land border with India will be eligible to bid in this tender, only if the bidder is registered with the Competent Authority. Competent Authority for the purpose of registration shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

21. All Tax invoices issued by suppliers/Service providers on or after July 01, 2017 shall invariably bear their GST Registration No.(GSTIN) applicable GST rates and HSN Code. In the absence of which, the invoices shall not be processed for payment.

22. Any false declaration and non-compliance of the above would be a ground for immediate rejection of offer or termination of the contract and further legal action in accordance with the laws

23. Warranty: Warranty should be clearly indicated in the quotation.

24. Performance Bank Guarantee: You shall furnish performance Bank Guarantee in Rs.200/-non judicial stamp paper from a Nationalized/Scheduled Bank Equivalent to 3% of the order value which shall be valid beyond 2 months from the expiry of warranty/guarantee period.

25. If you are unable to submit offer, the same may be communicated to us before the due date.

26. IIST has a right to cancel the tender without assigning any reason etc.

27. We would like to have more than one source of supply and the final orders will be given accordingly to the qualified bidders

28. The other attached forms are our standard terms and conditions, which are to be complied with. If any conflict arise between the specific terms and standard terms, then in those cases, the specific terms will prevail over the standard terms.

29. Note: SD, LD and PBG clauses are mandatory and offers of the vendors who have not agreed for the above conditions will be excluded from the procurement process. Micro and Small Vendors are not exempted from the submission of Security Deposit. Only Govt Departments/PSUs/PSEs can submit Indemnity Bond instead of Bank Gurantee towards SD/PBG.

30. In line with Public Procurement (Preference to Make in India), Order 2017 & its amendments issued by Govt. of India from time to time with a view to support the Indian industries, ISRO has implemented "Purchase Preference Policy". The "Purchase Preference" is applicable for the "Class-I Local Supplier" for the goods/ services/ works covered in this tender, subject to the following terms & conditions:-

31. a) The subject item falls under Non-divisible category. b) The offers are sought from all classes of suppliers. Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: i. Equal to or more than 50%: Class-I local supplier. ii. More than 20% but less than 50%: Class-II local supplier. iii. Less than or equal to 20%: Non-local supplier.

32. 'Local content' means the amount of value added in India (i.e. indigenous items/services added in the offered products/ services/ works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. The margin of Purchase Preference shall be up to 20%. 'Margin of purchase preference' means the maximum extent to which the price quoted by the "Class-I local supplier" above the L1 (landed cost). 'L1' means the lowest technically accepted tender / bid / quotation (i.e. lowest landed cost including duties, taxes and freight & Insurance).

33. Purchase Preference Policy:- Goods/Works which are not divisible (ie., required quantity is 1 or as a package) and Services:

a) If L1 is from a 'Class-I local supplier', the contract will be awarded to L1 bidder.

b) If L1 is not from a 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price (inclusive of duties, taxes and freight & insurance).

c) In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on, and order/contract shall be awarded accordingly. In case where none of the 'Class-I local supplier' within the margin of purchase preference agree to match the L1 price, then the order/contract shall be awarded to the original L1 Bidder.

34. The 'Class-I & II local supplier' should provide a "Self Certification" along with technical offer indicating that the item offered meets the minimum local content [as per Sl. No.(3)] as called for in the tender and provide the percentage of local content along with details of the location(s) at which the local value addition is made. In case of two bid tenders, it is mandatory to indicate compliance to MLC(minimum Local Content) in technical bid zone.

35. In cases the quoted price is in excess of Rs.1000 Lakhs (including duties, taxes and freight & Insurance) the 'Class-I & II local supplier shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in case of suppliers other than companies) giving the percentage of local content. A committee (with an external expert from a practicing cost accountant or practicing chartered accountant, if required) constituted for independent verification shall verify the self-declarations & auditor's / accountant's certificates on random basis, as per the requirements.

36. In case of a complaint received from any local supplier indicating a need for review / verification of Local content of successful vendor / awarded vendor, for accepting a complaint from such complainant (w.r.t the false declaration given by the successful vendor on the local content), a complaint fee of Rs.2Lakhs or 1% of the locally manufactured items being procured (subject to a maximum Rs. 5Lakhs), whichever was higher, to be paid by demand draft by the complainant. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

37. False declarations will be in breach of code of the integrity for which a bidder or its successor's will not be eligible/debarred for purchase preference from further tenders / pending tenders for two years along with other actions as may be applicable.

38. The ink-signed certificate shall be provided on vendors letter head along with the offer (in case of online tender, copy of ink-signed certificate shall be uploaded along with your offer under concerned tab. Original in Hard copy shall be produced on request). In case of non-submission of certificate, the purchase preference shall not apply.

