

राष्ट्रीय प्रौद्योगिकी संस्थान पुदुच्चेरी
कारैक्काल – 609 609
NATIONAL INSTITUTE OF TECHNOLOGY PUDUCHERRY
Karaikal – 609 609



Tender Document

for

Supply of Vehicular Communication System

at

**National Institute of Technology Puducherry
Thiruvettakudy, Karaikal – 609 609
Union Territory of Puducherry
India.**

National Institute of Technology Puducherry @ Karaikal an autonomous Institute established under Ministry of Human Resource Development, Government of India would like to procure the following items.

Particulars of the work	:	Supply & Commissioning of Vehicular Communication System at NIT Puducherry, Karaikal.
Tender Enquiry No	:	NITPY/CSE/2018/020
Item Required	:	<p>Vehicular Communication System consists of following components.</p> <ol style="list-style-type: none"> a. Raspberry Pi 3 b. GPS Receiver c. GSM Module d. ZigBee Module e. Sensors (Ultrasonic, Proximity, Pressure, Temperature, Humidity, High Precision LDR, Gyro, Accelero, Baro, and Magneto) f. Camera g. RFID Tags, RFID Reader h. Servo Motor (360, 180, 90) i. Accessories (Cables, Batteries, and Balanced Chargers) <p>(Specification Enclosed- SECTION 3)</p> <p>NOTE: The firm should quote all the items as a whole package. Purchase Order may be issued to the L1 supplier based on the quote all the items as a whole package.</p>
Due Date (For submission of bids)	:	03.00 P.M. 25.04.2018
Technical Bid Opening time	:	04.00 P.M. 25.04.2018
EMD	:	<p>The bidders shall furnish, as part of his bid, a Earnest money deposit (EMD)/ Bid security for an amount of Rs.20,000/- should be paid through online State Bank Collect mode under the payment category of Administrative Miscellaneous https://www.onlinesbi.com/prelogin/icollecthome.htm. The EMD or Performance security will bear no interest whatsoever. The copy of the payment receipt should be enclosed along with the Technical bid of tender document.</p> <p>EMD exemption is applicable to bidders registered with NSIC.</p>
Eligibility Criteria for Vendors	:	The Contractors / Tenderers should have experience in supply of similar item with ONE similar work of Rs.10,00,000/- or above (or) TWO similar works each of Rs.5,00,000/- with reputed educational institution/ organizations, etc., along with the copy of orders.
Submission of Offer	:	<p><u>Two Bid System:</u></p> <p>Two bid system will be followed for this tender. In this system the bidder must submit his offer in two separate</p>

	<p>sealed envelopes. Both the technical bid and commercial bid envelopes should be securely sealed and stamped separately and clearly marked as “Envelope No : 1 – Technical Bid” EMD should be placed in the Envelope No : 1, Technical Bid. “Envelope No : 2 – Commercial Bid” respectively.</p>
<p>Place of Submission</p>	<p>Please send the tenders in a sealed envelope superscribed as “Vehicular Communication System, Tender Notification NO: ” so as to reach</p> <p>: The Registrar National Institute of Technology Puducherry Thiruvattakudy, Karaikal – 609 609 Union Territory of Puducherry India.</p>

INSTRUCTIONS TO BIDDERS

1. This document set contains the following:
 - a) Terms and conditions of the Tender
 - b) Details of the Firm offering this Quote
 - c) Technical Compliance Form
 - d) Quotation form (Price Bid)
 - e) Currency Form (quoted on behalf of the foreign suppliers)
 - f) NIT Puducherry's check list copy
2. The bidder's copy is for your future records. **Please fill in and return only NIT Puducherry's copy.**
3. The bidder should give details of their technical soundness and provide list of customers of previous supply of similar items to Universities, Institutes or Government Departments / Undertakings/public sectors with contact details. The details of the agency / profile should be furnished along with the copy of all related documents.
4. Read through the terms and conditions given and affix your signature and seal if you find them acceptable. Any deviations may be recorded. Read carefully list of specifications that we have enclosed.
5. Fill in the questionnaire regarding the Firm.
6. The downloaded documents 'Technical Compliance Form' and 'Quotation Form (Price Bid)' should be TYPE WRITTEN USING CAPITAL LETTERS ONLY. At the time of filling the "Quotation Form (Price Bid)" make sure that you have not missed anything. Specify the model number & specification for each item. The form should be filled item-wise. Do not leave blank fields. If you are not quoting for a specific item, you should specify "NOT QUOTING".
7. **Do not use ambiguous terms like "yes", "complied" or "available". Specifically mention the matching specification of the product offered by you. Make sure that all the documents should be duly signed by you with date and seal.**

