



NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL - 506004
TELENGANA (INDIA)

Tender No. NITW/CS-12/NetworkSimulation/2021-22/

Date: 28-08-2021

**INVITATION FOR SUPPLY OF NETWORK SIMULATION AND
EMULATION SOFTWARE (proprietary item)**

M/s. TETCOS LLP, Bangalore with proven track record and experience in the supply of above concerned item are invited to submit their most competitive bid on or before **15-09-2021 at 11.00 AM.**

Important Dates:

1	Last Date for Submission of Tenders	15th September 2021 up to 11:00 AM
2	Date of Opening of Technical Bids	15th September 2021 at 11:30 AM

Prospective bidder may download the Tender document from <https://eprocure.gov.in/eprocure/app> - Tenders by Organisation – National Project Implementation Unit - World Bank Tenders – NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL and <https://nitw.ac.in/main/update/Jobs/Tenders/> submit the ebid on-line as per the Tender Document.

The Institute GSTN/IEC details are as follows.

GST No.	36AACAN7241H2ZK
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I. GENERAL CONDITIONS OF CONTRACT (GCC):

1. **Validity of the offer:** The Offer shall be valid for **120** days from the date of opening.
2. **Clarification of bids:** During opening or evaluation, the purchaser may at its discretion, seek the required clarification from the bidders. However, no change in prices or substance of the bid shall be sought, offered or permitted. If the bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non-conformity. Unsigned communication/ bids will not be accepted and will be rejected summarily.
3. **EMD:** EMD for the specified amount shall be submitted along with the offer in the form of Demand Draft in favour of “**Director, National Institute of Technology Warangal**”, Payable at Warangal or NEFT Beneficiary name: **DIRECTOR NITW**, Account No. **52109375198**, IFSC Code: **SBIN0020149**, Bank Name: State Bank of India, Branch address: **NIT COMPLEX, HNK-KAZIPET MAIN ROAD, WARANGAL - 506004**. The demand draft/proof of NEFT details along with a forwarding letter are required to be submitted to the Director, NITW by speed/registered post. No interest will be paid on the EMD. The EMD will be forfeited, if the bidder withdraws his tender during the validity period of the bid. Offer without EMD will be rejected summarily.
4. **Prices:** As per the Format under the heading **FINANCIAL BID** is enclosed to this bid document. Concessions extended to Educational Institutions, if any shall be mentioned in the offer.
5. **GST:** Inclusive/Exclusive, Indicate prevailing tax on percentage basis. Vide GOI Notification 10/97 Central Excise as amended from time to time and certified copy of Certificate along with a covering letter signed by the Director will be arranged after receiving the order Acknowledgement.
6. **Rates:** a) FOR Destination / Ex-works, b) Estimated packing, Forwarding and Freight Charges in case of E-works only, may be mentioned on percentage basis.
7. **Insurance:** Inclusive/Exclusive: indicate on percentage basis, in case payable by the Institute.
8. **Payment:** Payment will be made through RTGS/NEFT upon receipt of ordered item and its satisfactory performance and on production of bank guarantee at the rate of 10% of the order value wherever applicable.
9. **Liquidity Damage (LD) Clause:** The supplies shall be effected as per agreed specifications, quality and other terms & conditions within the stipulated delivery period. If not delivered in stipulated delivery period it will attract Liquidity Damage (LD) clause as late delivery charges @ 0.5% per week or part thereof to maximum of 10% will be deducted from basic price of order item.
10. **Evaluation:** Evaluation of the Bids shall be made strictly in terms of provisions and criteria disclosed in the bidding document for the quantities mentioned in the bid. However, the Institute reserves the right whether to purchase the total quantities or in part thereof.

Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotation, cancel the bidding process and reject all quotations at any time prior to the award of the contract. Also, the Director reserves the right to cancel the purchase order if the firm fails to comply with the delivery schedules without any notice and bid security/EMD will be forfeited accordingly.
11. **Security deposit cum Performance Security:** The successful tenderer will have to deposit @ 10% of the order value within 07 days of issuance of LOI/order towards Security Deposit cum Performance Bank Guarantee for a warranty period in the form of Demand Draft or Bank Guarantee. Else the offer is liable for rejection and the EMD will be forfeited.

12. **Corrupt or Fraudulent practices:** The bidders shall observe the highest standard of ethics during the whole transaction. Contrary to the above the offer will be rejected for award of contract and firms will be declared as ineligible even for further period as deemed fit by the Institute.
13. **JURISDICTION:** The Courts of Warangal alone will have the jurisdiction to try and any matter dispute or reference between the parties arising of this agreement/contract.

In addition, the Special Conditions of Contract (if mentioned along with the specifications of the item) shall supplement these General Conditions of Contract. Wherever there is a conflict, the provisions mentioned in the SCC shall prevail over these General Conditions of Contract.

Please note that the institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract, without thereby incurring any liability to the affected Bidder or bidders.

II. **SPECIAL CONDITIONS OF CONTRACT (SCC)**

Network Simulation and Emulation Software 30 users' Academic version & 4 users R&D version

LTE 5G NR mmWave

- Based on 3GPP 38.xxx / Rel 15
- EPC, gNBs and UEs
- SDAP, RRC, NAS, PDCP, RLC, MAC and PHY
- mmWave Propagation and Channel Models

Internet-of-things (IOT)

- Sensors, 6LoWPAN Gateway, Routers, Switches, AP, Nodes
- 802.15.4 MAC and PHY
- IPV4 and IPV6
- Routing via AODV (RFC 3561), OLSR (RFC 3626), ZRP
- Routing Protocol for Lossy Links (RPL)

Software Defined Networks (SDN)

External Interfaces

- Visual studio for debugging custom C code
- MATLAB connectivity
- Wireshark for packet capture and analysis
- SUMO for VANET simulation

Updated RF Propagation Models

- Path Loss
 - Friis Free Space Propagation
 - Log Distance
 - HATA Suburban, HATA Urban
 - COST 231 HATA Suburban, COST 231 HATA Urban
 - Indoor Office, Indoor Factory, Indoor Home
- Shadowing Models: Constant, Lognormal
- Fading Models: Rayleigh, Nakagami

Interactive Simulation. Commands Supported

- Simulation specific - Pause, Pause At, Continue, Stop
- Route - Add, Print, Delete
- ACL - Enable, Disable
- ACLCONFIG - Permit, Deny, Print
- Ping

Integrated Analytics and Visualization

- Time series plot of instantaneous, moving average and time average throughputs
- Ability to set window size for moving average
- Time series plot of buffer occupancy
- Time series plot of TCP congestion window
- Formatting options - color selector, zoom and pan
- Scales upto 5 million points
- Graph formatting - layout, colors, axes, zoom etc
- Pivot table operations on packet trace

Packet Animator

- Animate packet flow over wired and wireless links.
- Color variation for control packets, data packets and error packets.
- Node movement.
- Animation speed controls with play, pause and simulation timeline.

1. PRE-QUALIFICATION CRITERIA/DOCUMENTS & TECHNICAL BID:-

Technical Bid must be accompanied with the following documents/information

- a) Detailed profile of the Company :-
 - Name of the firm, Address, email and Telephone Number :
 - Name of the Contact Person, Telephone/ Mobile / Email :
 - Name of the bank (With full address Type of account, Account Number, IFSC Code & RTGS Details)
 - Certificate of Incorporation. (Copy to be enclosed)
 - PAN /GST registration certificate. (Copy to be enclosed)
 - Turn over for last 03 YEARS (Audited P & L Statement copy to be enclosed)
 - Bidders should not have been blacklisted in past 5 years by Govt./BFSI/PSU Govt. Dept./Regulator/statutory body. Bidder must provide a self-declaration for the same.
 - The Bidder must have 3 years' experience in supply of above said item and installation/completion certificate(s) of Central Govt/State/P.S.U/Autonomous Institutions/Pvt Organisations etc.
 - Bids will be accepted from manufactures or their authorized Dealers/Distributors only. Documentary evidence to this affect shall be enclosed.
 - Bids from authorized Dealers/Distributors shall be accepted provided they have a specific authorization certificate issued by the manufacture to Quote for NIT Warangal against the present Tender Notice.

