



**ASTI-FM 03-10**  
**REV 5/ 30 APR 2024**

**DOST-ASTI Bids and Awards Committee**  
**REQUEST FOR QUOTATION**

<b>Kind of Procurement Activity:</b>	Negotiated Procurement:Small-value Procurement		
<b>Deadline of Submission of Bids:</b>	May-20-2024, 2:00 PM		
<b>RFQ No.:</b>	24-05-4811	<b>Date:</b>	May-15-2024
<b>PR No.:</b>	GAA-24-05-19211	<b>Date:</b>	May-10-2024

*The Department of Science and Technology (DOST) - Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), intends to procure the enlisted item/s below. Bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, except otherwise specified in the requirements. Award may be considered for prospective bidder/s proven to be the single/lowest calculated and responsive quotation among all other quotations. Guidelines on the format of quotations and eligibility documents are listed below. Kindly follow the prescribed GUIDELINES to avoid DISQUALIFICATION.*

*Quotations may be submitted 1) manually to the BAC Secretariat at G/F DOST-ASTI Bldg., UP Technology Park Complex, CP Garcia Ave., UP Campus, Diliman, Quezon City or 2) sent via electronic mail at bac-sec@asti.dost.gov.ph. For further information, please contact the BAC Secretariat at +63 2 8249-8500 loc. 1206/1212.*

Thank you.

**BAYANI BENJAMIN R. LARA**  
*BAC Chairperson*

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<b>Digital Film Video Camera - 6K, 36mm x 24mm (Full Frame) sensor, 12G-SDI (Body)</b> 1. Background / Objectives. 1.1. Digital film video camera for video production projects. 1.2. Specifications indicated herein are minimum requirements, unless otherwise stated. 1.3. Offers of equivalent or better specifications are acceptable.  2. Functional / Technical Specifications. 2.1. Camera Features. 2.1.1. Effective Sensor Size: 36mm x 24mm (Full Frame). 2.1.2. Lens Mount: Active L-Mount. 2.1.3. Lens Control: Iris and focus on supported lenses. 2.1.4. Dynamic Range: 13 Stops. 2.1.5. Dual Native ISO: 400 and 3200. 2.1.6. Shooting Resolutions. 2.1.6.1. 6048 x 4032 (Open Gate 3:2) up to 36 fps. 2.1.6.2. 4832 x 4032 (Anamorphic 6:5) up to 36 fps. 2.1.6.3. 6048 x 3200 (6K DCI 17:9) up to 48 fps. 2.1.6.4. 6048 x 2520 (6K 2.4:1) up to 60 fps. 2.1.6.5. 4096 x 3072 (Super 35 4:3) up to 50 fps.	1	unit	223300.00	223,300.00

2.1.6.6. 4096 x 2160 (4K DCI 17:9) up to 60 fps.

2.1.6.7. 2112 x 1184 (Super 16 16:9) up to 100 fps.

2.1.6.8. 1920 x 1080 (1080 HD 16:9) up to 120 fps.

2.1.7. Frame Rates.

2.1.7.1. Maximum sensor frame rate dependent on resolution and codec selected.

2.1.7.2. Project frame rates of 23.98, 24, 25, 29.97, 30, 50, 59.94 and 60 fps supported.

2.1.7.3. Off-speed frame rates up to 60 fps in 6K 2.4:1 and 4K DCI 17:9, 100 fps in Super 16 16:9 and 120 fps in 1080HD.

2.1.8. Focus: Auto focus available using compatible lenses.

2.1.9. Iris Control.

2.1.9.1. Iris wheel and touchscreen slider for manual iris adjustment on electronically controllable lenses.

2.1.9.2. Iris button for instant auto iris settings on compatible lenses.

2.1.10. Screen Dimensions: 4-inch, 1920 x 1080.

2.1.11. Screen Brightness: 1500 nits.

2.1.12. Screen Type: LCD capacitive touchscreen.

2.1.13. Metadata Support.

2.1.13.1. Automatically populated lens data from electronic L-Mount lenses.

2.1.13.2. Automatic recording of camera settings, motion sensor data plus slate data such as project, scene number, take and special notes.

2.1.13.3. A 3D LUT can also be embedded in metadata of RAW files.

2.1.14. Controls.

2.1.14.1. Touchscreen menus on 4-inch screen.

2.1.14.2. Push buttons for other controls.

2.1.14.3. 3 assignable shortcut keys.

2.1.15. Timecode Clock: Less than 1 frame drift every 8 hours.

2.2. Connections.

2.2.1. Total Video Inputs: None.

2.2.2. Total Video Outputs:

2.2.2.1. 1 x 12G-SDI up to 2160p60.

2.2.2.2. 1 x Viewfinder USB-C with power, data, video and locking connector.

2.2.3. Analog Audio Inputs.

2.2.3.1. 1 x mini XLR analog audio in, switchable between mic with phantom power support and line level (up to +14dBu).

2.2.4. Analog Audio Outputs: 1 x 3.5mm headphone jack.

2.2.5. Reference Inputs.

2.2.5.1. Tri-Sync/Black Burst and Timecode.

2.2.6. Computer Interface: USB Type-C for external drive recording, PTP camera control and software updates.

2.2.7. Ethernet.

2.2.7.1. 1 x 1Gb/s RJ-45 connector supporting 10/100/1000 BASE-T.