39. Works means all works as per Rule 130 of GFR- 2017, and will also include 'turnkey works'. Works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

40. Tax and or other duties or levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes and duties.

C. Bid Templates

C.1 Technical Bid - Realtime Computer for Hardware in the loop Simulation

1. COMPUTER HARDWARE

Item specifications for COMPUTER HARDWARE

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Real time computer for HIL Simulation	Realtime computer with processor core and FPGA with support for realtime simulation of power electronic converters and electric motor	Yes / No / Explain		

Document : Technical specification and design document

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Computer type	Real time computer for HIL simulation	Yes / No / Explain		
2	No of CPU cores	4 or higher	Yes / No / Explain		
3	CPU frequency	3.5Ghz or higher	Yes / No / Explain		
4	Additional FPGA in the computer	Yes - required	Yes / No / Explain		
5	Sampling time requirements	Real-time simulation with >52 switches (SiC MOSFETs/ IGBT with diodes) and FEA based motor model with controllers should be able to run with a sampling time less than 8 micro seconds	Yes / No / Explain		
6	Lowest timer resolution	5ns or less	Yes / No / Explain		
7	digital inputs (in)	32 or more, optically isolated	Yes / No / Explain		

8	analog input channels (out)	32 or more, optically isolated	Yes / No / Explain		
9	Analog channels (input)	16 or more with 16 bit ADC, >250kSps for each channel with sample and hold or better	Yes / No / Explain		
10	Analog channels (output)	16 or more with 16 bit DAC output with bandwidth >250kHz	Yes / No / Explain		
11	Digital interfaces	EtherCAT, CAN bus, i2C, SPI, JTAG, RS422 and RS485. Optional: MIL-STD-1553B and ARINC	Yes / No / Explain		
12	HOST PC	To be provided by the vendor with recommended specifications	Yes / No / Explain		
13	Installation and demo requirements	Demonstration of the product for all specifications to be done by vendor at IIST.	Yes / No / Explain		

Supporting Documents required from Vendor

1. Detailed Brochure and specifications

2. Detailed Data sheet of the items

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	As per IIST norms	Yes / No / Explain	
2	Warranty(No. of Years should be clearly stated)	Yes / No / Explain	
3	PO ordering address in full with Contact Persons Name, E-mail id, Phone No. You may also attach your Quotation in PDF format without price details.	Yes / No / Explain	
4	This is Domestic Public Tender. Foreign vendors are not permitted to quote 1. Only Class -I and Class-II Local suppliers as per make in India policy are eligible to participate in the bid. 2. The percentage of local content should be specifically mentioned in the offer, without which will be summarily rejected 3. Preference will be given to Class-I Local Supplier and in their absence, class-II Local supplier will be considered.	Yes / No / Explain	
5	Taxes and other costs, if any. [Please Specify the rates]. Note: All Tax invoices issued by Suppliers / Service Providers on or after July 01, 2017 shall invariably bear their GST registration number (GSTIN) and the applicable GST rates. In the absence of which, the invoices shall not be processed for payment.	Yes / No / Explain	
6	Delivery Terms [Normal delivery terms - FOR Destination (for Indigenous cases)	Yes / No / Explain	
7	Delivery Period [Please Specify the period, LD Clause applicable]	Yes / No / Explain	
8	Payment Terms [Within 30 days after receipt and acceptance for indigenous]. Advance Payment is permissible as per extant Govt. Orders.	Yes / No / Explain	

9	This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.	Yes / No / Explain	
10	The vendor have to compulsorily submit the compliance statement online otherwise their offer will not be considered for further evaluation. Before entering the compliance statement, vendors are advised to refer the detailed specification provided.	Yes / No / Explain	
11	The Technical Specification/ Drawing/ Product Catalogues/ Works Carried by vendor/ Make offered etc. as a single PDF file without any financial details has to be uploaded online mode by the vendor.	Yes / No / Explain	
12	Security Deposit: Successful Tenderer shall submit Security Deposit equivalent to 3% of the order value valid for a period of 60 days beyond the date for completion of the Purchase Order shall be furnished. This security deposit is collected towards the performance of the Contract. The said Security Deposit shall be submitted either in the form of Bank Guarantee or Fixed Deposit receipts from Nationalised/Scheduled Banks. [Mandatory. Otherwise offer will not be considered for evaluation]. No exemption is applicable for MSE vendors from submission of Security Deposit.	Yes / No / Explain	
13	I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered.	Yes / No / Explain	

14	Performance Bank Guarantee (PBG) Bank Guarantee @ 3% of Order Value valid till the completion of warranty period plus 2 months claim period to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of warranty obligations, PBG will be forfeited).	Yes / No / Explain	
15	The offer from suppliers who are not agreeing to submit Warranty, Security Deposit & Performance Bank Guarantee will NOT be considered.	Yes / No / Explain	
16	The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself.	Yes / No / Explain	
17	Offer Validity: Minimum 90 days [for Single Part Tender]/180 days [for Two Part Tender]. (Mandatory compliance required. Failure to comply shall lead to the rejection of offer).	Yes / No / Explain	
18	Liquidated Damages (mandatory compliance required) - the delivery period mentioned in the order is the essence of the order /Contract. In case of delay in delivery of material as per the delivery schedule mutually agreed and stipulated in the order, Liquidated Damages@0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value shall be levied. Hence delivery date mentioned in the quotation shall be realistic. Failure to comply shall lead to the rejection of offer.	Yes / No / Explain	
19	Taxes and other costs, if any. [Please Specify the rates].	Yes / No / Explain	
20	If any of the bidders submit any forged or false documents along with the Tender, such tenders will be summarily rejected and such bidders will be blacklisted for all future tenders.	Yes / No / Explain	

21	Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India. The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.	Yes / No / Explain	
22	Any Other Terms and Conditions	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Packing and Forwarding	Remark
1	COMPUTER HARDWARE	1.00 Unit		-			