



F. No.5-682/ModelFarm/AIII/Drone
23rd January 2025

NOTICE INVITING TENDER FOR
Supply, Installation and Commissioning of Crop Monitoring Multispectral Drone / UAV & Agri Sprayer Drone to ICAR-NAARM

The Director, ICAR-NAARM invites Bids from the authorized Dealers/OEM to **Supply, Installation and Commissioning of Crop Monitoring Multispectral Drone / UAV & Agri Sprayer Drone to ICAR-NAARM**. The bidders are requested to submit the bids Online on GeM Portal. The summary of the requirement is as under:

S.No	Item Description	Quantity
1.	Supply, Installation and Commissioning of Crop Monitoring Multispectral Drone / UAV & Agri Sprayer Drone to ICAR-NAARM	As per Schedule I

Specifications along with quantity required for the above items are available in Schedule – I of this tender document.

Important dates related to submission of tender as under:

Tender Publishing Date & Time	23.01.2025	1700 hrs
Pre Bid Meeting ONLINE*	29.01.2025	1130 hrs
Bid Closing date & Time	13.02.2025	1700 hrs

***Pre-bid Meeting Details :**

Topic: Agri Drones for Digi farm Tender

Time: Jan 29, 2025 11:30 AM Mumbai, Kolkata, New Delhi

Join Zoom Meeting

<https://us06web.zoom.us/j/83519867053?pwd=IS4N6azPn2R6ebruot0X1z6WXpZbyH.1>

TERMS AND CONDITIONS

1.	Online bids on GeM are invited for and on behalf of the Director, ICAR – NAARM, from eligible dealers / OEM for Supply, Installation and Commissioning of Crop Monitoring Multispectral Drone / UAV & Agri Sprayer Drone to ICAR-NAARM.
2.	All communications must be addressed to the Director, ICAR-NAARM, Rajendranagar, Hyderabad.
3.	Specifications: The detailed specifications for Supply, Installation and Commissioning of Crop Monitoring Multispectral Drone / UAV & Agri Sprayer Drone to ICAR-NAARM are provided in Schedule – I of this tender document.
4.	<p><u>Eligibility Criteria:</u></p> <ul style="list-style-type: none"> a. Scanned copy of Authorized OEM Document/MAF Document. b. Scanned Copy of PAN and GSTIN c. Scan of Brochure of the equipment Offered d. Filled Annexure – A. e. Filled Details as per Annexure-B. f. Scanned copy of Bid Security Declaration to be submitted on Firm's letter head. Annexure C g. The detailed specifications offered and its brand should be provided in the technical document h. The vendor shall supply all the components in one lot. Part supply is not allowed. i. The bidder should write the make, model and specifications of the offered products clearly. j. The bidder should submit DGCA license for Drone
5.	Rejection of tenders: Tenders not complying with any one of the above conditions, are liable to be rejected. No correspondence in this regard will be entertained.
6.	Rates: The rates quoted by you should be inclusive of all taxes, delivery, supply and installation, training and all other incidentals.
7.	Performance Security Deposit: The successful bidder must furnish a Performance Security Deposit @ 5% on the total amount quoted which will be refunded / returned only after satisfactory completion of warranty (3 years from date of installation) of the material. The Security Deposit should be in the form of Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any commercial bank and on which no interest will be paid.
8.	If after finalization of the tender, the selected firm expresses its inability to supply the material at the quoted rates, thus failing in fulfilling the stipulated terms and conditions for award of the contract, then the Security Deposit amount is liable to be forfeited in total.
9.	Payment: The firm is required to submit the GST Bill in Triplicate along with the bank details. Payment will be made only after satisfactory completion and after it has been certified by the concerned in-charge stating that the Supply and installation has been done satisfactorily and the equipment is supplied and commissioned properly in good condition.
10.	Taxes / Duties: GST as applicable will be paid

11.	Acceptance of tender: Director, ICAR-NAARM reserves the right to accept or reject any of the tenders either in part or in full without assigning any reason thereof.
12.	Jurisdiction: All disputes including court proceedings shall be settled within the Hyderabad jurisdiction only.
13.	The Finalized bidder will have to supply and install the materials within 45 days of issuance of Purchase/Supply Order.
14.	The quoted amount should include Training of personnel at NAARM for drone usage and other licenses
15.	The bidders may provide the details of supplying the Drones to any other Government organization.

