Official Mississippi State University Logo


# INVITATION FOR BIDS OFFICE OF PROCUREMENT & CONTRACTS

## INSTRUCTIONS FOR BIDDERS

* 1. Sealed bids will be received in the Office of Procurement & Contracts, Mississippi State University, for the purchase of the items listed herein.
  2. All bids must be received in the Office of Procurement & Contracts on or before the bid opening time and date listed herein. Delivery of bids must be during normal working hours, 8:00 a.m. to 5:00 p.m. CST, except on weekends and holidays when no delivery is possible.
  3. Bidders shall submit their bids either electronically or in a sealed envelope. To submit electronically, follow the instructions below. Bids CANNOT be emailed.
     1. Sealed bids should include the bid number on the face of the envelope as well as the bidders’ name and address. Bids should be sent to: 245 Barr Avenue, 610 McArthur Hall, Mississippi State, MS 39762.
     2. At this time we only accept non-ITS bids electronically. For electronic submission of bids, go to:portal.magic.ms.gov.   
        and use the RFX number on the next page as your reference number.
  4. All questions regarding this bid should be directed to the Office of Procurement & Contracts at 662-325-2550.

## TERMS AND CONDITIONS

* 1. All bids should be bid “FOB Destination”
  2. Bidders must comply with all rules, regulations, and statutes relating to purchasing in the State of Mississippi, in addition to the requirements on this form. General Bid Terms and Conditions can be found here: <https://www.procurement.msstate.edu/procurement/bids/Bid_General_Terms_May_2019_V2.pdf>
  3. Any contract resulting from this Invitation for Bid shall be in substantial compliance with Mississippi State University’s Standard Contract Addendum: <https://www.procurement.msstate.edu/contracts/standardaddendum.pdf>

### Bid Number/RFX Number: ****23-30/RFX#3160005716**** Opening Date: ****March 14,2023 at 2:00 p.m.**** Description: ****Drones****

#### Vendor Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vendor Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Telephone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Days the Offer is Firm: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Authorized Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| **Item** | **Quantity** | **Description** | **Unit Price** | **Total Price** |
| --- | --- | --- | --- | --- |
| 1 | 6 | System 1, Six Drones |  |  |
| 2 | 6 | System 2, Six Drones |  |  |
|  |  | TOTAL |  |  |

The Mississippi State University Alliance for System Safety of UAS through Research Excellence (ASSURE) requests bids for two separate autonomous drone solutions. Both solutions must include obstacle avoidance, autonomous tracking, GPS-denied navigation, motion prediction capability and camera system. System must be assembled in the USA. The systems shall meet or exceed the following requirements:

**System 1 quantity of 6: sUAV Platform for aerial inspection and incident reconstructions. The platform should have the following specifications:**

Must include, one (1) UAS vehicle, one (1) Controller, three (3) batteries, one (1) dual charger, one (1) spare propeller blades set, one (1) tactical soft case, one (1) admin hard case. Vehicle must include (a) Color only payload, (b) Software, (c) NDAA compliance, (d) Ground control, (e) two (2) 256GB SD Cards (pre-installed). Includes software maintenance and customer support and limited warranty.

**AIRCRAFT**

* DIMENSIONS (Unfolded, FLYING): 26.1” X 22.4“ X 8.3” (66 x 56 x 20 cm)
* DIMENSIONS (Folded, no battery): 11.9“ X 5.5” X 3.6“ (30 x 15 x 10 cm)
* WEIGHT (with battery): 1325 g
* FLIGHT TIME: Up to 35 minutes
* MAX FLIGHT SPEED (SEA LEVEL, NO WIND): 25 mph (40 km/h)
* MAX WIND SPEED RESISTANCE: Up to 12,000 ft
* MAX SERVICE CEILING (ABOVE SEA LEVEL): 23 mph
* OPERATIONAL TEMPERATURE RANGE: -10°C to 43°C

**CONTROLLER**

* DIMENSIONS: 10.75” x 5.25 x 3.0”
* WEIGHT: 1130 g
* APPLICATIONS: Skydio Enterprise App
* WIRED LINKS: USB, (via dongle) HDMI
* OPERATING FREQUENCIES: 5 GHz
* MAX RANGE: Up to 6 km (5 GHz)
* VIDEO FEED: 720p at 30 fps

