

**INVITATION FOR QUOTATIONS FOR SUPPLY OF
GOODS UNDER NATIONAL SHOPPING PROCEDURES**

To

Dear Sirs,

Sub: INVITATION FOR QUOTATIONS FOR SUPPLY OF “Drone for Agricultural Applications: Pesticide spraying, Components of Drone, Learning kits, Drone Sensors, Propulsion units, Imagery analytics system, multi- spectral camera and accessories”

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

Brief Description of the Goods	Specifications*	Quantity	Delivery Period	Place of Delivery	Installation Requirement if any
Drone for Agricultural Applications : Pesticide spraying, Components of Drone, Learning kits, Drone Sensors, Propulsion units, Imagery analytics system, multi-spectral camera and accessories	<p>NANO-DRONE</p> <p>Minimum Technical Specifications:</p> <p>A detailed learning manual, 10 DIY projects, hardware accessories (including wifi camera, range sensor and DC geared motors), easy-to-code software and modular hardware. So anyone can start innovating like a pro.</p> <ul style="list-style-type: none"> ● Flight time:- 12 mins ● Payload-15gm ● Charge Cycles-600 ● Communication-WiFi (60m)] ● Frame-Open source, fully customizable ● App controller-yes ● SDK-API based <p>Board specifications</p> <ul style="list-style-type: none"> ● Total 8 drives: 4 MOSFET drives + 4 H-Bridge drives ● 10-DOF sensor suite ● Wifi interface ● 10 Minutes flight time: 600mAH Battery ● Range: 60m ● UniBus - 20 pin header: ● 16 Pins GPIO: ● Analog Pins: 8 ● Timer channels: 11 ● UARTs: 2 ● SPI: 1 ● I2C: 1 	05 Nos.	15/03/2019	CAET, JAU, Junagadh	Installation and training shall be done by vendor for given setup.

<ul style="list-style-type: none"> • DAC channels: 2 • 4 Power pins: • +3.3V Line, 500mA of current sourcing • 2 x GND • VBat • Controlled by Controller (Download it for free on Android and iOS) 				
<p>DRONE KIT FOR LAB APPLICATION</p> <p>This rack should be divided into carbon fiber and glass fiber edition version. The thickness of the fuselage plate 1.5mm, the arm plate thickness of 3mm. (plate thickness error of + 0.1mm) of the 3mm thickness of the arm, to ensure that the aircraft in flight strength, effectively reduce vibration. The fuselage is connected with aluminum alloy column to ensure the strength of the fuselage</p> <p>Minimum Technical Specification: Onboard two BEC step-down module Support 5 v / 12 v voltage output, with LED lamp Figure pass filtering module Low voltage alarm buzzer Can be an external blue tooth module Support ultrasonic connection 1.5 mm thickness of high quality black heavy gold PCB plank Component materials solid, layout reasonable, get the line which ensure the frame intensity, and reduce the vibration in the process of flight and strengthening the resistance to fall off.</p> <ul style="list-style-type: none"> • Drone Frame • 1 x 5V & 12V PDB • 1 x battery strap • 4 x 2400KV Brushless Motor CW 4 x 40A ESC • 1 x Flight Controller (without cables) 10 x 3 Blade Propeller CW • 10 x 3 Blade Propeller CCW RF Controller and remote. 	05 Nos.	15/03/2019	CAET, JAU, Junagadh	Installation and training shall be done by vendor for given setup.
<p>CROP SURVEYING DRONE WITH 4K CAMERA</p> <p>Minimum Technical Specification: Features</p> <ul style="list-style-type: none"> • Aids in identifying stressed areas of a field, measuring overall crop health • See exactly how crops are performing in real-time and recommend or take action while still in the field — no need for an internet connection <p>Software Features</p>	01 No.	15/03/2019	CAET, JAU, Junagadh	Installation and training shall be done by vendor for given setup.