2.3. Audio.

2.3.1. Microphone: Integrated stereo microphone.

2.3.2. Built in Speaker: 1 x mono speaker.

## 2.4. Media.

### 2.4.1. Media.

2.4.1.1. 2 x CFexpress Type B card slot.

2.4.1.2. 1 x USB-C 3.1 Gen 1 expansion port for external media for RAW and H.264 proxy recording.

2.4.2. Media Format: Can format media to ExFAT (Windows/Mac) or HFS+ (Mac) file systems.

## 2.5. Supported Codecs.

### 2.5.1. Codecs.

2.5.1.1. RAW Constant Bitrate 3:1.

2.5.1.2. RAW Constant Bitrate 5:1.

2.5.1.3. RAW Constant Bitrate 8:1.

2.5.1.4. RAW Constant Bitrate 12:1.

2.5.1.5. RAW Constant Quality Q0.

2.5.1.6. RAW Constant Quality Q1.

2.5.1.7. RAW Constant Quality Q3.

2.5.1.8. RAW Constant Quality Q5.

2.5.1.9. H.264 Proxy in 1920 x 1080, 8-bit 4:2:0.

## 2.6. Control.

### 2.6.1. External Control.

2.6.1.1. Zoom Demand and Focus Demand for controlling camera and lens from tripod handles.

2.6.1.2. iPad control, Bluetooth control, USB PTP camera control. External control of some camera settings, focus, iris and zoom with compatible lenses. Camera Control REST API over Ethernet for external control via HTTP when used with REST client applications such as Postman.

## 2.7. Network Management.

2.7.1. NTP: Network time protocol support allows to sync the time on the camera, whenever connected to a network with any NTP server.

2.7.2. Web Media Manager: Using a browser connected over Ethernet, web media manager allows user to access, browse, download and delete files from any drive connected to the camera.

2.7.3. FTP: Download files from any drive attached to the camera using FTP.

2.7.4. SMB: File sharing using SMB.

## 2.8. Storage.

### 2.8.1. Storage Type.

2.8.1.1. 2 x CFexpress Type B.

2.8.1.2. 1 x high speed USB-C expansion port for external media.

### 2.8.2. Recording Formats.

2.8.2.1. RAW 3:1, 5:1, 8:1, 12:1, Q0, Q1, Q3 and Q5 at 6048 x 4032, 4832 x 4032, 6048 x 3200, 6048 x 2520, 4096 x 3072, 4096 x 2160, 2112 x 1184 and 1920 x 1080 with film, extended video, video dynamic range or custom 3D LUT embedded in metadata.

2.8.2.2. Supports recording optional portrait mode metadata for all resolutions in RAW and H.264 Proxies.

2.8.3. Storage Rates (based on 30 frames per second).

2.8.3.1. 6048 x 4032 (6K Open Gate 3:2).

2.8.3.1.1. RAW 3:1 - 370 MB/s.

2.8.3.1.2. RAW 5:1 - 223 MB/s.

2.8.3.1.3. RAW 8:1 - 140 MB/s.

2.8.3.1.4. RAW 12:1 - 94 MB/s.

2.8.3.1.5. RAW Q0 - 278 to 555 MB/s.

2.8.3.1.6. RAW Q1 - 186 to 444 MB/s.

2.8.3.1.7. RAW Q3 - 124 to 318 MB/s.

2.8.3.1.8. RAW Q5 - 75 to 186 MB/s

2.8.3.2. 4832 x 4032 (Anamorphic 6:5).

2.8.3.2.1. RAW 3:1 - 297 MB/s.

2.8.3.2.2. RAW 5:1 - 179 MB/s.

2.8.3.2.3. RAW 8:1 - 112 MB/s.

2.8.3.2.4. RAW 12:1 - 75 MB/s.

2.8.3.2.5. RAW Q0 - 223 to 445 MB/s.

2.8.3.2.6. RAW Q1 - 149 to 356 MB/s.

2.8.3.2.7. RAW Q3 - 100 to 255 MB/s.

2.8.3.2.8. RAW Q5 - 60 to 149 MB/s.

2.8.3.3. 6048 x 3200 (6K DCI 17:9).

2.8.3.3.1. RAW 3:1 - 295 MB/s.

2.8.3.3.2. RAW 5:1 - 177 MB/s.

2.8.3.3.3. RAW 8:1 - 111 MB/s.

2.8.3.3.4. RAW 12:1 - 75 MB/s.

2.8.3.3.5. RAW Q0 - 221 to 441 MB/s.

2.8.3.3.6. RAW Q1 - 148 to 353 MB/s.

2.8.3.3.7. RAW Q3 - 99 to 253 MB/s.

2.8.3.3.8. RAW Q5 - 60 to 148 MB/s.

2.8.3.4. 6048 x 2520 (6K 2.4:1).