CHECKLIST TO BE FILLED IN BY BIDDER	
List of documents to be enclosed	Completed & Signed
1. Terms and Conditions form	YES / NO
2. Details of the Firm offering this Quote	YES / NO
3. NIT Puducherry's Quotation form (Technical & Price Bid)	YES / NO
4. Currency Form(quoted on behalf of the foreign suppliers)	YES / NO
5. Other technical specifications & pamphlets	YES / NO

- Note:** 1. "Cover" should contain the following:
- a. Form of "**Acceptance of Terms and Conditions**".
 - b. Form of "**Firm details**"
 - c. Pamphlets, if any (in a separate sealed cover)
 - d. Quotation Form (Technical, Price Bid and Currency Form)

Please retain this page with you for your future reference

Envelope 1: EMD and Technical Bid

EMD

(should be superscribed as 'EMD cover' duly indicating the Tender reference No. and the due date of opening)

The bidders shall furnish, as part of his bid, a Earnest money deposit (EMD)/ Bid security for an above said amount should be paid through online State Bank Collect mode under the payment category of Administrative Miscellaneous <https://www.onlinesbi.com/prelogin/collecthome.htm>. The EMD or Performance security will bear no interest whatsoever. The copy of the payment receipt should be enclosed along with the Technical bid of tender document.

EMD exemption is applicable to bidders registered with NSIC.

Technical Bid

(should be superscribed as 'Technical Bid' duly indicating the Tender reference No. and the due date of opening)

Should contain:

- a. Technical pamphlets
- b. Detailed technical specification
- c. Copy of license certificate for manufacture/supply of the item*
- d. Income Tax PAN number & TIN number.*
- e. Balance sheet
- f. Warranty period offered for the tendered item to be specified. If the warranty period is not conforming with the schedule of requirements given in section 2 of the Tender document, the bid is liable to be treated as non-responsive and will be rejected.
- g. Duly filled up technical questionnaire, if any
- h. Duly filled up deviation schedules to technical specifications, if any
- i. Copy of supply orders completed to satisfy the eligibility criteria.

* Appropriately pertaining to the country of origin.

Envelope 2: Price Bid

(should be superscribed as 'Price Bid' duly indicating the Tender reference No. and the due date of opening)

Should contain:

- a. Price bid as per the format in Section-4 of the tender document

Note:

- a. If the prices are revealed in **Envelope 1**, the offer will be summarily rejected.
- b. Each Cover shall be sent in a double sealed cover. The inner covers (**Envelope 1** and **Envelope 2**) should be sealed individually with the Sellers's distinctive seal and superscribed with the tender reference No. and due date of opening. All inner covers shall be placed in a common outer cover which shall also be sealed with seller's distinctive seal and superscribed with the tender reference No. and due date of opening.

SECTION : 2 – TERMS AND CONDITIONS FORM

1. The Bidders are requested to give detailed tender in their **own forms** in two bids.
Part-1 : **Technical Bid**
Part-2 : **Commercial Bid**
2. Tenders, which are submitted without following the two bid offer system will summarily be rejected.
3. The tender document can be downloaded from the National Institute of Technology Puducherry website www.nitpy.ac.in
4. **Technical Evaluation Committee**
 - i) A committee duly constituted by The Registrar (i/c), NIT Puducherry will go through the technical aspects of the tender and recommend short listed firms. The recommendation of the technical committee shall be final and binding on all the parties.
 - ii) The technical committee will examine all the technical aspects of the bids received. Further, the technical committee may seek additional information from the existing users at NIT Puducherry or from other Institutes and also call for technical presentations from the bidders if required.
 - iii) The bidders are required to submit the sample for evaluation before the stipulated time.
 - iv) No cost will be paid by NIT Puducherry for sample.
5. **Opening of Commercial Bids**
 - i) NIT Puducherry will open commercial bids of only the shortlisted bidders in the presence of the bidders or their authorized representatives who choose to attend the commercial bid opening. The date and time of opening the commercial bid will be intimated only to pre-qualified and technically acceptable bidders for the item at a later date. The representatives of shortlisted firms only will be allowed for commercial bid opening.
 - ii) No sub-contracting is allowed with regard to installation, commissioning, training, warranty, maintenance and after sales service. This is the sole responsibility of the principals / their authorized agents.
 - iii) The NIT Puducherry reserves the right to accept the offer in full or in parts or reject summarily or partly.
6. **Delivery Period / Timelines**