<ul style="list-style-type: none"> • Make in-season decisions using real-time data • Convert NDVI values into easy-to-use zone maps • Assess plant health at the field edge, without an internet connection • Generate unlimited Quick Tile maps and mosaics • View crop health maps on your mobile device • Share data with anyone <p>AIRCRAFT</p> <ul style="list-style-type: none"> • Weight (Battery & Propellers Included) : 1388 g • Diagonal Size (Propellers Excluded) : 350 mm • Max Ascent Speed : S-mode: 6 m/s P-mode: 5 m/s • Max Descent Speed : S-mode: 4 m/s P-mode: 3 m/s • Max Speed : S-mode: 45 mph (72 kph) A-mode: 36 mph (58 kph) P-mode: 31 mph (50 kph) • Max Tilt Angle : S-mode: 42° A-mode: 35° P-mode: 25° • Max Angular Speed : S-mode: 250°/s A-mode: 150°/s • Max Service Ceiling Above Sea Level : 19685 feet (6000 m) • Max Wind Speed Resistance : 10 m/s • Max Flight Time : Approx. 30 minutes • Operating Temperature Range : 32° to 104°F (0° to 40°C) • Satellite Positioning Systems : GPS/GLONASS 				
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<ul style="list-style-type: none"> • Hover Accuracy Range: • Vertical : ±0.1 m (with Vision Positioning) ±0.5 m (with GPS Positioning) • Horizontal : ±0.3 m (with Vision Positioning) ±1.5 m (with GPS Positioning) <p>REMOTE CONTROLLER</p> <ul style="list-style-type: none"> • Operating Frequency: 2.400 - 2.483 GHz and 5.725 - 5.825 GHz • Max Transmission Distance: <ul style="list-style-type: none"> ○ 2.400 - 2.483 GHz CE: 1.2 mi (2 km) SRRC: 3.1 mi (5 km) • Operating Temperature Range: 32° to 104°F (0° to 40°C) • Battery: 6000 mAh LiPo 2S • Transmitter Power (EIRP): 2.400 - 2.483 GHz <p>CHARGER</p> <ul style="list-style-type: none"> • Voltage: 17.4 V • Rated Power: 100 W <p>CAMERA</p> <ul style="list-style-type: none"> • Sensors: 12.3MP BSI CMOS <ul style="list-style-type: none"> ○ Sony Exmor RTM IMX377 Sensor • Spectral bands: NDVI <ul style="list-style-type: none"> ○ Red 625nm x 100nm width ○ NR 850 nm x 40nm width • NDRE <ul style="list-style-type: none"> ○ Red Edge 720nm x 40nm width ○ NIR 840nm x 20nm width • Size: 2.32"x1.61"x1.75" (59mm x 41mm x 44.5mm) • Weight: 80 grams • Power: 8W typical/12V maximum • Image format: JPET • Field of view: 60° HFOV (4K Stills/Vidoe) 1080p ranges 30° - 60° HFOV • Data capture: 12.3MP Stills 4K Ultra HD video @ 30fps 1080p/720p video <ul style="list-style-type: none"> ○ H264 encoding • Interface: Ethernet, Serial/UART, USB 3.0, I2C, 				
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	<p>GPIO</p> <ul style="list-style-type: none"> ○ Web based camera configuration ○ Pushbutton control for single photo and mode select <ul style="list-style-type: none"> ● Control: Open ICD for triggering and metadata logging over serial ● Storage: 64GB SD Card ● Data integration: Seamlessly integrates with Desktop software. 				
	<p>AGRICULTURAL SPRAYING DRONE</p> <ul style="list-style-type: none"> ● Fuselage Design: The fuselage uses the enclosed design, effectively prevents the pesticide particles into the control system. The drone has the characteristic of light weight, high folding structure design, corrosion resistance. ● High Efficiency Power: The drone uses high-efficiency brushless motor. It has the advantages of high temperature resistance, waterproof, low calorific value, stable and reliable operation, etc. ● Water Pump: This drone has two types for you to chose: <ul style="list-style-type: none"> 1. Nozzles are installed in a long spray bar. 2. Nozzles are installed under the motor mount. You can choose what you like. <p>Minimum Technical Specifications</p> <ul style="list-style-type: none"> ● Measurement (W/O propeller): 75x75x48 CM ● Propeller : Quad ● Maximum take off Weight: 12.5 kg ● N.W: 4.5 kg ● Economy payload: 5 kg ● Control radius: 1000 meters ● Spraying width: 2~4 meter ● Spraying speed: 2~9 meter/S ● Flow rate of nozzle: 1.2~1.3L/S (adjustable) ● Maximum flight height: 30 meter ● Hovering time (no load): About 16-20 min ● Spraying time (load): About 11-13 min ● Spraying time for one flight: About 4.5 min ● Flight mode: ATT/Spray work/GPS/DJI ● Working temperature: 0~45°C ● Spraying efficiency: About 2 Ha./hour ● SPRAYING ATTACHMENT & CAMERA 	01 No.	15/03/2019	CAET, JAU, Junagadh	Installation and training shall be done by vendor for given setup.