2.8.3.4.1. RAW 3:1 - 233 MB/s.

2.8.3.4.2. RAW 5:1 - 140 MB/s.

2.8.3.4.3. RAW 8:1 - 88 MB/s.

2.8.3.4.4. RAW 12:1 - 59 MB/s.

2.8.3.4.5. RAW Q0 - 175 to 348 MB/s.

2.8.3.4.6. RAW Q1 - 117 to 279 MB/s.

2.8.3.4.7. RAW Q3 - 78 to 199 MB/s.

2.8.3.4.8. RAW Q5 - 47 to 117 MB/s.

2.8.3.5. 4096 x 3072 (Super 35 4:3).

2.8.3.5.1. RAW 3:1 - 192 MB/s.

2.8.3.5.2. RAW 5:1 - 116 MB/s.

2.8.3.5.3. RAW 8:1 - 73 MB/s.

2.8.3.5.4. RAW 12:1 - 49 MB/s.

2.8.3.5.5. RAW Q0 - 145 to 288 MB/s.

2.8.3.5.6. RAW Q1 - 97 to 231 MB/s.

2.8.3.5.7. RAW Q3 - 65 to 165 MB/s.

2.8.3.5.8. RAW Q5 - 39 to 97 MB/s.

2.8.3.6. 4096 x 2160 (4K DCI 17:9).

2.8.3.6.1. RAW 3:1 - 136 MB/s.

2.8.3.6.2. RAW 5:1 - 82 MB/s.

2.8.3.6.3. RAW 8:1 - 52 MB/s.

2.8.3.6.4. RAW 12:1 - 35 MB/s.

2.8.3.6.5. RAW Q0 - 102 to 203 MB/s.

2.8.3.6.6. RAW Q1 - 69 to 163 MB/s.

2.8.3.6.7. RAW Q3 - 46 to 117 MB/s.

2.8.3.6.8. RAW Q5 - 28 to 69 MB/s.

2.8.3.7. 2112 x 1184 (Super 16 16:9).

2.8.3.7.1. RAW 3:1 - 40 MB/s.

2.8.3.7.2. RAW 5:1 - 24 MB/s.

2.8.3.7.3. RAW 8:1 - 16 MB/s.

2.8.3.7.4. RAW 12:1 - 11 MB/s.

2.8.3.7.5. RAW Q0 - 30 to 59 MB/s.

2.8.3.7.6. RAW Q1 - 21 to 48 MB/s.

2.8.3.7.7. RAW Q3 - 14 to 34 MB/s.

2.8.3.7.8. RAW Q5 - 9 to 21 MB/s.

2.8.3.8. 1920 x 1080

2.8.3.8.1. RAW 3:1 - 33 MB/s.

2.8.3.8.2. RAW 5:1 - 20 MB/s.

2.8.3.8.3. RAW 8:1 - 13 MB/s.

2.8.3.8.4. RAW 12:1 - 9 MB/s.

2.8.3.8.5. RAW Q0 - 25 to 49 MB/s.

2.8.3.8.6. RAW Q1 - 17 to 40 MB/s.

2.8.3.8.7. RAW Q3 - 12 to 29 MB/s.

2.8.3.8.8. RAW Q5 - 8 to 17 MB/s.

2.9. Software.

2.9.1. Native camera OS.

2.9.2. Color correction and non-linear video editing (NLE) application for Mac and Windows including activation key.

2.9.3. Camera Setup.

2.9.4. RAW Player.

2.9.5. RAW QuickLook Plugin.

2.9.6. RAW SDK.

2.9.7. RAW Speed Test.

2.10. Operating Systems.

2.10.1. Mac OS.

2.10.2. Windows.

2.11. Power.

2.11.1. Power Supply: 1 x External 12V DC 60 W power supply.

2.11.2. External Power Input: 1 x 2-pin locking connector.

2.11.3. Battery Type: BP-U series.

2.11.4. Power: 11-19.5V.

3. Accessories.

3.1. Lens turret dust cap.

3.2. Camera standard plate.

3.3. Camera SSD plate.

3.4. 60 W power supply with locking connector and international adapters.

4. Warranty: 12 months.

5. Delivery and Payment.

5.1. Delivery within 60 calendar days from issuance of Notice to Proceed (NTP).

5.2. Should the delivery date deadline fall on a non-working day, such as a weekend, non-working holiday, or work suspension, then the delivery date deadline shall be adjusted to the following working day.

