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**NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL**

**DEPARTMENT OF CENTRE FOR SYSTEM DESIGN**

POST SRINIVASNAGAR, MANGALORE – 575 025 (D K)

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**NOTICE INVITING QUOTATION**

Notification. No:NITK/CSD/2023/Video Aerial/ KVG-04

Dated:06-10-2023

<b>Name of Goods</b>	<b>Aerial capture of multiple panoramas and overlay &amp; Stitching Cost</b>
<b>Estimated Amount:</b>	<b>₹ 20,000 (Including GST) per Minute</b>
<b>Time for Supply of item after release of Work order</b>	<b>1 Week</b>
<b>Document Download / Sale Start Date</b>	<b>06-10-2023 @4.30PM</b>
<b>Clarification Start Date</b>	<b>06-10-2023 @4.30PM</b>
<b>Clarification End Date</b>	<b>16-10-2023 before 1.30 PM</b>
<b>Bid Submission Start Date</b>	<b>06-10-2023 @4.30PM</b>
<b>Last Date for submission of bids</b>	<b>16-10-2023 before 1.30 PM</b>
<b>Bid Opening Date</b>	<b>16-10-2023 @ 2 .00 PM</b>
<b>Address for Submission of bids</b>	<b>Dr. K V Gangadharan CSD coordinator, H.O.D NITK Surathkal – 575025 (M): 9448478752,kvganga@nitk.edu.in</b>

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**NOTICE INVITING QUOTATION (NIQ)**

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an Institute Of National Importance Under Ministry of Education Govt of India, imparting Technical Education and engaged in Research Activities. It is proposed to procure the items for the departmental academic/research activities.

Sealed Quotations as per the Price Schedule given in this NIQ are invited for the following items subject to the terms and conditions, from the reputed manufacturers or its authorised dealers so as to reach on or before scheduled date and time. The quotations in the firm's Business letter head should be address to the "Director, NITK, Surathkal". The envelope shall be superscribed with the Quotation Notification Number and the Name of the Goods for which quotation is submitted.

<b>Name of Goods</b>	<b>Aerial capture of multiple panoramas and overlay &amp; Stitching Cost</b>
<b>Estimated Amount:</b>	<b>₹ 20,000 (Including GST) per Minute</b>
<b>Time for Supply of item after release of Purchase order</b>	<b>1 Week</b>
<b>Document Download / Sale Start Date</b>	<b>06-10-2023 @4.30PM</b>
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**Sd/-  
HOD**

Note: Institute shall not be responsible for any postal delay about non-receipt /non-delivery of the bids or due to wrong addressee

## **SECTION-1**

### **Terms and Conditions**

1. The rates should be quoted for preferably FOR destination from supply within India.
2. The bidder shall indicate the excise duty exemption for the goods if applicable.
3. The rate quoted should be on unit basis. Taxes and other charges should be quoted separately, considering exemptions if any. The rate should be quoted in INR only
4. Rate quoted should be inclusive of Testing, commissioning and Installation of equipment and Training.
5. Payment: No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security by supplier.
6. Guarantee/Warranty period should be specified for the complete period should be specified in section 3 of this tender document.
7. Period requirement for the supply and installation of item should be specified in section 3 of this tender document.
8. In case of dispute, the matter will be subject to Mangalore Jurisdiction only.

## SECTION-2

### **SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS**

[ To be filled up by the Department / Centre of NITK, Surathkal ]

Item(s) Name to be Procured : **Aerial capture of multiple panoramas and and overlay & Stitching Cost**

Brief Specifications of the Item(s) : **Attached in Annexure I**  
(Attach Additional Sheet if necessary)

Quantity : 10 minutes ( actual time will be depends on the script )

Any other details / requirement : Nil

Warranty Period required : Nil

Delivery Schedule expected

after placement of Work order : Immediate

### **SECTION 3 PRICE SCHEDULE**

[ To be used by the bidder for submission of the quotation]