The deliveries and installation must be completed within 04 - 06 weeks from the date of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet this expectation.
7. **Locations for the supply / services**

The items covered by this document is required to be supplied and installed at National Institute of Technology Puducherry
Thiruvattakudy, Karaikal – 609 609
Union Territory of Puducherry, India

8. NIT Puducherry will not provide any accommodation / transportation for the engineers / representatives for attending installation, commissioning and demonstration work. It is the absolute responsibility of the principal supplier / agent to make their own arrangements.
9. **Purchasers right to vary quantities at the time of award**
NIT Puducherry reserves the right at the time of award of contract to increase or decrease the quantity of items specified in the schedule of requirements without any change in price or other terms and conditions.
10. **Price**
The price quoted shall be considered firm and no price escalation will be permitted. The quote should be for **FOR Destination** at National Institute of Technology Puducherry, Thiruvattakudy, Karaikal – 609 609, Union Territory of Puducherry.
- i) **The firm should quote all the items as a whole package, otherwise the firm will not be considered for further process.**
- ii) The packing, forwarding, freight, insurance and commissioning charges, if any extra may be quoted separately in commercial bid.
- iii) The actual sales tax percentage (without form "C") if any, should be specified.
11. **Performance Bank Guarantee**
The vendor will have to furnish performance bank guarantee for 10% of the total purchase order value, to be valid for one year plus two months from the date of installation and acceptance.
12. **Installation**
- i) Bidder shall be responsible for installation / demonstration as applicable and for after sales service during the warranty and thereafter.
- ii) Installation and demonstration to be arranged by the supplier within 15 days of the arrival of the equipment at site.
13. **Warranty / Support**
- i) The items supplied shall carry a **warranty for the period of one year** from the date of installation, testing and acceptance of the equipment.
- ii) The defects, if any, during the guarantee / warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty, octroi, local taxes if any and should be borne by the beneficiary or his agent. A clear confirmation should be given for this item.
14. **Indemnity**
The vendor shall indemnify, protect and save NIT Puducherry against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc., or such other statutory infringements in respect of all the items supplied by him.
15. **Freight and Insurance**
The items to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at NIT Puducherry.

16. Payment

100% payment shall be made at site against delivery, installation, commissioning and acceptance as per purchase order. No payment will be made in advance for any supplies under this tender. No claim for any duty, not stipulated in tender will be admitted at any stage.

17. Penalty for delayed services / LD

- i) As time is the essence of the contract, delivery period mentioned in the purchase order should be strictly adhered to. Otherwise the NIT Puducherry will forfeit EMD and also LD clause will be applied / enforced.
- ii) If the supplier fails to supply, and fix the item as per specifications mentioned in the order within the due date, the supplier is liable to pay liquidated damages of 1% of order value for delay of every week or part here of subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.
- iii) NIT Puducherry reserves the right to cancel the order in case the delay is more than 10 weeks. Penalty as at (ii) above, will be deducted from the security deposit.

18. Jurisdiction

The disputes, legal matters, court matters, if any, shall be subject to Karaikal Court Jurisdiction only.

19. Force Majeure

NIT Puducherry may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the contract, is the result of a force majeure.

20. Arbitration

All disputes of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc., shall be referred by either party (NIT Puducherry or the bidder) after issuance of 30 days notice in writing to the other party clearly mentioning the nature of dispute and will be referred to the arbitrator to be nominated by The Registrar (i/c), NIT Puducherry, Karaikal. The Venue for arbitration shall be Karaikal, Union Territory of Puducherry, India.

21. Interpretation of the clauses in the Tender Document / Contract Document

In case of any ambiguity / dispute in the interpretation of any of the clause in this tender document, interpretation of The Registrar (i/c), NIT Puducherry, Karaikal shall be final and binding on all parties.

22. The firm should quote all the items as a whole package. Purchase Order may be issued to the L1 supplier based on the quote all the items as a whole package.

-Sd-
Registrar (i/c)
NIT Puducherry

**“DETAILS OF THE FIRM OFFERING THIS QUOTE”
(Write or print or type in block letters)**

1. Name of the firm: _____
2. Date of incorporation: _____
2. Nature of the company (tick one): Government / Public / Private Company / Partnership / Proprietorship
3. Specify the number of years in this line of activity by the Company: _____
4. Quantity of sales in the previous years for the “.....”

