# BIDDING DOCUMENT

**PROCUREMENT OF GOODS UNDER THE**

**NATIONAL COMPETITIVE BIDDING**

# Supply, Delivery, Installation, Testing & Training of Multi – Spectral Drone, GNNS Base Station and Photogrammetry Software

## CRI/2025/NCB/26

## Coconut Research Institute of Sri Lanka

Issued to: - …….

Receipt Number ……..

Date : …….. Signature of Issuing Officer

# Section II

## Bidding Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

| ITB Clause Reference | A. General |
|---|---|
| **ITB 1.1** | The Purchaser is: **Coconut Research Institute of Sri Lanka** |
| **ITB 1.1** | The name and identification number of the Contract are: **CRI/2025/NCB/26**<br>The number, identification and names of the lots comprising this procurement are: Invitation for bid for **Supply, Delivery, Installation, Testing & Training of Multi – Spectral Drone, GNNS Base Station and Photogrammetry Software** |
| **ITB 2.1** | The source of funding is: Consolidated funds |
| **ITB 4.4**[1] | Foreign bidders are allowed to participate in bidding. - ***Not Allowed*** |
| | **B. Contents of Bidding Documents** |
| **ITB 7.1** | For **Clarification of bid purposes** only, the Purchaser's address is:<br>Attention: **The Director**<br>Address: **Coconut Research Institute of Sri Lanka, Bandirippuwa Estate, Lunuwila 61150, Sri Lanka**<br>Telephone: **94 (0)31-2255300**<br>Fax number: **94 (0)31-2257391**<br>Electronic mail address: **director@cri.gov.lk** |
| | Pre bid meeting will be held at the Coconut Research Institute, Lunuwila at **10.00 a.m on 02.04.2025** |
| | **C. Preparation of Bids** |
| **ITB 11.1** | **The bidder should submit the following additional documents:**<br>**1. Valid certificate of registration obtained from the Registrar of Public Contracts, as prescribed in Public Contract Act, No. 3 of 1987, if the contract exceeds five Million rupees.**<br>2. Original printed literature of the quoted model of instrument produced by the manufacturer should be attached with the offer. (All specifications requested should be highlighted and tagged for evaluation reference) |

| | |
|---|---|
| | 3. Installation list for the **quoted items** with names of institution, division, contact person and telephone numbers should be provided. (Providing wrong/unnecessary information may be a reason for the rejection of the bid)<br>4. Supplier should have proven records of providing an after sales service for equipment.<br>5. Experience and Technical Capability<br>The bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirements:<br>**Detail of Technical Staff:**<br>1. Full time technicians should be available (There should be minimum of 1 technician trained by the manufacture on the offered brands).<br>**Detail of Workshop facilities:**<br>Fully equipped workshop facilities should be locally available to maintain the offered equipment**.** |
| | **Bid document should be arranged in the following order by the Supplier.**<br>a. Copy of Certificate of Incorporation<br>b. Valid certificate of registration obtained from the Registrar of Public Contracts<br>c. Bid Security<br>d. Bid submission form<br>e. Duly completed Technical Specifications<br>f. The manufacturer's catalogue<br>g. Manufacture's Authorization<br>h. Duly completed Delivery & Installation Schedule<br>i. Duly completed Price schedule<br>j. Installation list for the quoted equipment<br>k. Company Profile (Details of Technical Staff, Workshop Facilities etc.) |
| **ITB 15.1**[2] | The Bidder shall quote in Sri Lankan Rupees and payment shall be payable only in Sri Lanka Rupees |
| **ITB 17.3**[3] | Period of time the Goods are expected to be functioning (for the purpose of spare parts): **10 years +** |
| **ITB 18.1 (b)** | After sales service is: ***"required"*** |
| **ITB 19.1**[4] | The bid shall be validity until: **11.06.2025** (**56 days from the bid closing**) |