	<p>5.3. Bid price shall be inclusive of taxes, delivery charges, and all other related fees.</p> <p>5.4. Payment Terms: Prescribed government terms.</p>				
2	<p><b>Camera Stabilization Gimbal - 4.5 kg (10 lbs) Payload</b></p> <p>1. Background / Objectives.</p> <p>1.1. Gimbal to stabilize shots involving camera movements for video production projects.</p> <p>1.2. Specifications indicated herein are minimum requirements, unless otherwise stated.</p> <p>1.3. Offers of equivalent or better specifications are acceptable.</p> <p>2. Functional / Technical Specifications.</p> <p>2.1. Gimbal.</p> <p>2.1.1. Quantity: 1 unit.</p> <p>2.1.2. Payload: 4.5 kg / 10 lbs.</p> <p>2.1.3. Use Scenarios.</p> <p>2.1.3.1. Standalone: Single-handed, dual-handed, briefcase, native vertical shooting.</p> <p>2.1.3.2. Expansion (optional): Vehicle mount, Steadicam, slider, cable cam, jib.</p> <p>2.1.4. Gimbal Design.</p> <p>2.1.4.1. Axis locks: Automated axis locks.</p> <p>2.1.4.2. Axis Arm Material: Carbon fiber, Teflon coating.</p> <p>2.1.5. Balancing.</p> <p>2.1.5.1. Quick-Release Plate: Dual-layered (with adjustable placement guide), extended.</p> <p>2.1.5.2. Fine-tuning knob.</p> <p>2.1.6. Key Features.</p> <p>2.1.6.1. Stabilization algorithm.</p> <p>2.1.6.2. Shutter connection: Bluetooth, shutter release cable.</p> <p>2.1.6.3. Parameter setting screen: 1.8-inch OLED full-color touchscreen.</p> <p>2.1.6.4. Shortcut: Gimbal mode switch, joystick mode switch.</p> <p>2.1.7. Accessory Ecosystem.</p> <p>2.1.7.1. Focusing system: Support for optional LiDAR focusing system (multi-point).</p> <p>2.1.7.2. Video transmission system.</p> <p>2.1.7.3. Expansion port.</p> <p>2.1.7.3.1. RSA port x 2.</p> <p>2.1.7.3.2. NATO port x 2.</p> <p>2.1.7.3.3. Charging adapter port x 1.</p> <p>2.1.7.4. Charging and Runtime.</p> <p>2.1.7.4.1. Battery Design: Detachable.</p> <p>2.1.7.4.2. Runtime: 13 hours.</p> <p>2.1.7.4.3. Charging Time: 1.5 hours.</p> <p>3. Accessories.</p> <p>3.1. Battery Grip x 1.</p> <p>3.2. Quick-Release Plate (Arca-Swiss/Manfrotto) x 1.</p> <p>3.3. Extended Grip/Tripod (Metal) x 1.</p>	1	unit	60000.00	60,000.00

	<p>3.4. Briefcase Handle x 1.  3.5. Lens-Fastening Support (Extended) x 1.  3.6. Multi-Camera Control Cable (USB-C, 30 cm) x 1.  3.7. USB-C Charging Cable (40 cm) x 1.  3.8. Screw Kit x 1.  3.9. Carrying Case x 1.  3.10. USB-C Power Cable (20 cm) x 1.  3.11. Mini-HDMI to Mini-HDMI Cable (20 cm) x 1.  3.12. Mini-HDMI to HDMI Cable (20 cm) x 1.  3.13. Mini-HDMI to Micro-HDMI Cable (20 cm) x 1.  3.14. Image Transmitter x 1.  3.15. Focus Motor x 1.  3.16. Focus Motor Rod Mount Kit x 1.  3.17. Focus Gear Strip x 1.  3.18. Lower Quick-Release Plate (Extended) x 1.  3.19. Phone Holder x 1.</p> <p>4. Warranty: 12 months.  5. Delivery and Payment.  5.1. Delivery within 45 calendar days from issuance of Notice to Proceed (NTP).  5.2. Should the delivery date deadline fall on a non-working day, such as a weekend, non-working holiday, or work suspension, then the delivery date deadline shall be adjusted to the following working day.  5.3. Bid price shall be inclusive of taxes, delivery charges, and all other related fees.  5.4. Payment Terms: Prescribed government terms.</p>				
3	<p><b>Arm and Vest Gimbal Support - 18 kg Payload</b></p> <p>1. Background / Objectives.  1.1. Arm and vest gimbal support to stabilize gimbal-mounted video cameras for video production projects.  1.2. Specifications indicated herein are minimum requirements, unless otherwise stated.  1.3. Offers of equivalent or better specifications are acceptable.</p> <p>2. Functional / Technical Specifications.  2.1. Vest, adjustable.  2.2. Dual arm, spring loaded.  2.3. Monopod sled base.  2.3.1. Sled rod material: Carbon fiber.  2.3.2. Sled rod diameter: 15 mm.  2.3.3. Sled 2 rod center distance: 60 mm.  2.4. Trini-slider.  2.5. Monopod.  2.5.1. Material: Carbon fiber.  2.5.2. Monopod length range: 45.8 cm to 81 cm / 18 inch to 31.8 inch.  2.5.3. Adjustable yoke system.  2.6. Counterweight.  2.6.1. 0.95 kg x 2.  2.6.2. 0.5 kg x 2.  2.7. V mount power system with LWS bracket.  2.7.1. D-tap to BMPCC cable.  2.7.2. DC cable for monitor.  2.7.3. NP-FW50 dummy battery to DC power cable.  2.7.4. LP-E6 dummy battery to DC power cable.</p>	1	unit	125000.00	125,000.00