2014-2015	2015-2016	2016-2017

5. Provide the postal address, telephone & fax numbers, and email address of the nearest service center.
6. Number of service engineers in the above location trained on the product quoted along with their educational qualification, certification and designation (applicable only for instruments):
7. Assured response time for service calls in hours:
8. Delivery period from the date an official purchase order placed (in weeks):
9. Enclose the list of customers to whom you have supplied “.....” up to 31/03/2018 with full postal address and name of the contact person with phone, FAX numbers, and E-Mail id.
10. Enclose the certificate regarding the authorized dealer or distributor for the products quoted (If tenderer is not manufacturer).
11. On Manufacturer’s Side to whom NIT Puducherry have to contact in case of delayed in supply and other issues committed by the authorized dealer / distributor / reseller :

Contact Person Name:

Address:

E-mail ID :

Telephone / Cell Phone :

DECLARATION

I/we have not tampered/modified the tender forms in any manner. In case, if the same is found to be tampered/modified, I/we understand that my/our tender will be summarily rejected and full Earnest Money Deposit (EMD) will be forfeited and I/we am/are liable to be banned from doing business with NIT Puducherry and /or prosecuted.

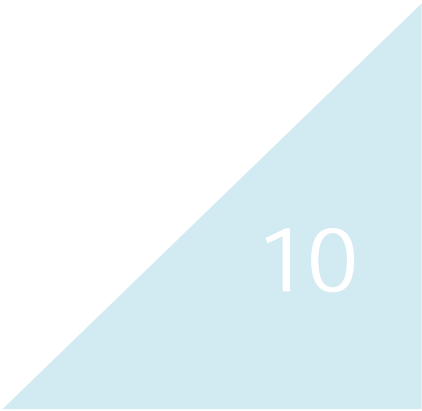
Signature of the Bidder:

Name and Designation:

Business Address:
.....
.....

Place :

Date : Seal of the Bidder's Firm



SECTION : 3 – SPECIFICATION

Item Required: 1. Vehicular Communication System

1. Vehicular Communication System consists of following components.
 - a. Raspberry Pi 3
 - b. GPS Receiver
 - c. GSM Module
 - d. ZigBee Module
 - e. Sensors (Ultrasonic, Proximity, Pressure, Temperature, Humidity, High Precision LDR, Gyro, Accelero, Baro, and Magneto)
 - f. Camera
 - g. RFID Tags, RFID Reader
 - h. Servo Motor (360, 180, 90)
 - i. Accessories (Cables, Batteries, and Balanced Chargers)

The detailed specifications and quantity are given below.

a. Raspberry Pi 3 -- 20 no.	
Specifications	Raspberry Pi 3 Model B -The Complete Kit
	1 GB RAM
	1.2 Ghz 64-Bit Quad Core Arm CPU
	On-board Wi-Fi and Bluetooth Connectivity
	16 GB Micro SD Card (Class 10) - Raspberry Pi Recommended Micro SD Card pre-loaded with NOOBS
	2.0A SMART USB Power Supply with High Quality Micro USB Cable
	High Quality Raspberry Pi 3 Case
	Premium Quality HDMI Cable
	Operating System - Linux

b. GPS Receiver – 20 no. - GPS Receiver with Antenna (5V TTL SERIAL)	
Specifications	
MediaTek MT3329 Chipset, L1 Frequency, C/A code, 66 Channels	
TTL asynchronous serial interface	
5 VDC supply @ 55 mA (typical)	
Data output Baud rate: 9600 bps(Default)	
Standard NMEA0183 output format	
Low Power Consumption: 55mA @ acquisition, 40mA @ tracking	
High Sensitivity, -165 dBm, TCXO Design , superior urban performances	
Position Accuracy: <3.0M 2D-RMS	
DGPS (WAAS/EGNOS/MASA/GAGAN) Support	
Multi-path Compensation ; E-GSM-900 Band Rejection	

Cold Start is Under 36 seconds (Typical)
Warm Start is Under 34 seconds (Typical)
Hot Start is Under 1 second (Typical)
Max. Update Rate : 10Hz (Default: 1 Hz)

c. GSM Module – 20 no.

- **GSM RS232 MODEM-SIM900**

Specifications

High Quality Product (Not hobby grade)
Inbuilt Powerful TCP/IP protocol stack for internet data transfer over GPRS.
Quad-Band GSM/GPRS 850/ 900/ 1800/ 1900 MHz
RS232 interface for direct communication with computer or MCU kit
Configurable baud rate
SMA connector with GSM Antenna.
SIM Card holder.
Built in Network Status LED
Audio interface Connector
Normal operation temperature: -20 °C to +55 °C
Input Voltage: 4.5V-12V DC

d. ZigBee Module – 20 no.