| | |
|---|---|
| | |
| **ITB 20.2** | Bid shall include **"Bid Security"** using **the form included in Section IV Bidding Forms.**<br>The amount of the Bid Security shall be: ***Rs. 90,000.00***<br>*The validity period of the bid security shall be until:* **Bid security must be valid until 09.07.2025** |
| | **D. Submission and Opening of Bids** |
| ITB 22. 1 (a) | Completed set of bids or parcel should be sealed and **submitted in duplicate separately** and should be posted under registered cover or placed in the Bid box kept in the following address. |
| **ITB 22.2 (c)** | The inner and outer envelopes shall bear the following identification marks: Invitation for bid for **Supply, Delivery, Installation, Testing & Training of Multi – Spectral Drone, GNNS Base Station and Photogrammetry Software** |
| **ITB 23.1** | For bid submission purposes, the Purchaser's address is:<br>Attention: **Chairman, Departmental Procurement Committee (Major)**<br>Address: **Coconut Research Institute of Sri Lanka, Bandirippuwa Estate, Lunuwila 61150, Sri Lanka**<br>The deadline for the submission of bids is:<br>**Date: 16.04.2025 Time: 01.00 p. m.** |
| **ITB 26.1** | The bid opening shall take place at:<br>Address: **Establishment Unit (Admin Office), Coconut Research Institute of Sri Lanka, Bandirippuwa, Lunuwila 61150, Sri Lanka**<br>Date: **16.04.2025**<br>Time: **01.00 p. m.** |
| | **E. Evaluation and Comparison of Bids** |
| **ITB 35.5** | Bidders ***"shall not"*** be allowed to quote for one item.<br>**(This procurement involves three (03) items that are considered a single (01) unit. As such, a single supplier must deliver all three items and provide the necessary training in an integrated setup. Consequently, the purchaser will not accept proposals to supply the items from multiple suppliers)**<br>**Alternative bids shall not be considered according to the ITB 13** |

# Rationale

The goal of this initiative is to revolutionize coconut farming in Sri Lanka by integrating climate-smart precision agricultural practices using UAVs and advanced technologies with centimetre-level accuracy. This involves enhancing plantation monitoring through UAV-based systems for real-time high-precision (Multi-Spectral Drone and GNNS Base Station) data collection on weeds, crop health, moisture levels, and nutrients (plant and soil) while improving resource efficiency with pre-processing, NDVI mapping (Photogrammetry Software) and data analysis. Capacity building is a key focus, with training for officers in UAV operation, remote sensing, and data analysis to ensure effective technology adoption and long-term sustainability. This approach lies in the necessity of modernizing coconut farming through precision agriculture, enabling real-time, high-resolution data collection for informed decision-making, automated surveillance for early detection, and optimized resource allocation to reduce costs.

# TECHNICAL SPECIFICATIONS
# Specification for Multispectral Drone (01 No)

Supply, Delivery, Installation, Commission & Training of 01 Multispectral Drone. The bidder shall fill the columns 04, 05 and 06 (Print clearly). Failure to provide the information requested in the columns 04, 05 and 06 may be a reason for the rejection of the bid. Supplier should certify the information provided here by a company seal with a signature of an authorized officer.