	<p>2.7.5. USB to DC cable.</p> <p>2.8. Magic Arm.</p> <p>2.9. Docking plate.</p> <p>2.10. Stabilizer balance fine adjusting head with Manfrotto plate.</p> <p>2.11. Weight bear/capacity: 15 kg maximum.</p> <p>2.12. Arm weight bear/payload: 5 kg to 18 kg.</p> <p>2.13. System weight: 14 kg.</p> <p>2.14. Gimbal compatibility: Any single handle gimbal.</p> <p>2.15. Battery support: V-mount battery.</p> <p>3. Accessories.</p> <p>3.1. Assembly and adjustment tools.</p> <p>3.2. Aluminum box.</p> <p>4. Warranty: 12 months.</p> <p>5. Delivery and Payment.</p> <p>5.1. Delivery within 45 calendar days from issuance of Notice to Proceed (NTP).</p> <p>5.2. Should the delivery date deadline fall on a non-working day, such as a weekend, non-working holiday, or work suspension, then the delivery date deadline shall be adjusted to the following working day.</p> <p>5.3. Bid price shall be inclusive of taxes, delivery charges, and all other related fees.</p> <p>5.4. Payment Terms: Prescribed government terms.</p>				
4	<p><b>UAV Drone - Dual Wide-Angle / 3x Telephoto Cameras</b></p> <p>1. Background / Objectives.</p> <p>1.1. Unmanned Aerial Vehicle (UAV) camera drone for taking aerial shots in video production and still photography projects.</p> <p>1.2. Specifications indicated herein are minimum requirements, unless otherwise stated.</p> <p>1.3. Offers of equivalent or better specifications are acceptable.</p> <p>2. Functional / Technical Specifications.</p> <p>2.1. UAV Drone.</p> <p>2.1.1. Quantity: 1 unit.</p> <p>2.1.2. Aircraft.</p> <p>2.1.2.1. Takeoff weight: 720 g.</p> <p>2.1.2.2. Maximum ascent speed: 10 m/s.</p> <p>2.1.2.3. Maximum descent speed: 10 m/s.</p> <p>2.1.2.4. Maximum horizontal speed (at sea level, no wind): 21 m/s.</p> <p>2.1.2.5. Maximum takeoff altitude: 6000 m.</p> <p>2.1.2.6. Maximum flight time: 46 mins.</p> <p>2.1.2.7. Maximum hovering time: 42 mins.</p> <p>2.1.2.8. Maximum flight distance: 32 km.</p> <p>2.1.2.9. Maximum wind speed resistance: 12 m/s.</p> <p>2.1.2.10. Maximum pitch angle: 35 degrees.</p> <p>2.1.2.11. Global navigation satellite system: GPS, Galileo, BeiDou.</p> <p>2.1.2.12. Hovering accuracy range.</p> <p>2.1.2.12.1. Vertical.</p> <p>2.1.2.12.1.1. +/-0.1 m (with vision positioning).</p> <p>2.1.2.12.1.2. +/-0.5 m (with GNSS positioning).</p> <p>2.1.2.12.2. Horizontal.</p>	1	unit	85000.00	85,000.00



2.1.2.12.2.1. +/-0.3 m (with vision positioning).  
2.1.2.12.2.2. +/-0.5 m (with high-precision positioning system).

2.1.2.13. Internal storage: 8 GB.

### 2.1.3. Camera.

#### 2.1.3.1. Image Sensor.

##### 2.1.3.1.1. Wide-Angle Camera.

2.1.3.1.1.1. 1/1.3-inch CMOS.

2.1.3.1.1.2. Effective pixels: 48 MP.

##### 2.1.3.1.2. Medium Tele Camera.

2.1.3.1.2.1. 1/1.3-inch CMOS 3x medium tele.

2.1.3.1.2.2. Effective pixels: 48 MP.

#### 2.1.3.2. Lens.

##### 2.1.3.2.1. Wide-Angle Camera.

2.1.3.2.1.1. FOV: 82 degrees.

2.1.3.2.1.2. Format equivalent: 24 mm.

2.1.3.2.1.3. Aperture: f/1.7.

2.1.3.2.1.4. Focus: 1 m to infinity.

##### 2.1.3.2.2. Medium Tele Camera.

2.1.3.2.2.1. FOV: 35 degrees.

2.1.3.2.2.2. Format equivalent: 70 mm.

2.1.3.2.2.3. Aperture: f/2.8.

2.1.3.2.2.4. Focus: 3 m to infinity.

#### 2.1.3.3. ISO Range.

##### 2.1.3.3.1. Video.

2.1.3.3.1.1. Normal and slow motion.

2.1.3.3.1.1.1. 100-6400 (Normal).

2.1.3.3.1.1.2. 100-1600 (D-Log M).

2.1.3.3.1.1.3. 100-1600 (HLG).

2.1.3.3.1.2. Night.

2.1.3.3.1.2.1. 100-12800 (Normal).

##### 2.1.3.3.2. Photo.

2.1.3.3.2.1. 100-6400 (12 MP).

2.1.3.3.2.2. 100-3200 (48 MP).

#### 2.1.3.4. Shutter Speed.

##### 2.1.3.4.1. Wide-Angle Camera.

2.1.3.4.1.1. 12 MP Photo: 1/16000 - 2 sec (2.5 - 8 sec for simulated long exposure).

2.1.3.4.1.2. 48 MP Photo: 1/8000 - 2 sec.