Specifications

Manufacturer – Texas Instruments
Categories – RF/IF and RFID RF
Evaluation and Development Kits, Boards
Type – Transceiver 802.15.4
Frequency – 2.4 GHz
Supplied contents- Boards, Cables

e. Sensors (Ultrasonic, Proximity, Pressure, Temperature, Humidity, High Precision LDR, Gyro, Accelero, Baro, and Magneto) – each 20 no.

Products
PWM O/P rhydolabs - 20 no.
Sharp GP2Y0A02YK0F - 20 no.
Flex Sensor - 20 no.
LM35 - 20 no.
SY-HS-220 - 20 no.
LDR 5mm - 20 no.
9degree of freedom IMU - 20 no.
LSM9DS1 - 20 no.

f. Camera – 20 no.

Specifications
Wireless A/V camera high receive sensitivity +18dB, Receive signal picture sound 0.9G/1.2G
Camera apparatus: 1/3 picture sensor
System: PAL
Validity pixel: PAL: 5.78x4.199mm
Picture area: PAL 628x582
Scan frequency: PAL: 50HZ
Transmission signal: picture sound
Deliver the distance:50-100M
Voltage:DC+9V

g. RFID Tags, RFID Reader – 20 no.**Specifications**

SparkFun RFID Starter Kit

1x RFID USB Reader

1x ID-12LA RFID Module

2x RFID Card - 125kHz

h. Servo Motor (360, 180, 90) – 20 no.**Specifications**

Service voltage: DC3-7.2V

Working current: 100mA

Working torque: 13KG/cm

Plug Type: For JR, FUTABA

Reaction speed: 53-62R / Min

No load operation speed: 0.17 seconds / 60° (4.8V); 0.13 seconds / 60°(6.0V)

Use temperature: -30 ~ +60 °

Rotation angle: up to 180 degrees

Applies to: 1: 10 and 1: 8 level sports car, off-road vehicles, trucks, monster trucks,
biketrial, bipedal robots, mechanical arms, remote control boats,

50 -90 grade methanol fixed-wing aircraft and 26cc-50cc gasoline fixed-wing aircraft, etc.

Size: 5.4 * 4 * 2cm, line length 30cm

i. Accessories (Cables, Batteries, and balanced chargers) – 20 no.

Specifications

Lithium Polymer (Li-Po) Rechargeable Battery 22.2v 10000AH - 20 no.

Imax B6 5A Multipurpose Battery Charger – 10 no.

Bread board – 20 no.

1 PIN Male - Female Jumper Wire 20 Pcs PACK – 20 no.

1 PIN Male - Male Jumper Wire 20 Pcs PACK – 20 no.

1 PIN Female – Female Jumper Wire 20 Pcs PACK – 20 no.

1 PIN Female – Male Jumper Wire 20 Pcs PACK – 20 no.

SECTION : 4 – PRICE BID

Tender No. & Date:

Bidder's Offer No. & Date:

S. No.	Description of item	Unit Price In Rs.	QTY	Sub Total in Rs. (excluding of all taxes) (Col.2*Col.3)	ED in % For Col. 4	GST In % For Col. 4	Service Tax in For Col. 4	Total Value in Rs. (inclusive of all taxes) Col. (4+5+6+7)
Column No.1	2	3	4	5	6	7	8	
1	Vehicular Communication System		1					
2	Other accessories /spares etc as given in scope of supply (if any)							
3	Installation & Commissioning (extra, if any)							
4	Packing & Forwarding charges in Rs.(extra, if any)							
5	FOR Dispatching station value in Rs.							
6	Freight & Transit insurance charges, extra, if any							
7	Total all inclusive price in Rs. delivered, installed and commissioned at NIT Puducherry							
8	Net cost in Rs. to be paid by NIT Puducherry for whole package							

Signature & Seal of Vendor

Note: The price bid should be submitted only as per the above format. No row shall be left blank. Please indicate NA, in case the item is "Not Applicable". The firm should quote all the items as a whole package. Purchase Order may be issued to the L1 supplier based on the quote all the items as a whole package.

SECTION : 5 – CONTRACT FORM

To be provided by the bidder in their business letter head

[Name of the Supplier’s Firm] hereby abide to deliver theby the delivery schedule mentioned ABOVE of the Tender document for supply of the items if the purchase order is awarded.

The item will be supplied conforming to the specifications stated in the tender document without any defect and deviations.

Warranty will be given for the period mentioned in the tender document and service will be rendered to the satisfaction of NIT Puducherry during this period.

Signature of the Bidder:

Name and Designation:

Business Address:

Place:

Date:

Seal of the Bidder’s Firm

