



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ODISHA**

Advertised Tender Enquiry

Department: Electronics and Communication Engineering

Tender Notice No: NITR/PW/EC/2019/116

Date: 10/05/2019

**Through
CPP Portal
(e- Procurement)**

IMPORTANT DATES

Event	Date	Time
Pre-Bid Meeting	NA	NA
Last Date for submission of bid	31/05/2019	11:00 AM
Date of opening of techno-commercial bid	03/06/2019	11:00 AM

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

For any clarification:

Attention:

Head, Department of Electronics and Communication Engineering
Prof. Santos Kumar Das
National Institute of Technology Rourkela- 769 008,
ODISHA
Phone No: 0661 – 2462466

Yours sincerely,

Dr.S.K. Das (Assistant Professor)
Electronics and Communication Engineering
PID: - SR/17/EC/024
ISDR Lab

Encl:

- 1) Schedule of requirement, specifications, dates etc.**
- 2) Bid document containing detail terms and conditions.**

1. **Schedule of requirements**

SL.NO	Description of Goods/Service	Quantity
01	SOFTWARE AND SERVICE REQUIRED:- The FOG Infrastructure Management and Application Orchestration Software for Video analytics use case.(As per the specification mentioned in Annexure-I)	1 unit

2. Specifications and allied Technical Details: As per the specification attached in the ***Annexure-I***

3. Format of Quotation (tick appropriate box)

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It is a two-part with separate techno-commercial and price bids.

4. The bid should be submitted through <https://eprocure.gov.in/eprocure/app>

5. Quotations should be valid for a period of **90 days** from the closing date of the bid.

6. Some important dates:

i.	Pre-bid Conference	Date:	NA	Time:	NA
ii.	Last date for submission of bid	Date:	31/05/2019	Time:	11:00 AM
iii.	Opening of techno-Commercial bid	Date:	03/06/2019	Time:	11:00 AM

7. **Warranty** as per company policy.

8. **GST:** GST should be charge according to applicable rates.

9. **Bid Security and Tender Cost:** Bid Security in shape of DD (Demand Draft) for **INR 50,000/-** (Rupees Fifty Thousand Only) and Tender Cost (Non- refundable) in the form of DD for **INR 500/-** (Rupees Five Hundred Only) in favor of **Director, NIT Rourkela Payable at Rourkela** from any Scheduled Commercial Bank except Co-operative and Gramin bank. And DD for the Bid-Security should remain valid for a period of **45 days** beyond the bid validity period from the date of opening of bids. Bid security of unsuccessful bidders should be return to them at the earliest and latest on or before the **30th days** after the award of the contract. **EMD (Earnest Money deposit)** and **Tender Cost** should reach physically through speed post/ register post/courier, containing in an envelope & superscripted with subject, tender reference number addressing to **Registrar, NIT Rourkela- 769008, Odisha**; Attention: HOD(EC) on or before **03/06/2019 at 11:00 AM**

10. **Performance Security:** Not applicable

11. Please go through the enclosed "bid document" carefully for other bidding instructions.

12. Please send your quotations through: <https://eprocure.gov.in/eprocure/app>

13. For technical details, you may contact

Dr. S. K. Das (Assistant Professor)
Department of Electronics and Communication Engg.
National Institute of Technology, Rourkela – 769 008
Phone: 0661 – 2462466
Fax: 0661 – 2462999
E-mail: dassk@nitrkl.ac.in

NB: Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

BID DOCUMENT

1. Instructions to the bidders

- 1.1** Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela– 769008, ODISHA, from the intending bidders for supply of the goods/stores/equipment for the Institute as detailed in the enquiry letter.
- 1.2** The bidders should quote their offer/rates in **BOQ** in clear terms without ambiguity.
- 1.3** In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
- 1.4** The last date for receipt of the bid is marked in the enquiry.
- 1.5** The bids should be uploaded in <https://eprocure.gov.in/eprocure/app>. **Please follow the guidelines of the site.**
- 1.6** If a prospective bidder requires any clarification in regard to the bidding documents, s/he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7** Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
- 1.8** (In respect of high value plant, machinery etc. of a complex and technical nature). The bids may be submitted in two parts, viz., technical bid and financial bid.
- 1.9** The bidder has to sign in full at all pages of the scanned part of the bidding document. No over- writing in those pages is acceptable.

2. Conditions of the bid

- 2.1** The rates quoted should preferably be net, inclusive of packing, forwarding, freight, Insurance and all other incidental charges excluding taxes. In case these charges are quoted extra in addition to the quoted rates, the amount thereof or ad-valorem rate must be specified. Packing, forwarding, freight, etc., when quotes separately are reimbursable at actuals. If external agencies are employed, their receipts must be enclosed with the invoice.
- 2.2** Duties and Taxes are to be quoted separately. Ad-valorem rates thereof should be clearly indicated with reference to the relevant Acts and Rules.