##### 2.1.3.4.2. Medium Tele Camera.

2.1.3.4.2.1. 12 MP Photo: 1/16000 - 2 sec (2.5 - 8 sec for simulated long exposure).

2.1.3.4.2.2. 48 MP Photo: 1/8000 - 2 sec.

#### 2.1.3.5. Maximum Image Size.

2.1.3.5.1. Wide-Angle Camera: 8064 x 6048.

2.1.3.5.2. Medium Tele Camera: 8064 x 6048.

#### 2.1.3.6. Still Photography Modes.

##### 2.1.3.6.1. Wide-Angle Camera.

2.1.3.6.1.1. Single Shot: 12 MP and 48 MP.

2.1.3.6.1.2. Burst Shooting.

2.1.3.6.1.2.1. 12 MP: 3/5/7 frames.

2.1.3.6.1.2.2. 48 MP: 3 frames.

2.1.3.6.1.3. Auto Exposure Bracketing (AEB).

2.1.3.6.1.3.1. 12 MP: 3/5 frames.

2.1.3.6.1.3.2. 48 MP: 3 frames at 0.7 EV step.

2.1.3.6.1.4. Timed.

2.1.3.6.1.4.1. 12 MP: 2/3/5/7/10/15/20/30/60 sec.

2.1.3.6.1.4.2. 48 MP: 5/7/10/15/20/30/60 sec.

2.1.3.6.2. Medium Tele Camera

2.1.3.6.2.1. Single Shot: 12 MP and 48 MP.

2.1.3.6.2.2. Burst Shooting.

2.1.3.6.2.2.1. 12 MP: 3/5/7 frames.

2.1.3.6.2.2.2. 48 MP: 3 frames.

2.1.3.6.2.3. Auto Exposure Bracketing (AEB).

2.1.3.6.2.3.1. 12 MP: 3/5 frames.

2.1.3.6.2.3.2. 48 MP: 3 frames at 0.7 EV step.

2.1.3.6.2.4. Timed.

2.1.3.6.2.4.1. 12 MP: 2/3/5/7/10/15/20/30/60 sec.

2.1.3.6.2.4.2. 48 MP: 5/7/10/15/20/30/60 sec.

2.1.3.7. Photo Format.

2.1.3.7.1. JPEG.

2.1.3.7.2. DNG (RAW).

2.1.3.8. Video Resolution.

2.1.3.8.1. Wide-Angle Camera.

2.1.3.8.1.1. H.264/H.265.

2.1.3.8.1.2. 4K: 3840 x 2160

@24/25/30/48/50/60/100 fps.

2.1.3.8.1.3. FHD: 1920 x 1080 @

24/25/30/48/50/60/100/200 fps.

2.1.3.8.1.4. 2.7K Vertical Shooting: 1512 x 2688 @  
24/25/30/48/50/60 fps.

2.1.3.8.1.5. FHD Vertical Shooting: 1080 x 1920 @  
24/25/30/48/50/60 fps.

2.1.3.8.2. Medium Tele Camera.

2.1.3.8.2.1. H.264/H.265.

2.1.3.8.2.2. 4K: 3840 x 2160

@24/25/30/48/50/60/100 fps.

2.1.3.8.2.3. FHD: 1920 x 1080 @

24/25/30/48/50/60/100/200 fps.

2.1.3.8.2.4. 2.7K Vertical Shooting: 1512 x 2688 @  
24/25/30/48/50/60 fps.

2.1.3.8.2.5. FHD Vertical Shooting: 1080 x 1920 @  
24/25/30/48/50/60 fps.

2.1.3.9. Video Format.

2.1.3.9.1. MP4 (MPEG-4 AVC/H.264, HEVC/H.265).

2.1.3.10. Maximum Video Bitrate.

2.1.3.10.1. H.264/H.265: 150 Mbps.

2.1.3.11. Supported File System.

2.1.3.11.1. exFAT.

2.1.3.12. Color Mode.

2.1.3.12.1. Wide-Angle Camera.

2.1.3.12.1.1. Normal: 8-bit 4:2:0 (H.264/H.265).

2.1.3.12.1.2. HLG/D-Log M: 10-bit 4:2:0 (H.265).

2.1.3.12.2. Medium Tele Camera.

2.1.3.12.2.1. Normal: 8-bit 4:2:0 (H.264/H.265).

2.1.3.12.2.2. HLG/D-Log M: 10-bit 4:2:0 (H.265).

2.1.3.13. Digital Zoom.

2.1.3.13.1. Wide-Angle Camera: 1-3x

2.1.3.13.2. Medium Tele Camera: 3-9x.

2.1.4. Gimbal.

2.1.4.1. Mechanical Range.

2.1.4.1.1. Tilt: -135 degrees to 70 degrees.

2.1.4.1.2. Roll: -50 degrees to 50 degrees.

2.1.4.1.3. Pan: -27 degrees to 27 degrees.

2.1.4.2. Controllable Range.

2.1.4.2.1. Tilt: -90 degrees to 60 degrees.

2.1.4.2.2. Pan: -5 degrees to 5 degrees.

2.1.5. Sensing.

2.1.5.1. Omnidirectional obstacle sensing.

2.1.5.1.1. Front and rear fisheyes lenses for forward, backward, left, right, and upward sensing.

2.1.5.1.2. Bottom binocular and 3D infrared sensor.

2.1.6. Video Transmission.

2.1.6.1. Live View Quality.

2.1.6.1.1. Remote Controller.

2.1.6.1.1.1. 1080p/30 fps.