**Technical Specifications for Supply of Crop Monitoring Multispectral Drone / UAV
& Agri Sprayer Drone to ICAR-NAARM****I. Crop monitoring multispectral Drone/UAV – Qty 1 No**

Item	Specification
Unmanned Aerial Vehicle (UAV)	
Category/Sub-category	Small category drone
DGCA compliance	Type Certified by DGCA (attach proof)
Type of UAV	Rotorcraft
Sub-type of UAV	Surveillance drone with multispectral mapping capability)
UAV weight with battery and payload	Maximum 3 kg
UAV size with propeller	Length: < 0.935 m (3.07 ft) Width: < 0.935 m (3.07 ft) Height: < 0.362 m (1.18 ft)
Endurance/flight time	>40 minutes at MSL
Wind resistance	36 km/h (19.4 knots) or more
Operational range (radius)	4 km As per DGCA Type Certificate
Safety features	Terrain avoidance capability, Multiple GPS on-board for redundancy, Auto-return to home and land on communication failure, Auto-return to home and land on low battery, Auto-return to home and land on exceeding wind limit of the system, Auto-return to home and land on battery imbalance, Auto-return to home and land on exceeding temperature limit of the system, compliant with air travel
Operating altitude (AGL)	up to 400 m
Launch altitude (AMSL)	up to 3000 m
Functional temperature range	0 degree to 50 degree Celsius
Dust & Drizzle Resistance	IP53 rating
Battery	1+ 1 spare (Total 2 nos.)
Autonomy	Fully autonomous from take-off to landing without using any R/C controller
Payload option	Swappable (not fixed)
Payload	HD Daylight Surveillance Payload 1280 x 720 pixels, 10x Optical Zoom (Multispectral Payload)

Payload Details:

1.	Product Description	Multispectral Payload
	Resolution	1280 x 960 (Monochrome) 4608 x 3456 (RGB)
	Multispectral Sensor	Multispectral (4 Monochromatic Bands + 1 RGB*)
	Payload Weight	<300 gm (Payload + Sunshine Sensor Mount)
	External Power	Minimum threshold –12W Optimal Recommendation –15W
	Spectral Band	Green (550nm wavelength, 40nm bandwidth), Red (66nm wavelength, 40nm bandwidth), Red Edge (735nm wavelength, 10nm bandwidth), Near Infrared (790nm wavelength, 40nm bandwidth). RGB* (16Mpx -Rolling Shutter)
	Payload Sensor Output Format	.tiff (Monochrome) .jpeg (RGB)
	2.	Manufacturer
	Experience	Manufacturer must have minimum 5 years of UAV manufacturing existence to ensure the reliability and continued service (attach proof)
	Service Centre	Manufacturer must have service centres in India (attach proof)
	Previous experience	Manufacturer/reseller must have supplied similar product in state and central funded educational institutes (at least 10 nos.) (attach proof)
	Warranty	12 months or 200 flights whichever is earlier
	Training	2 days onsite free training on flight planning and flight control for two pilots and drone image processing
3.	Ground Control Station (GCS) Software Features	
	3D Maps	Switchable between 2D/3D map views, capability to tilt/rotate 3D maps as per user input
	GUI Display Parameters	Geographic Map along with UAV location, UAV trajectory, camera view polygon, waypoints and flight plan
	GUI Display Parameters Weather Forecast	Real-time video from the UAV with on-screen display of important parameters like UAV co-ordinates, target (payload) co-ordinates and range from UAV, true North indication, Distance from HOME, etc.
		Real-time video displayed at all times during the flight
Artificial Horizon indicating UAV attitude		
	Capable to provide information about the weather condition of the HOME location to the users based on the weather forecast of a given day and time.	