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

2. Government of India has received a financing from the International Bank for Reconstruction and Development (IBRD) in various currencies towards the cost of the National Agricultural Higher Education Project (NAHEP) 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**

- a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
- b) All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
- c) Sales tax in connection with the sale shall be shown separately.
- d) 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.
- e) 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 15 days after the 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

- (a) are properly signed ; and
- (b) conform to the terms and conditions, and specifications.

The Quotations would be evaluated separately for each item.

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 the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and 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 purchase order.
8. Payment shall be made immediately after delivery of the goods.
9. Normal commercial warranty/ guarantee shall be applicable to the supplied goods.
10. You are requested to provide your offer latest by 17:00 hours on 29/01/2019.
11. General Terms and Conditions listed in Annexure – I must be followed by the bidder.
12. We look forward to receiving your quotations and thank you for your interest in this project.

Quotation must be delivered to the address below latest by 17.00 hours on January 29, 2019, along with a cover-letter and supporting documents in an envelope indicating **“IDP - Quotation for Instrumentation for Drone Technology Lab”**.

Principal and Dean & Co-PI (IDP),
Address: College of Agricultural
Engineering and Technology,
Junagadh Agricultural University,
Junagadh – 362001, Gujarat, India
Tel. No.: 02852671018
Fax No.: 02852671018

(Purchaser)

Name: Co-PI (IDP), Principal and Dean
Address: College of Agricultural
Engineering and Technology, Junagadh
Agricultural University,
Junagadh – 362001, Gujarat, India
Tel. No.: 02852671018
Fax No.: 02852671018

FORMAT OF QUOTATION *

Sl. No.	Description Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs.	Total Amount	
						In Figures	In Words
Total							
Sales Tax							

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 figures) (Rs. amount in words) within the period specified in the Invitation for Quotations.

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

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

* *Applicable while the bids are being invited for more than one item evaluation would be made for each item separately.*

Annexure I

General Terms and Conditions

01. Junagadh Agricultural University (hereinafter referred to as “JAU”), for its various Departments (hereinafter referred to as “the purchaser”) for their requirement of intend to invite for supply and installation of Scientific Instruments/ machineries at JAU, Junagadh.
02. Government of India has received a financing from the International Bank for Reconstruction and Development (IBRD) in various currencies towards the cost of the National Agricultural Higher Education Project (NAHEP) 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.
03. Each bidder shall submit only one quotation.
04. The items subjected to requirements and the same may be purchased or may not be purchased without assigning any reason.
05. The purchase orders placed on any date during the validity of the RFQ at the rate, terms and conditions of the RFQ.
06. At the time of order, If in any case the quoted item is not available in the market, the successful bidder will have to supply higher version/specification of that item in the quoted cost in the same time duration with prior approval of Purchaser.
07. Purchase committee reserves the right to get clarification from the bidder.
08. Successful bidder failing to provide after sales services would be permanently blacklisted.
09. The bidders are encouraged to visit at ordering site before quoting for the assessment of feasibility of the quoted item. However, no any excuses will be acceptable regarding the performance to fulfil the objective of the quoted items.
10. There should be no discrepancy in price quoted under similar period and similar supplies under the territorial jurisdiction of Gujarat state.
11. The World Bank has right to inspect accounts and records of the bidders, suppliers and contractors.
12. In case of dispute, the base of arbitration must be the guideline of procurement recommended by the ICAR-NAHEP will be the final.
13. **Bid Price :**
 - a) The contract shall be for the full quantity as described. Corrections, if any, shall be made by crossing out, initiating, dating and rewriting.
 - b) All duties, taxes, all freight, packaging and forwarding, transit insurance, installation charges, applicable taxes and other levies payable on the raw materials and components shall be included in the total price.
 - c) GST in connection with the sale/service shall be shown separately.
 - d) 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.
 - e) The Prices shall be quoted in Indian Rupees only.
14. **Validity of Bid :** Bid shall remain valid for a period not less than 30 days after the deadline date specified for submission.
15. **Documents to be submitted for eligibility :** Your quotations will be considered upon the provision of the following documents duly signed by the authorized representative, failure in providing the requested documents may constitute grounds for disqualification of quotations;
 - a) Quotation letter duly signed by the authorized representative -(Mandatory)