It may be noted that the Institute is availing custom duty exemption in terms of notification no 51/96- Customs dt. 23.07.1996, Notification no. - 47/2017 – Integrated Tax (Rate) dt. 14.11.2017 and Notification No- 45/2017-Central Tax (Rate) dt. 14.11.2017[vid Registration No.: TU/V/RG-CDE (227)/2016,dated 13.11.2018]

- 2.3** The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be reached within **30 days** from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the quotation.
- 2.4** The bid should remain valid for a period of **90 days** from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5** Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6** The goods offered should strictly conform to the specification and technical details as mentioned in schedule of requirements in the tender documents.
- 2.7** The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8** Period of guarantee/warranty, where applicable, should be specified in the bid.
- 2.9** If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT, Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.10** The successful bidder may be required to execute a contract, where applicable.
- 2.11** The bidder has to furnish up to date GST and Income Tax Clearance Certificate along with the bid.
- 2.12** Payment (*100 percent*) will be made by Account Payee Cheque/Bank Draft, within days from the date of receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, where applicable, whichever is later/latest.
- 2.13** In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, and Rourkela shall be final.
- 2.14** The bid document/resultant contract will be interpreted under Indian Laws.

DETAILED TECHNICAL SPECIFICATION PURCHASE OF

Fog Infrastructure Management and Application Orchestration Software for video analytics use-case.

OBJECTIVE

NIT Rourkela is working on an automated mechanism to detect vehicular accidents, criminal or suspicious movement if individuals with the intent to reduce loss of property, life, ease traffic and create a safe environment for citizens. Formal measurement of traffic loads, tracking individual movements and suspicious behaviour would be the first step towards this process. Analyzing video stream from a camera at tactical and strategic locations, via machines (using appropriate computer vision algorithms) is an essential part of the solution. The raw camera feed must be analyzed by the computer algorithms, running on a compute infrastructure. NIT Rourkela is realized to set up a **scalable compute facility (Fog Compute model)**, at the campus command control center, which can act as a compute infrastructure platform for anyone (faculty, students and external vendors) to run the video analytics computer algorithms, on the video feeds. The video analytics would provide rightful insight about the traffic, which can be further used for analysis vehicular traffic with the intent to reduce accidents.

The compute facility supports infrastructure to execute and run

- Video and sensor data analytics
- Video data capturing and storing in fog compute database
- For video data basic objective is to classify the video/CCTV footage based on activities and displaying and alerting the necessary clips separately, example anything related to crime/abnormal behaviour, that needs to find out from the CCTV/video footage then separate it out.
- Real-time traffic monitoring through cctv/IP camera
- Software needs to help in activity based searching information from the fog compute database through apps/website.

Maintaining atleast uptime, ease of maintenance and control of fog compute facility is one of the very critical aspect for the successful operation of the facility itself.

A fog controller software must support organic scaling of fog compute starting with very basic single server compute to multiple compute nodes, storage nodes and GPU resources. Hence identifying and procuring the fog controller software is essential.

Technical Specification for Fog Infrastructure controller & management Software:

- The software should orchestrate, manage and control the Fog compute facility.
- The software must allow the industry standard way to instantiate compute virtual machines to run the video analytics software.

- The software must support general purpose CPU, GPU, storage and communication infrastructure.
- The software should provide Single console access to Admin (NIT Rourkela) and DevOps(students/faculty) based on login credentials.
- The software should provide compute (CPU, GPU) isolation across multiple users.
- The software should provide layer 2 level traffic isolation across multiple users.
- The software should provide support for IaaS (VM's)
- The software should provide support for orchestration of containerized applications.
- The software should provide support for industry-standard hardware.
- The software should provide secured remote access to Fog compute.
- The software should provide admin Functionalities as:
 - Manage hardware infrastructures, add, remove and modify
 - Create DevOps credentials
- The software should provide DevOps functionalities
 - Self-Service portal for the creation of VM
 - API for creation of VM
- Standardized API as per available openstack.org and openfogconsortium.org specifications
 - Ability to connect to VM, remotely over the internet
 - Bring up and bring down containerized applications
- The software should provide enhanced Reliability of the fog compute infrastructure, with machine assisted troubleshoot and fix faults/failures.
- The software should provide a unified view of system uptime across Fog compute
- The software should provide a summary view of system health, based on learned SLA.
- The software should provide a unified approach to orchestrate application on Fog and Edge computing [Eg. LPU].
- The software should provide reduced operational expense, with single point control for multiple fog compute infrastructure.

Service:

A minimum service of **3 years** is required for the software, which should include upgrades and scope for additional features on requirement basis.

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