**PRIMARY CAMERA SYSTEM**

* COLOR SENSOR TYPE: Sony IMX577 1/2.3” 12.3MP CMOS
* COLOR LENS FOCAL LENGTH: 20 mm (35 mm format equivalent)
* COLOR VIDEO RESOLUTION: 4K / 60 fps with 16x digital zoom
* COLOR VIDEO FORMAT: MPEG-4 (AVC/H.264, HEVC/H.265)
* COLOR STILL RESOLUTION: 4056x3040 (12 MP)
* COLOR DYNAMIC RANGE: 13 stops
* PITCH CONTROLLABLE RANGE: -110° to +45° (-110° to +90° with AEF)

**SOFTWARE**

* MAIN PROCESSOR: NVIDIA Tegra X2 SOC
* CAMERA CONFIGURATION: 6x cameras in trinocular configuration; top and bottom
* ENVIRONMENT COVERAGE: True 360°
* OBSTACLE AVOIDANCE COVERAGE: Omnidirectional
* 3D WORLD MODEL UPDATE RATE: > 1 million points per second
* WORLD MODEL-TO-ACTION UPDATE RATE: 500 iterations per second
* ONBOARD AI: 9 custom deep networks used in flight
* USER-SELECTABLE SUBJECTS FOR TRACKING: People and motor vehicles
* OBJECT TRACKING AND IDENTIFICATION: Up to 20 simultaneous objects of interest
* CALIBRATION: Automated calibration of lens; parameters, cameras, wind speed, and air density
* ADVANCED AI-PILOT ASSISTANCE: 360 Superzoom, Close Proximity, Obstacle Avoidance, Point-Of-Interest, Orbit, Track-in-Place, Vertical View, Visual Return-to-Home

**SYSTEM SECURITY**

* WIRELESSENCRYPTION: AES-128
* Firmware: Signed and encrypted
* CONTROLS: Ability to provision and deprovision devices
* INFRASTRUCTURE: Key provisioning burned-in at time of manufacture

**Hardware Support:** Must include one year of support to include (a) advanced autonomy functionality, (b) software maintenance and customer support (1-year term). Must include: (a) one-year Limited Warranty; (b) up to three (3) Damage Replacements with advance shipment and up to one (1) Lost Drone Replacement with advance shipment.

**System 2 quantity of 6: sUAV Platform for automating data collection for situational awareness, inspection, and security. The platform should have the following specifications:**

Must include one (1) vehicle, three (3) batteries, one (1) wall adapter, one (1) USB type C cable, one (1) microfiber cloth, one (1) Beacon, one (1) controller, one (1) pro case, one (1) set of ND Filters, one (1) dual battery charger, two (2) 256GB SD cards (pre-installed), four (4) CW propeller blades, four (4) CCW propeller blades, one (1) tablet adapter for Controller.

**AIRCRAFT**

* DIMENSIONS WITH BATTERY (ANTENNAS UP): 229 x 274 x 126 mm
* WEIGHT (WITH BATTERY): 800 g
* FLIGHT TIME: Up to 27 minutes
* OPERATIONAL TEMPERATURE RANGE: -5°C to 40°C
* MAX FLIGHT SPEED (SEA LEVEL, NO WIND): 36 mph
* MAX WIND SPEED RESISTANCE: 25 mph
* MAX SERVICE CEILING (ABOVE SEA LEVEL): Up to 15,000 ft

**SOFTWARE**

* Main Processor: NVIDIA Tegra X2 SOC
* ENVIRONMENT COVERAGE: True 360°
* 3D WORLD MODEL UPDATE RATE: > 1 million points per second
* USER-SELECTABLE SUBJECTS FOR TRACKING: People and motor vehicles
* ONBOARD AI: 9 deep networks used in flight
* ADVANCED AI-PILOT ASSISTANCE: 360 Superzoom, Close Proximity, Obstacle Avoidance, Point-of-Interest Orbit, Track-in-Place, Vertical View, Visual Return-to-Home, skydio autonomy, enterprise

**PRIMARY CAMERA SYSTEM**

* COLOR SENSOR TYPE: Sony IMX577 1/2.3” 12.3MP CMOS
* COLOR LENS FOCAL LENGTH: 20mm (35mm format equivalent)
* COLOR VIDEO RESOLUTION: 4K / 60 fps with 3x digital zoom
* COLOR DYNAMIC RANGE: 13 stops
* PITCH CONTROLLABLE RANGE: -110° to +90°

**Hardware Support/ Warranty:** Must include 24 months of support to include (a) advanced autonomy functionality, (b) software maintenance and customer support (2-year term). Must include: (a) 24-month Limited Warranty; (b) up to three (3) Damage Replacements with advance shipment and up to one (1) Lost Drone Replacement with advance shipment.