



F.No.PI/NAHEP/CAAST DFSRDA/Quot/ 139 /2020

Date: 15/ 09 /2020

To,

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Dear Sir,

**Subject: INVITATION OF QUOTATION FOR SUPPLY OF SENSORS**

1. You are invited to submit your most competitive quotation for the following Goods: -

S N	Brief Description of the goods	Specifications*	Quantity (Unit)	Delivery Period	Place of Delivery	Installation requirement if any
1	<b>SENSORS</b>	Altitude sensors for use in this project. Position Sensor, MEMS, Digital Sensor I/O: DC+9~36V; Features : 1: UAV posture control 2: Vessel posture calculation 3: Underwater robot 4: Truck - mounted satellite 5: Industrial Manipulator 6: robot 7: 3D Virtual Reality Detailed Specifications given below.	01 each	After awarding the contract & the period of validity of quotation	Office of PI, NAHEP-CAAST, VNMKV, Parbhani .	Yes, with installation and technical demonstrations.

Detail Technical Specifications	
<b>GNSS BASED Altitude Sensor with NMEA Output</b>	RS232, 12V/5V Operation
<b>Analog Type Hall effect position sensor</b>	Ratio metric 0 to 5V Output ,5v supply and ten turn operation
<b>MEMS Sensor for Tilt Measurement</b>	RS 485 output ,12V operation 2 axis x,y output, 0.1 deg Resolution
<b>Digital Sensor for Distance measurement upto 1M</b>	UART Output, 5V operation, 0.01M resolution
<b>Soil Moisture, Temperature and EC Sensor with data logger</b>	4 probes for different depth Measurements (10/20/30/40 cm), 0 to 50% range for SM -40 to 80 Deg C range for ST 12V operation, RS485 Output Data Logger Specifications 1. Solar powered Data Logger with outdoor enclosure high memory capacity 2. SS tripod Stand, Solar Panel, Battery with suitable mounting fixtures



	<p>3. data will be available in excel format in usb pen drive</p> <p>4. upto 8 channels, channel configuration 1 time from factory at the time of order</p>
<b>Soil PH Sensor with RS485 Output</b>	<p>Range : 3 to 9 PH</p> <p>Resolution/Accuracy :0.3</p> <p>Operating Voltage : 12V</p> <p>Output : RS485</p>
<b>Soil NPK sensor with RS 485 Output &amp; data Logger</b>	<p>Range : 0 to 2000 mg/Kg</p> <p>Accuracy: 2%</p> <p>Operating Voltage : 12V</p> <p>Output : RS485</p> <p>Data Logger Specifications</p> <ol style="list-style-type: none"> <li>1. Solar powered Data Logger with outdoor enclosure high memory capacity</li> <li>2. SS tripod Stand, Solar Panel, Battery with suitable mounting fixtures</li> <li>3. data will be available in excel format in usb pen drive</li> <li>4. upto 8 channels, channel configuration 1 time from factory at the time of order</li> </ol>
<b>Lidar Sensor</b>	<p>Auto 360° Rotation,UART output</p> <p>Operating Voltage: 5V</p> <p>Distance Range (Radius): 0.15m to 6m</p> <p>Angular Range: 0 ~ 360°</p> <p>Distance Resolution: &lt; 0.5mm</p> <p>Angular Resolution: &lt;= 1 °</p> <p>Sample Duration: 0.5ms</p> <p>Sample Frequency: 2000 – 2010Hz</p> <p>Scan Rate: 1 ~ 10Hz, Typical 5.5Hz</p>
<b>3D Ultrasonic Anemometer with data logger</b>	<p>Measuring range : 0.01m/s ~ 65 m/s</p> <p>azimuth 0° ~ 360°</p> <p>Acoustic-virtual temperature</p> <p>Measuring range :-40°C ~ 70°C</p> <p>Measuring rate 1 msec to 60 seconds, selectable in 1-msec increments</p> <p>Output of measured values</p> <p>RS485/RS422, bus operation</p> <p>Operating Voltage : 12V</p> <p>Data Logger Specifications</p> <ol style="list-style-type: none"> <li>1. Solar powered Data Logger with outdoor enclosure high memory capacity</li> <li>2. SS tripod Stand, Solar Panel, Battery with suitable mounting fixtures</li> <li>3. data will be available in excel format in usb pen drive</li> </ol>



	4. upto 8 channels, channel configuration 1 time from factory at the time of order
<b>Optical and Stainless Steel Rain Gauge Sensor</b>	Optical Rain Sensor Specifications Output : Pulse Input Voltage 9 – 30VDC or 9 – 26 VAC 50V surge protected Reverse polarity protected to 50V Current Drain 15 mA nominal. (No outputs on, not raining, no heater) about 1.5 mA in micro-power sleep Accuracy : 5% Resolution : 0.1mm mode. 50 mA with output on. Stainless Steel Rain Gauge Specifications Material : Stainless Steel Measuring Range Nominal : 4mm/min or 240mm/hr Maximum: 8mm/min or 480mm/hour Accuracy Better Than 2% Acute Angle of Cutting Edge 40 to 45° Insect Protection Stainless Steel Mesh
<b>Atmospheric Temperature &amp; Humidity Sensor with Radiation shield</b>	Temperature Range : -40 to 85Deg C Resolution : 0.1deg Humidity Range: 0 to 100% Resolution : 0.1% Output: RS485 Operating Voltage: 12V
<b>Solar Sensor for PAR,UV &amp; Global Radiation</b>	Output: RS485 Operating Voltage: 12V Range for PAR : 0 to 2000umol Range of UV: 0 to 400mW Range of Global : 0 to 2000W/mtrsq Accuracy: 2% to 5%

- The above price is including GST and other terms such as Technical support from purchase of goods from September 2020 up to March 2022.
- Place of Delivery:** CENTER OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTION BY ROBOTS, DRONES and AGVs. Vasantrao Naik Marathwada Krishi Vidyapeeth Parbhani.