1. Item Name :
2. Specifications  
(Conforming to Schedule of requirements  
Enclose additional sheets if necessary) :
3. Currency and Unit Price :
4. Quantity :
5. Item Cost (Sl No. 3 \* Sl. No. 4 ) :
6. Taxes and Other Charges :  
(i) Specify the type of taxes and  
duties in percentages and  
also in figures.  
(ii) Specify Other Charges in figures.
7. **Warranty Period** :  
**(Conforming to the**  
**Schedule of**  
**requirements)**
8. Delivery Schedule :  
(Conforming to the Schedule of requirements)
9. Name and address of the Firm for :  
placing work order
10. Name and address of Indian authorized  
agent ( in case of imports only) :

**Signature of the Bidder:** \_\_\_\_\_

**Name and Designation:** \_\_\_\_\_

**Business Address :** \_\_\_\_\_

**Date:**  
**Place:**

**Seal of the Bidder's Firm**

## **SECTION 4 CONTRACT FORM**

[ To be provided by the bidder in the business letter head]

1. (Name of the Supplier's Firm) hereby abide by the delivery schedule mentioned in this document for supply of the items if the work order is awarded.
2. The item will be supplied conforming to the specifications stated in this document without any defect and deviations.
3. Warranty will be given for the period mentioned in this document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

**Signature of the Bidder:** \_\_\_\_\_

**Name** : \_\_\_\_\_

**Business Address** : \_\_\_\_\_

**Date :**

**Place :**

**Seal of the Bidder's Firm**

# Annexure I

## Specifications

### **Flight Planning:**

1. Determine the optimal flight path and altitude to cover the target area efficiently while maintaining safety as agreed and instructed by NITK personnel on field
2. Overlap between images to be at 30% and ground sampling distance (GSD) of less than 4 cm

### **Camera System:**

1. High-resolution camera of at least 4k resolution with appropriate lenses and sensors for capturing detailed imagery
2. Ensure the camera system is well-calibrated to minimize lens distortion and other optical aberrations

### **Overlap and Image Sequencing:**

1. Plan for adequate overlap (e.g., 60-80%) between adjacent images to facilitate stitching and mosaicking
2. Ensure that images are captured in a systematic and sequential manner to maintain consistency

### **Camera Settings:**

1. Set camera parameters such as exposure, ISO, and shutter speed appropriately to ensure consistent image quality and get approval from NITK personnel on field
2. Bracket exposures if necessary to capture images with varying lighting conditions

### **Stabilization:**

1. Gyro-stabilized camera mounts or equipment to minimize motion blur caused by aircraft movements
2. Consider image stabilization techniques in post-processing

### **Flight Control Software:**

1. Utilize flight control software that allows for automated flight planning and image capture
2. Ensure that the software can trigger the camera at predefined intervals or waypoints

### **Weather Conditions:**

1. Monitor weather conditions closely to avoid adverse effects on image quality and flight safety
2. Schedule flights during optimal weather conditions for clear imagery

### **Data Storage and Backup:**

1. Have a robust data storage system on board the aircraft to prevent data loss during the flight
2. Implement redundancy and backup systems to safeguard captured data.

### **Data Transmission:**

1. Secure and reliable data transmission system for real-time data retrieval and monitoring to be present as per industry standards
2. Consider onboard data compression techniques to reduce data transmission requirements

**Camera Synchronization:**

2. Ensure that cameras on board are synchronized to capture images simultaneously
2. Use timestamping or triggering mechanisms to maintain synchronization

**Orthorectification:**

1. Correct images for terrain and perspective distortion to produce accurate orthoimagery

**Regulatory Compliance:**

1. Ensure compliance with local aviation regulations, permits, and airspace restrictions for safe and legal operations

**Data Privacy and Security:**

1. Protect sensitive or private data during capture, storage, and transmission. Signing of Non-disclosure agreement before carrying out the work