Annexure I (Format for declaration &
to be enclosed as last page of the bid document)

DECLARATION

(To be furnished by the supplier on company's Letter Head)

I/we hereby solemnly declare and affirm that the above documentary evidence/declarations are true and correct to the best of my knowledge and beliefs. No part of it is false and nothing has been concealed therein.

Date & Seal

Name and Signature
of the competent Authority of the
firm

Annexure-II
(Format for Annual Turnover)

ANNUAL TURNOVER

Sl. No.	Annual turnover w.r.t. above item			Remarks if any
	2018-19	2019-20	2020-21	
(1)	(2)	(3)	(4)	(5)

Sig. of the Chartered Account with seal

The relevant documents are enclosed as Page Nos. _____

Certified copies of ITRs are enclosed as page Nos. _____

Sig. of the tendered with Seal

Note: (i) Documentary evidence shall be submitted along with the format
(ii) Certified copies of ITRs of the above years shall be enclosed.

Annexure III
(Format for Bank details)

Bank details of the Tenderer for Refund of EMD & for making payment in case L-1

Name of the Beneficiary (fill in Capital Letter) As per Bank account															
Bank Account No. (Beneficiary)															
Name of the Bank:															
Name of the Branch:															
IFSC Code of the Branch															
Swift Code/BIC Code (if needed)															
PAN No.															
Mobile No.															
Email ID:															

Signature

Name: _____

Designation: _____

Date & Seal of the competent authority of the firm

FINANCIAL BID FOR Network Simulation and Emulation Software 30 users' Academic version & 4 users R&D version

FORMAT FOR FINANCIAL BID/PRICE BID

Network Simulation and Emulation Software

Sl. No.	Item	Qty	Basic Price	CST	Total Amount
<u>Network Simulation and Emulation Software</u>					
1.	<u>30 users' Academic version</u>	1 Set			
2.	<u>4 users R&D version</u>	1 Set			
Grand Total					

Date & Seal

Signature of the authorized
Signatory of the firm

DO NOT QUOTE HERE

BID SECURITY DECLARATION FORM

(In lieu of EMD, as per the directions of MOF, DOE, and GOI. OM No.F.9/4/2020-PPD dated 12.11.2020)

Date: _____

To

The Registrar,
National Institute of Technology, Warangal.

Tender No. _____

Sir/Madam,

I/We. The undersigned, declare that:

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

Signature: _____

In the capacity of: _____

Name: _____

Duly authorized to sign the bid for an on behalf of
M/s. _____ Dated on ____ day of _ (insert date of signing)

Corporate Seal:

FORMAT FOR EMD BANK GUARANTEE

(To be submitted on non-judicial stamp paper of appropriate value purchased in the name of the issuing Bank)

1. Whereas
(hereinafter called the “tenderer”) has submitted their offer dated..... for the supply of
(hereinafter called the “tender”) against the Purchaser’s tender enquiry No.
.....

1. KNOW ALL MEN by these presents that WE..... of having our registered office at are bound unto (hereinafter called the “Purchaser”) in the sum of
..... for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this..... day of..... 20.....

2. CONDITIONS OF THIS OBLIGATION ARE:

- (i) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (ii) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity: -
 - a. If the tenderer fails to furnish the Performance Security for the due performance of the contract.
 - b. Fails or refuses to accept/execute the contract.

3. WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

4. This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

.....
(Signature of the authorized officer of the Bank)

.....
Name of the officer

.....
Designation of the officer

.....
Seal, name & address of the Bank and address of the Branch