II. Agri-Sprayer Drone – Qty 1 No

Aircraft	Uav Type	Multicopter (Hexa-Copter)
	Maximum Take-off Weight	More than 25 kg
	Max.Flying Speed	15m/s or more
	Max.Flight Time	22 min (without payload) 18 min (with discharging payload)
	Operating Temperature Range	0' to 50'C
Flight Performance	Hover Accuracy	Horizontal direction +- 1m
		Vertical direction +-0.5m
	Maximum Tilt Angle	30 Degree
	Maximum Yaw Speed	150 degrees/sec
	Maximum vertical Speed	6m/s
	Flight modes and Functions	Full-Autonomous, Semi-Autonomous, Manual
Remote Controller	Transmission Range	500m or more
	Frequency Band	2.400-2.483 GHz
	Battery	Built-in 4000 mAh Li-Po 1S or above
	Charging Port	Micro-USB (5V-2A)
	Antenna Gain	5dBi or more
Power System	Capacity	22000 mAh or more
	Battery Type	Lipo-6S (2 Battery Pack Connected in Series)
	Life Cycles	Up to 300 Cycles
Spraying System	Tank Volume	10 Liter
	Standard Operating Payload	10 KG
	Material Used for Tank	Polypropylene
	Material Used for Tube	PVC
	Spray Swath	2 to 4 m
	Max. Flow Rate	3.5 L/min
	No. of Nozzles	4
Safety Features	Low Battery Warning	Return-to-home
	Empty Tank Warning	Return-to-home
	Break Point Intelligent Record	Return-to-home
	Transmission Range Loss	Return-to-home

CHECKLIST (To be uploaded with Technical Bid)

S. No.	Document to be uploaded in Technical bid on GeM Portal	Whether Uploaded (Yes/No)	Please mention Page No From - To
1.	Scanned copy of Authorized OEM Document/MAF Document.		
2.	Scanned Copy of PAN and GSTIN		
3.	Scan of Brochure of the equipment Offered.		
4.	Filled Annexure – A		
5.	Filled Details as per Annexure – B		
6.	Scanned copy of Bid Undertaking to be submitted on Firm's letter head. Annexure D		
7.	The detailed specifications offered, and its brand should be provided in the technical document		

The documents and annexures as asked in the tender should be indexed and page numbers for the same may be provided in Index by bidder.

COMMERCIAL DETAILS

(To be submitted on Firm's Letter head)

1.	Name and Address of Bidder	
2.	Telephone No. / Mobile No. / FAX No.	
3.	Email ID	
4.	Month and Year of Establishment	
5.	PAN and GSTIN Number	
6.	Bid Security Declaration Form	

SIGNATURE OF THE BIDDER & STAMP

Date:

Place:

UNDERTAKING

(To be submitted on Firm's Letter head)

To
The Director
ICAR-NAARM
Rajendranagar
Hyderabad 500 030

Sir,

We, the undersigned, declare that: We understand that, according to your conditions, bids must be supported by a **Bid-Security Declaration**.

We accept that we will automatically be suspended from being eligible for bidding in any contract with your institute for the period of time of 2 years starting on date of closing of bids if we are in breach of our obligation(s) under the bid conditions, because we:

- (a) have withdrawn our Bid during the period of bid validity specified in the Letter of Bid; or
- (b) having been notified of the acceptance of our Bid by your institute 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 as per tender conditions

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder.

Signature of Authorized signatory with company seal

Sample of BOQ

(To be filled and uploaded in GeM Bid as per the format there)

Item No	Item Title	Item Description	Item Quantity	Unit of Measure	Consignee	Delivery Period (In number of days)
1	Crop Monitoring Multispectral Drone UAV	As per Schedule I of the Tender document.	1	UNIT AS PER SCHEDULE I	ao.stores	30
2	Agri Sprayer Drone	As per Schedule I of the Tender document.	1	UNIT AS PER SCHEDULE I	ao.stores	30
3	Installation and Commissioning	As per Schedule I of the Tender document.	1	UNIT AS PER SCHEDULE I	ao.stores	30
4	Training of NAARM personnel at the Academy	As per Schedule I of the Tender document.	1	UNIT AS PER SCHEDULE I	ao.stores	30
5	Any other Charges related to licensing etc.	As per Schedule I of the Tender document.	1	UNIT AS PER SCHEDULE I	ao.stores	30

The quoted amount should include Supply, Installation and Commissioning at the location at ICAR-NAARM, Training of personnel at NAARM for drone usage and other licenses and any other charges related to licensing etc.