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---|---|---|---|---|---|---|
| **No** | **Specification Description** | **Purchaser's Requirements/ Details** | **Response** | | | |
| | | | **Yes** | **No** | **Details of Bidder's offer** | **Remarks** |
| 1.0 | **Multispectral Drone** | | | | | |
| 1.1 | Make & Model / Please Specify | Specify | | | | |
| 1.2 | County of Origin / Please Specify | Specify | | | | |
| 1.3 | Drone Type | VTOL - Quad Copter type | | | | |
| 1.4 | Net Weight | Less than 1.5 Kg (with Battery) | | | | |
| 1.5 | Dimensions (Folded/Unfolded) | Folded: with propellers should less than 250 × 100 × 150 mm (Length × Width × Height)<br><br>Unfolded: without propellers should less than 380 × 300× 150 mm (Length × Width × Height) | | | | |
| 1.6 | Max Flight Time (without wind) | 40 Minutes or more | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 1.7 | Max Wind Speed Resistance | 10 m/s or more | | | | |
| 1.8 | Max Take-off Altitude Above Sea Level | Please Specify …… | | | | |
| 1.9 | Max Flight Distance | 25 km or more | | | | |
| 1.10 | GNSS | GPS + GLONASS + Galileo + BeiDou | | | | |
| 1.11 | Hovering Accuracy Range | Vertical: ± 0.1 m or better<br>Horizontal: ± 0.3 m or better | | | | |
| 1.12 | RTK Module | Should provide with the Drone and should support with mobile GNNS base station | | | | |
| 1.13 | RTK Position Accuracy | Horizontal: 1 cm + 1 ppm or better<br>Vertical: 1.5 cm + 1 ppm or better | | | | |
| 1.14 | Operating Temperature | 0° to 40° C | | | | |
| 1.15 | Light Sensor | Should have a Built-in module | | | | |
| 2.0 | **RGB Camera of Multispectral Drone** | | | | | |
| 2.1 | Image Sensor | Effective Pixels: 20 MP or better | | | | |
| 2.2 | Lens FOV | More than 80° | | | | |
| 2.3 | ISO Range | 100 - 6400 or better | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 2.4 | Shutter speed | Electronic shutter: 8-1/8000 s or better<br>Mechanical shutter: 8-1/2000 s or better | | | | |
| 2.5 | Max Image Size | 5000 × 3700 or better | | | | |
| 3.0 | **Multispectral Camera of Multispectral Drone** | | | | | |
| 3.1 | Image Sensor of Camera band | Effective pixels: 4 - 6 MP or better for each band (Green, Red, Red Edge, Near-infrared) | | | | |
| 3.2 | Multispectral Camera Band | Green (G): 560 ± 16 nm; or better<br>Red (R): 650 ± 16 nm; or better<br>Red Edge (RE): 730 ± 16 nm; or better<br>Near-infrared (NIR): 860 ± 26 nm or better | | | | |
| 3.3 | Gain Range | 1x - 32x or better | | | | |
| 3.4 | Shutter Speed | Electronic Shutter: 1/30 ~ 1/12800 s or better | | | | |
| 3.5 | Max Image Size | 2500 × 1900 or better | | | | |
| 3.6 | Image Format | TIFF or any other (Pls specify) | | | | |
| 4.0 | **Gimbal of Multispectral Drone** | | | | | |
| 4.1 | Stabilization System | 3-axis mechanical gimbal (tilt, roll, pan)<br>If any other pls specify | | | | |
| 4.2 | Mechanical Range | Tilt: -130° to 40° or better<br>Roll: -40° to 40° or better<br>Pan: -25° to 25° or better | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 4.3 | Controllable Range | Tilt: -90° to 35° or better<br>Pan: Uncontrollable | | | | |
| 4.4 | Angular Vibration Range | ± 0.005° - ± 0.009° or better | | | | |
| 5.0 | **Sensing System of Multispectral Drone** | | | | | |
| 5.1 | Sensing System Type | Omnidirectional sensing system (Pls specify) | | | | |
| 5.2 | Sensing direction | Should be able to detect Forward, Backward, Lateral, Upward and Downward | | | | |
| 6.0 | **Remote controller of Multispectral Drone** | | | | | |
| 6.1 | Operating Band of Image Transmission | 2.400 - 2.4835 GHz<br>5.725 - 5.850 GHz | | | | |
| 6.2 | Max Effective Signal Distance (Unobstructed, No interference) | 8 km or better | | | | |
| 6.3 | Wi-Fi Protocol | Should be 802.11 a/b/g/n/ac/ax | | | | |
| 6.4 | Bluetooth Protocol | Should be Bluetooth 5.1 | | | | |
| 6.5 | Screen Resolution | 1920 × 1080 or better | | | | |
| 6.6 | Screen Size | 5 inches or better | | | | |
| 6.7 | Touch-Screen | 10-point multi-touch or better | | | | |
| 6.8 | Battery | Internal battery 5000 mAh or better | | | | |
| 6.9 | Storage Capacity | Internal Memory (ROM): 64 GB or better | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 6.10 | Charging Time | Should be charge within 2 hours | | | | |
| 6.11 | Operating Time | Approx. 3 hours or better | | | | |
| 6.12 | Video Output | Should be has a HDMI port | | | | |
| 6.13 | GNSS | Should be Support GPS + Galileo + GLONASS | | | | |
| 6.14 | Weight | Less than 800g | | | | |
| 7.0 | **Flight Batteries for Multispectral drone** | | | | | |
| 7.1 | Capacity | 5000 mAh or better | | | | |
| 7.2 | Weight | Less than 350g | | | | |
| 7.3 | Number of batteries | **4 (four)** | | | | |
| 7.4 | Battery type | Should be LiPo, If any other pls specify | | | | |
| **8.0** | **Battery Charger for Multispectral drone** | | | | | |
| 8.1 | Input | Should be operate between 100V to 240V | | | | |
| 8.2 | Rated Power | Less 120 Watts | | | | |
| 8.3 | Chargin Hub | Should provide charging hub with 3 or more charging ports on charging rotation. | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| **9.0** | **Warranty** | | | | | |
| 9.1 | Drone | 01 Year warranty, If any other pls specify | | | | |
| 9.2 | Remote Control | 01 Year warranty, If any other pls specify | | | | |
| 9.3 | Multispectral Drone Batteries | 01 Year with 200 Charge Cycles or better, If any other pls specify | | | | |
| 9.4 | Drone Battery Charger | 01 Year warranty, If any other pls specify | | | | |
| **10.0** | **Supplier Experience** | | | | | |
| 10.1 | | Authorized Drone Agent (Attached Manufacturer authorization letter) | | | | |
| 10.2 | | Having Manufacturer Approved Own Repair Center in Sri Lanka | | | | |
| 10.3 | | Should have Manufacturer Certified Technician availability (attached Certificate) | | | | |
| 10.4 | | More than 3 years' experience in the field of Drone in Sri Lanka (Please provide the details for proof) | | | | |
| 10.5 | | Should have obtained approval from the Civil Aviation Authority of Sri Lanka for the quoted drone model (Attached letter) | | | | |
| 10.6 | | Should have a certificate of IMPORT, MAINTENANCE, & REPAIR issued by the Civil Aviation Authority of Sri Lanka (attached Certificate) | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 10.7 | | Training Should be conducted by GIS & Remote sensing Qualified Professionals | | | | |
| 10.8 | | ISO certified Company (attached Certificate) | | | | |
| **11.0** | **After Service and Support** | | | | | |
| 11.1 | Technical Support | Offer a hotline for technical assistance (Email or live chat also provided) | | | | |
| 11.2 | Project Consultation | Assist in planning and executing agriculture-related projects that use the drone. | | | | |
| 11.3 | Maintenance and Service | Should be offered thorough inspection, updating, calibration, and cleaning services. | | | | |
| 11.4 | Time of response | Should be complete as follows<br>i. Setting adjustment / Software issues (Within 5 hours)<br>ii. Minor Defects (Within 2 to 5 days)<br>Major Defects (Within 21 days) | | | | |
| 11.5 | Software Upgrades | Should be offer software and firmware upgrades available for the model. | | | | |
| 11.6 | Spare Parts Availability | Should have minimum 5-year Spare Parts availability (Please provide by a letter).<br>If necessary, the availability of spare parts will be checked by a site visit inspection. | | | | |
| 11.7 | | All the supports and services during the warranty period shall be free of charge (schedule of maintenance program should be provided) | | | | |