- b) Bidder's details with contact no, email, address etc. (Mandatory)
- c) Copy of company registration certificate. (Mandatory)
- d) Copy of PAN card. (Mandatory)
- e) Copy of GST Certificate (Mandatory)
- f) Detailed information on the implementation plan (Mandatory)
- g) Copies of Income Tax Returns for the last Financial Years having an average annual turnover equivalent to three times of quoted price or more. (Mandatory)
- h) Annexure – I (Mandatory)

16. Evaluation of Bids :

- a) The Purchaser will evaluate and compare the bids determined to be substantially responsive i.e. which are properly signed and conform to the terms and conditions, and specifications.
- b) The Quotations would be evaluated separately for each item.
- c) GST in connection with sale of goods/services shall not be taken into account in evaluation.

17. Award of contract

- a) The lowest price is not the criteria and emphasis would be placed on quality and specifications of the material. The Purchaser will award the contract to the bidder whose bid has been determined to be substantially responsive and who has offered the lowest evaluated bid price.
- b) Notwithstanding the above, the JAU reserves the right to accept or reject any bids and to cancel the quoting process and reject all bids at any time prior to the award of contract.
- c) The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the bid validity period. The terms of the accepted offer shall be incorporated in the purchase order.

18. Security Deposit: Successful bidder has to submit 5% of purchase order value as a Security Deposit in the form of a demand draft/ bank guarantee from a Nationalized bank within 10 days preferably having a branch at the Junagadh, which should be valid for a period of 1 year. Bank guarantee in favour of "Junagadh Agricultural University Fund Account", payable at Junagadh from any Nationalized bank and will be informed by purchase office at the time of giving purchase order and provide performance security form.

19. Refund of Security Deposit: The amount of security deposit will be refunded after completion of standard warranty period (or warranty period specified in item specification) starting from successful installation of item, after writing a letter to the Office where in instruments/machinery installed.

20. Forfeiture of Security Deposit: The security deposit will be forfeited if, successful bidder fails to supply the items within the delivery period and/or supplier fails to comply specifications of instruments and/or supplier fails in successful installation/demonstration of the instruments/ machinery and/or supplier fails to provide satisfactory post sale services and support or fail to replace the defective piece/ service the instruments/ machinery before warranty period.

21. Warranty:

- a) Normal commercial warranty/ guarantee shall be applicable from the date of commissioning/installation for respective item.
- b) Further, any complaint shall be attended within a response time of 48 hours on 24X7 basis during warranty period.

22. Payment: The payment of item/items will be made after successful supply, commissioning/installation and satisfactory performance of the quoted items as per

the requirement of the ordering party. However, any request regarding the advance or partial payment will not be entertained in any circumstances.

23. Delivery/Installation:

- a) Free delivery to the consignee.
- b) Maximum delivery/installation period of specified item is within 15 days from the date of purchase order.
- c) The application for extension of delivery period shall be sent to concern ordering office of Junagadh Agricultural University at least 5 days prior to the expiry of delivery period of each item. The officer in charge, who is placing the order reserve the right to extend period or reject the deal and their decision in the matter, shall be final and binding to all.

24. Training and Demonstration: Supplier has to perform on-site live demonstration/training.

25. Dispute: In case of any dispute, final decision of The Procurement Unit, Junagadh Agricultural University, Junagadh – 362 001 will be binding upon all. In case of any dispute arises in respect of this RFQ, a suit in that behalf shall be subject to Junagadh Jurisdiction.

26. All rights are reserved with the University Authority to accept or reject any or all the tenders received without assigning any reasons thereof.