2.1.6.1.1.2. 1080p/60 fps.

2.1.6.1.2. Operating Frequency.

2.1.6.1.2.1. 2.4000-2.4835 GHz.

2.1.6.1.2.2. 5.170-5.250 GHz.

2.1.6.1.2.3. 5.725-5.850 GHz.

2.1.6.1.3. Transmitter Power (EIRP).

2.1.6.1.3.1. 2.4 GHz.

2.1.6.1.3.1.1. < 33 dBm (FCC).

2.1.6.1.3.1.2. < 20 dBm (CE/SRRC/MIC).

2.1.6.1.3.2. 5.1 GHz.

2.1.6.1.3.2.1. < 23 dBm (CE).

2.1.6.1.3.3. 5.8 GHz.

2.1.6.1.3.3.1. < 33 dBm (FCC).

2.1.6.1.3.3.2. < 30 dBm (SRRC).

2.1.6.1.3.3.3. < 14 dBm (CE).

2.1.6.1.4. Maximum Transmission Distance (free of interference).

2.1.6.1.4.1. FCC: 20 km.

2.1.6.1.4.2. CE: 10 km.

2.1.6.1.4.3. SRRC: 10 km.

2.1.6.1.4.4. MIC: 10 km.

2.1.6.1.5. Maximum Transmission Distance (with interference).

2.1.6.1.5.1. Unobstructed.

2.1.6.1.5.1.1. Strong Interference: urban landscape, approx. 1.5-4 km.

2.1.6.1.5.1.2. Medium Interference: suburban landscape, approx. 4-10 km.

2.1.6.1.5.1.3. Low Interference: suburb/seaside, approx. 10-20 km.

2.1.6.1.5.2. Obstructed.

2.1.6.1.5.2.1. Low Interference and Obstructed by Buildings: approx. 0-0.5 km.

2.1.6.1.5.2.2. Low Interference and Obstructed by Trees: approx. 0.5-3 km.

2.1.6.1.6. Maximum Download Speed.

2.1.6.1.6.1. 10 MB/s.

2.1.6.1.6.2. Wi-Fi 5: 30 MB/s.

2.1.6.1.7. Lowest Latency.

2.1.6.1.7.1. Aircraft + Remote Controller: Approx. 120 ms.

2.1.6.1.8. Antenna.

2.1.6.1.8.1. 6 antennas, 2T4R.

2.2. Battery.

2.2.1. Quantity: 3 units.

2.2.2. Capacity: 4241 mAh.

2.2.3. Weight: Approx. 267 g.

2.2.4. Nominal voltage: 14.76 V.

2.2.5. Maximum charging voltage: 17 V.

2.2.6. Type: Li-Ion 4S.

2.2.7. Energy: 62.6 Wh.

2.2.8. Charging temperature: 5 degrees to 40 degrees C.

2.2.9. Charging Time: Approx. 60 mins - 80 mins (dependent on charger type).

2.3. Remote Controller.

2.3.1. Quantity: 1 unit.

2.3.2. Video Transmission.

2.3.2.1. Operating Frequency.

2.3.2.1.1. 2.4000-2.4835 GHz.

2.3.2.1.2. 5.170-5.250 GHz.

2.3.2.1.3. 5.725-5.850 GHz.

2.3.2.2. Antenna: 4 antennas, 2T4R.

2.3.2.3. Transmitter Power (EIRP).

2.3.2.3.1. 2.4 GHz: <33 dBm (FCC), <20 dBm (CE/SRRC/MIC).

2.3.2.3.2. 5.1 GHz: <23 dBm (CE).

2.3.2.3.3. 5.8 GHz: <33 dBm (FCC), <14 dBm (CE), <30 dBm (SRRC).

2.3.2.4. Wi-Fi.

2.3.2.4.1. Protocol: 802.11 a/b/g/n/ac/ax.

2.3.2.4.2. Operating Frequency.

2.3.2.4.2.1. 2.4000-2.4835 GHz.

2.3.2.4.2.2. 5.150-5.250 GHz.

2.3.2.4.2.3. 5.725-5.850 GHz.

2.3.2.4.3. Transmitter Power (EIRP).

2.3.2.4.3.1. 2.4 GHz: <26 dBm (FCC), <20 dBm (CE/SRRC/MIC).

2.3.2.4.3.2. 5.1 GHz: < 23 dBm (FCC/CE/SRRC/MIC).

2.3.2.4.3.3. 5.8 GHz: <23 dBm (FCC/SRRC), <14 dBm (CE).