……
Signature of the Bidder with company Seal

Date:…….

# TECHNICAL SPECIFICATIONS
# GNNS Base Station (01 No)

Supply, Delivery, Installation, Commission & Training of 01 GNNS Base Station. The bidder shall fill the columns 04, 05 and 06 (Print clearly). Failure to provide the information requested in the columns 04, 05 and 06 may be a reason for the rejection of the bid. Supplier should certify the information provided here by a company seal with a signature of an authorized officer.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| **No** | **Specification Description** | **Purchaser's Requirements/ Details** | **Response** | | | |
| | | | **Yes** | **No** | **Details of Bidder's offer** | **Remarks** |
| 1.0 | **GNNS Base Station** | | | | | |
| 1.1 | Make/Model | Specify…… | | | | |
| 1.2 | Compatibility | Should be Compatible with the supplying multi-spectral drone | | | | |
| 1.3 | Dimensions | Less than 175 mm × 175 mm × 1800 mm | | | | |
| 1.4 | GNSS Frequency | GPS: L1 C/A, L2, L5<br>BEIDOU: B1, B2, B3<br>GLONASS: F1, F2<br>Galileo: E1, E5A, E5B | | | | |
| 1.5 | Positioning Accuracy | Single Point<br>Horizontal：1.5 m (RMS) or better<br>Vertical：3.0 m (RMS) or better<br>RTK<br>Horizontal：1 cm (RMS) or better<br>Vertical：2 cm (RMS) or better | | | | |
| 1.6 | Positioning Update Rate | 1 Hz, 2 Hz, 5 Hz, 10 Hz and 20 Hz | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 1.7 | Cold Start | ＜45 s or better | | | | |
| 1.8 | Recapture Time | ＜1 s or better | | | | |
| 1.9 | Initialization Reliability | ＞99.9% | | | | |
| 1.10 | Differential Data Format | RTCM 2.X/3.X | | | | |
| 1.11 | IMU Features | Should have Built-in high-precision 6-axis accelerometer, movement monitoring | | | | |
| 1.12 | IP Rating | IP65 or better | | | | |
| 1.13 | Data Link | 4G, Wi-Fi, LAN | | | | |
| 1.14 | Operating Frequency | 2.400 GHz to 2.483 GHz | | | | |
| 1.15 | Communication Distance | 6 Km or better | | | | |
| 1.16 | Memory Capacity | 8 GB or better | | | | |
| 1.17 | Battery | 4800mAh Lithium Ion Battery or better | | | | |
| 1.18 | Operating Time | 2 hours or more | | | | |
| 1.19 | Operating Temperature | 0° to 40 ° C | | | | |
| 1.20 | Accessories | Tripod, Extension Rod, 2Nos of Battery, Battery charging hub, and AC Power Adapter should be provided | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 2.0 | **Warranty** | | | | | |
| 2.1 | GNNS Base Station | 01 Year warranty, If any other pls specify | | | | |
| 2.1 | Battery | 01 Year warranty, If any other pls specify | | | | |
| 3.0 | **Supplier Experience** | | | | | |
| 3.1 | | Authorized Agent (Attached Manufacturer authorization letter) | | | | |
| 3.2 | | Having Manufacturer Approved Own Repair Center in Sri Lanka | | | | |
| 3.3 | | Should have Manufacturer Certified Technician availability (attached Certificate) | | | | |
| 3.4 | | More than 3 years' experience in the relevant field (Please provide the details for proof) | | | | |
| 3.5 | | Training Should be conducted by GIS & Remote sensing Qualified Professionals | | | | |
| 3.6 | | ISO certified Company (attached Certificate) | | | | |
| 4.0 | **After Service and Support** | | | | | |
| 4.1 | Technical Support | Offer a hotline for technical assistance. (Email or live chat also provided.) | | | | |