\*\* Quantity of work may be varies.

\* Where ISI certification marked Goods are available in market, procurement should generally be limited to goods with those or equivalent marketing only.

- Government of India has received a financing from the International Bank for Reconstruction and Development World Bank towards the cost of the National Agricultural Higher Education Project NAHEP (CAAST- DFSRDA, VNMKV, Parbhani) and intends to apply part of the



proceeds of this loan to eligible payments under the contract for which this invitation for quotations is issued.

### 3. Bid Price

- The contract shall be for the full quantity as described above. Corrections, if any, shall be by made by crossing out, initialing, dating and re writing.
- All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
- Sales tax in connection with the sale shall be shown separately.
- 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.
- The prices shall be quoted in Indian Rupees only.

### 4. Each bidder shall submit only one quotation.

### 5. Validity of Quotation

Quotation shall remain valid for a period not less than 60 days after deadline date specified for submission.

### 6. Evaluation of Quotations

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

- are properly signed; and
- conform to the terms and conditions, and specifications.

The quotations would be evaluated for all the item together/ would be evaluated separately for each item. *[Select one of the options.]*

Sales tax in connection with sale of goods shall not be taken into account in evaluation.

### 7. Award of contract

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

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process the reject all quotations at any time prior to the award of contract.

7.2 The bidder whose bid is accepted will be notified of 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 supply/ Purchase order.

### 8. Part payment or part supply orders will not be accepted. The payment will be made immediately after delivery of Goods/Setup/installation/Training/Assignment as per signed up/award of contract.

### 9. The necessary catalogue, leaf lets, operational manual or any other printed material related to goods/material should be provided during completion of contract.

### 10. Normal commercial warranty/ guarantee shall be applicable to the supplied goods.

### 11. The rates/prices should be FOR, VNMKV, Parbhani (MS) India. All leakages-breakage and losses in transit including shortages, if any will be borne by the firm/supplier. Offer should clearly mention the locations for which rates are quoted.



12. The firm should provide proof of GST registration no. / Tin no. / PAN no. and all legislative documents required as per world bank/ICAR New Delhi procedure.
13. **Onsite installation with technical demonstration and training** to core team member and technical staff should be provided by the supplier in consultation with expert team member of NAHEP-CAAST DFSRDA, VNMKV, Parbhani office.
14. In case, any holiday is declared by the Government on the day of opening, the bids will be opened on the next working day at the same time. The Principal Investigator, NAHEP - CAAST DFSRDA VNMKV Parbhani, reserves the right to accept or reject any or all the bids.
15. The bids of firm (s) which have either been black-listed by VNMKV, Parbhani or any other Govt. organization will not be accepted. In this regards, the firm has to give an undertaking on the enclosed format.
16. You are requested to provide your offer latest by **05.00 PM on or before 06/10/2020 in the name of Principal Investigator, NAHEP-CAAST-DFSRDA, VNMKV, Parbhani – 431 402**. The bids will be opened on the last day of submission at the same time. All suppliers/firms are requested to be present in the chamber of undersigned.
17. Write the title Quotation for supply of “**SENSORS**” on top line of envelopment.
18. We look forward to receiving your quotations and thank you for your interest in this project.

**Principal Investigator**  
**National Agricultural Higher Education Project**  
**CAAST DFSRDA, VNMKV, PARBHANI**  
Pin Code-431402, (M.S.), INDIA  
Tel. No.:+91 9422111232,  
Email: [nahep.caast.vnmkv@gmail.com](mailto:nahep.caast.vnmkv@gmail.com)



## FORMAT OF QUOTATION FOR SUPPLIER

Sl. No.	Description Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs.	Total Amount	
						Rupees	
TOTAL	In Figures						
	In Words						
GST							

**Gross Total Cost: Rs. ....**

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. .... (Amount in figure) Rs. .... (Amount in words) within the period specified in the Invitation for Quotation.

We also confirm that the normal commercial warrantee/ guarantee of ..... Months shall apply to the offered goods.

We hereby certify that we have neither black-listed by VNMKV, Parbhani nor any other Govt. organization.

We hereby certify that we have no “Conflict of Interest” with NAHEP-CAAST, DFSRDA VNMKV, Parbhani office or staff.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in corrupt, fraudulent, collusive, or obstructive practices (as defined in the prevailing World Bank's sanction procedures) in competing for or in performing the Contract.

**Signature of Supplier**

**\* Supplier should also mention the discount offered.**