2.3.2.5. Bluetooth.

2.3.2.5.1. Protocol: Bluetooth 5.2.

2.3.2.5.2. Operating Frequency: 2.400-2.4835 GHz.

2.3.2.5.3. Transmitter Power (EIRP): < 10 dBm.

2.3.2.6. Screen.

2.3.2.6.1. Resolution: 1920 x 1080.

2.3.2.6.2. Dimensions: 5.5 inches.

2.3.2.6.3. Frame Rate: 60fps.

2.3.2.6.4. Brightness: 700 nits.  
2.3.2.6.5. Touch Control: 10-point multi-touch.

2.3.2.7. General.

2.3.2.7.1. Battery: 18650 Li-ion, 22.32Wh (3.6V, 3100mAh x 2).

2.3.2.7.2. Charging Type: Supports up to 9V/3A fast charge.

2.3.2.7.3. Charging Time: 1.5 hours (with 9V/3A charger).

2.3.2.7.4. Operating Time: Maximum 3 hours.

2.3.2.7.5. Global Navigation Satellite System: GPS, BeiDou, Galileo.

2.3.2.8. Storage.

2.3.2.8.1. Internal Storage Capacity: 32GB in addition to expandable storage (with microSD card).

2.3.2.8.2. Supported SD Cards: UHS-I Speed Grade 3 rating microSD card or above.

2.4. Propellers.

2.4.1. Low-noise propellers (Pair).

2.4.1.1. Quantity: 6 pairs.

2.5. Battery Charging Hub.

2.5.1. Quantity: 1 unit.

2.5.2. Simultaneously charge three (3) batteries.

3. Accessories.

3.1. Shoulder Bag: 1 unit.

3.2. Gimbal Protector: 1 unit.

3.3. Type-C to Type-C cable: 1 unit.

4. Warranty: 12 months.

5. Delivery and Payment.

5.1. Delivery within 45 calendar days from issuance of Notice to Proceed (NTP).

5.2. Should the delivery date deadline fall on a non-working day, such as a weekend, non-working holiday, or work suspension, then the delivery date deadline shall be adjusted to the following working day.

5.3. Bid price shall be inclusive of taxes, delivery charges, and all other related fees.

5.4. Payment Terms: Prescribed government terms.

**TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):**

**Php 493,300.00**

**GUIDELINES**

**A. Content and Format of Quotations**

1. *The Quotation/s must include the RFQ Number or the PR Number indicated above*
2. *Bidders must specify the BRAND NAMES and MODEL NAMES/NUMBER for the following goods:*
  - a. *Computer and electronic equipment and its accessories or peripherals*
  - b. *Software applications, programs, and digital licenses*
  - c. *Commercial off-the-shelf electronic devices or components*
3. *The Quotation/s must indicate the registered business name of the company (or individual), business address and contact number. It must also include the full name and signature of the company's authorized representative.*
4. *BIR Certificate of Registration for new DOST-ASTI suppliers.*

## **B. Eligibility Requirements**

Pursuant to Annex "H" or Consolidated Guidelines for the Alternative Methods of Procurement of the 2016 Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184, the following documents shall be submitted except for Repeat Order, Shopping under Section 52.1(a), and Negotiated Procurement under Sections 53.1 (Two-Failed Biddings), and 53.5 (Agency-to-Agency):

### **For Procurement of Goods**

1. Upon submission of quotation
  - a. Valid PhilGEPS Registration Number / Organization ID
  - b. Valid Mayor's/Business Permit
2. Upon issuance of Notice of Award (NOA)
  - a. Omnibus Sworn Statement (shall be required only for procurement projects with ABC above P50,000.00)
  - b. Income/Business Tax Return (For ABCs above P500,000.00)

### **For Procurement of Infrastructure**

1. Upon submission of quotation
  - a. Valid PhilGEPS Registration Number / Organization ID
  - b. Valid Mayor's/Business Permit
  - c. Valid PCAB License
2. Upon issuance of NOA
  - a. Omnibus Sworn Statement (shall be required only for procurement projects with ABC above P50,000.00)
  - b. Income/Business Tax Return (For ABCs above P500,000.00)

*\*Requirements under Section 53.6 (Scientific, Scholarly or Artistic Work, Exclusive Technology and Media Services) of the revised IRR of RA No. 9184 will not apply to artists such as singer, performer, poet, writer, painter and sculptor who are engaged in business.*

*\*\*Requirements under Section 53.10 (Lease of Real Property or Venue) of the revised IRR of RA No. 9184, specifically Mayor's/Business Permit, PhilGEPS Registration Number and Income/Business Tax Return will not apply to government agencies as lessors.*

*\*\*\*For methods of procurement requiring Mayor's Permit and PhilGEPS Registration Number, valid Certificate of Platinum Membership may be submitted in lieu of the said documents.*

## **C. Terms and Conditions**

1. Additional requirements, if necessary, may be requested by the BAC depending on the item to be bid;
2. All transactions are subject to creditable withholding tax and final Value Added Tax or percentage tax per revenue regulation/s of the BIR;
3. Liquidated damages of at least equal to one-tenth of one percent (0.001) of the cost of the unperformed portion for every day of delay shall be imposed by the DOST-ASTI pursuant to Section 68 of the revised IRR of RA No. 9184; and
4. The DOST-ASTI reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.