| No | Specification Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 4.2 | Project Consultation | Assist in planning and executing agriculture-related projects that use the drone. | | | | |
| 4.3 | Maintenance and Service | Should be offer thoroughly inspection, updating, calibration, and cleaning service. | | | | |
| 4.4 | Time of response | Should be complete as follow<br>**iii.** Setting adjustment / Software issues (Within 5 hours)<br>**iv.** Minor Defects (Within 2 to 5 days)<br>Major Defects (Within 21 days) | | | | |
| 4.5 | Software Upgrades | Should be offered software and firmware upgrades available for the model. | | | | |
| 4.6 | Spare Parts Availability | Should have minimum 5-year Spare Parts availability (Please provide by a letter).<br><br>If necessary, the availability of spare parts will be checked by a site visit inspection. | | | | |
| 4.7 | | All the supports and services during the warranty period shall be free of charge (schedule of maintenance program should be provided) | | | | |

……
Signature of the Bidder with company Seal

Date:……

## TECHNICAL SPECIFICATIONS

# Photogrammetry Software (01 No)

Supply, Delivery, Installation, Commission & Training of **01 No- Photogrammetry software**. The bidder shall fill the columns 04, 05 and 06 (Print clearly). Failure to provide the information requested in the columns 04, 05 and 06 may be a reason for the rejection of the bid. Supplier should certify the information provided here by a company seal with a signature of an authorized officer.

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---|---|---|---|---|---|---|
| **No** | **Specification Description** | **Purchaser's Requirements/ Details** | **Response** | | | |
| | | | **Yes** | **No** | **Details of Bidder's offer** | **Remarks** |
| 1.0 | **Photogrammetry Software for Multispectral Drone Image processing** | | | | | |
| 1.1 | Manufacture / Specify | Specify | | | | |
| 1.2 | Model Name / Specify | Specify | | | | |
| 1.3 | Country of Origin | Specify | | | | |
| 1.4 | License Type | Should be Permanent License (perpetual) | | | | |
| 1.5 | Inputs | Ability to Process images taken from any angle from, any aerial unmanned platform in .jpg .jpeg .tiff formats. | | | | |
| | | Ability to automatically extracts still frames from videos to create a project. | | | | |
| | | Ability to create a project using images from different cameras and process them together. | | | | |

| | | Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| | | Use images acquired with any camera (compact, DSLR, thermal, multispectral, large-frame), from small to large frames. | | | | |
| | | Should be support for RTK/PPK + IMU | | | | |
| | | Import and edit ground control points to improve the absolute accuracy of your project. | | | | |
| | | Import point clouds from different sources, such as LiDAR, to generate DSMs & orthomosaics. | | | | |
| | | Ability to work with known or custom reference coordinate system support in imperial or metric units. | | | | |
| | | Ability to import Aerial and terrestrial images in .jpg .jpeg .tiff formats | | | | |
| 1.6 | Processing | Ability to automate processing and generation of outputs by using standard or customized templates. | | | | |
| | | Should be able to process RGB, Multispectral and Thermal Images. | | | | |
| | | Ability to optimize internal camera parameters, such as focal length, principal point of autocollimation and lens distortion points from one or more selected point classes. | | | | |
| | | Ability to Process automatically with or without known camera exterior orientations: (x, y, z, w, f, k) | | | | |

| | | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| | | Ability to automatically classify the RGB dense point cloud into five groups: ground road surfaces, high vegetation, buildings and human-made objects | | | | |
| | | Ability to Use presets for point cloud filtering and smoothing options | | | | |
| | | Ability to write vector data into CAD file | | | | |
| | | Ability to Remove above-ground objects from DSM and create DEM | | | | |
| | | Ability to Automatic brightness and color<br>Correction (brightness, luminosity and color balancing) | | | | |
| | | Ability to project merging and splitting (Combine multiple projects into one or split large projects into several) | | | | |
| | | Ability to Import (.shp) or draw specific areas to faster generate results inside specific boundaries | | | | |
| | | Ability to calibrate and correct the image changing image reflectance, taking the illumination and sensor influence | | | | |

| No | Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 1.7 | Output Deliverables | Ability to Produce a dense and detailed 3D point cloud, which can be used as a basis for DSM and 3D Mesh. | | | | |
| | | Ability to generate Quality Report | | | | |
| 1.8 | Features | Project visualization of optimized camera positions (3D point cloud and mesh) | | | | |
| | | Ability to define point classes such as ground, vegetation, buildings, poles, vehicles, trees, Surface points, by absolute elevation or distance, isolated points, color, normal vector | | | | |
| | | Ability to extract and export classified point classes into raster format | | | | |
| | | Accurately scale projects with no or imprecise geolocation by defining one/multiple distances | | | | |
| | | Annotate and edit 2D and 3D GCPs, checkpoints, and MTPs with the highest accuracy, using both original images and 3D information at the same time | | | | |
| | | Select, classify or delete points from the point cloud using various selection tools.<br>Annotate & create surfaces in the point cloud to flatten an area or fill up holes in the mesh and DSM. | | | | |

| | | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 1.9 | Volume Calculation | Annotate and measure volumes based on the DSM. | | | | |
| | | Import and export selected volume bases in .shp files to enable easy monitoring of stockpiles on site. | | | | |
| | | Adjust the reference base to fit different terrain and obtain accurate measurement. | | | | |
| 1.10 | Index Calculation | Make the vegetation indices more reliable and accurate by applying radiometric corrections. | | | | |
| | | Generate an accurate Reflectance map and the preferred resolution as a basis of index maps. | | | | |
| | | Generate single band and NDVI maps based on pre-defined formulas without user intervention. | | | | |
| | | Create and save our own formulas, choosing among each input band and generating custom Index maps. | | | | |
| | | Put your data into action and export the prescription map in .shp format. | | | | |
| 2.0 | **Warranty** | | | | | |
| 2.1 | Photogrammetry Software | 01 Year Updates and Support, If any other pls specify | | | | |
| 3.0 | **Supplier Experience** | | | | | |
| 3.1 | | Authorized Agent (attached manufacturer authorization letter) | | | | |

| No | Description | Purchaser's Requirements/ Details | Yes | No | Details of Bidder's offer | Remarks |
|---|---|---|---|---|---|---|
| 3.2 | | More than 3 years' experience in the GIS & Remote sensing field (Please provide the details for proof) | | | | |
| 3.3 | | Training Should be conducted by GIS & Remote sensing Qualified Professionals | | | | |
| 3.4 | | ISO certified Company (attached certificate) | | | | |
| 4.0 | **After Service and Support** | | | | | |
| 4.1 | Technical Support | Offer a hotline for technical assistance (Email or live chat also provided) | | | | |
| 4.2 | Project Consultation | Assist in planning and executing agriculture-related projects that use the drone. | | | | |
| 4.3 | Maintenance and Service | Should be offer inspection and updating of software | | | | |
| 4.4 | Time of response | Should be complete as follow<br>**i.**Setting adjustment / Software issues (Within 5 hours)<br>**ii.**Minor Defects (Within 2 to 5 days)<br>Major Defects (Within 21 days) | | | | |
| 4.5 | Software Upgrades | Should be offer software and firmware upgrades available for the model. | | | | |
| 4.6 | | All the supports and services during the warranty period shall be free of charge (schedule of maintenance program should be provided) | | | | |

Date: …… ……. Signature of the Bidder with company Seal