

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/DRONE-DC-PU-04

Dated: 19-05-2023

Name of Goods	DIGITAL Command Centre System
Estimated Amount:	Rs. 2.25 Lakh
Time for Supply of item after release of Purchase order	7 (Days)
Document Download / Sale Start Date	19-05-2023
Clarification Start Date	19-05-2023
Clarification End Date	02-06-2023
Bid Submission Start Date	19-05-2023
Last Date for submission of bids	02-06-2023 before 3.00 PM
Bid Opening Date	05-06-2023 before 3.30 PM
Address for Submission of bids	Dr.Pruthviraj U Asst. Professor, Centre for System Design NITK Surathkal-575025 (M): 9972797225, pruthviu@nitk.edu.in



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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.

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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 : Digital Command Center System

Attached in Annexure 1

Brief Specifications of the Item(s) :
(Attach Additional Sheet if necessary)

Quantity : One kit

Any other details / requirement : Nil

Warranty Period required : One Year

Delivery Schedule expected
after placement of Purchase order
(in Weeks) : 1 Week

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 purchase order :
 10. Name and address of Indian authorized
agent (in case of imports only) :

Signature of the Bidder: _____

Name and Designation: _____

Business Address : _____

Place:
Date:

_____ **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 purchase 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 : _____

Place :
Date :

Seal of the Bidder's Firm

Specification : Digital Command Cente System.

Digital Command Cente System is a digital transmission system designed specifically for Unmanned system applications. It is a high-quality, low-latency wireless system that provides reliable and secure control of drones, as well as real-time telemetry data and video feedback. Digital Command Cente System includes a ground control station (GCS) that features a built-in touchscreen display, joystick controls, and customizable buttons, allowing for intuitive and precise control of Unmanned systems. The system also includes an onboard unit that provides wireless communication between the unnamed system and the GCS, enabling seamless and reliable transmission of control signals, telemetry data, and video. The GCS must be supplied with 20m HDMI cable with table mounted 75-inch led display panel (75-inch LED panel with a 4K Ultra

HD resolution of 3840 x 2160 pixels, HDR (High Dynamic Range), Wi-Fi connectivity with Dolby Audio or DTS, multiple connectivity options, including HDMI ports, USB ports, Ethernet port, and AV inputs. with a table mount stand or wall-mounting).

The ground control station must include a minium 7-inch touchscreen display with a resolution of 1280x800 pixels, as well as joystick controls and customizable buttons. The display must be bright and sunlight-readable, and the interface is designed to be user-friendly and intuitive. The GCS must rub on a customised version of the Android operating system, which allows for easy customization and integration with other software applications.

The unit(mounted on an unmanned system) must be a small, lightweight device.. It must include a high-performance microcontroller, a low-latency digital transmission system, and a variety of sensors for telemetry data. The air unit communicates with the GCS using a dual-band Wi-Fi connection, which provides a range of up to 20km (12 miles) in optimal conditions.

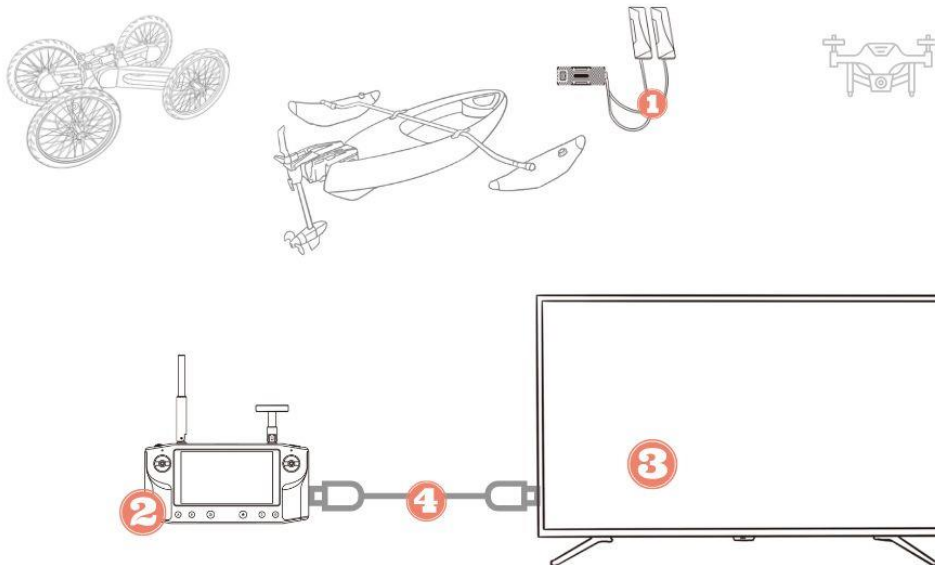
The digital transmission system used by must be based on the H.265 video codec, which provides high-quality video feedback with low latency. The system supports video resolutions of up to 1080p at 60 frames per second and can transmit both live video and recorded footage. The system also includes a bidirectional audio channel, which

allows for communication between the drone operator and any other personnel on the ground.

Digital Command Centre System is designed to be a secure and reliable system for drone control and telemetry data transmission. The system includes features such as encryption and authentication to prevent unauthorized access and redundant communication channels to ensure reliable data transmission. The system is also modular and expandable, allowing users to add new sensors or functionality as needed.

The video transmission component of the Digital Command Centre System must be based on the H.265 video codec, which provides high-quality video with low latency. The system must support a wide range of video resolutions and frame rates, including 720p at 60fps and 1080p at 30fps. The system also includes a low-latency mode that reduces video latency to less than 100ms, which is ideal for drone racing and other applications where speed and responsiveness are critical.

The digital transmission system used in Digital Command Centre System must be based on a dual-band Wi-Fi connection, which provides a high-speed and reliable link between the GCS and the unit mounted on Unmanned systems. The system must use a combination of beamforming and multiple-input multiple-output (MIMO) technology to improve signal quality and reduce latency.



warranty: 01

For any technical Clarifications contact : Dr.Pruthviraj U

Asst. Professor,, Centre for System Design, NITK Surathkal- 575025, (M): 9972797225, pruthviu@nitk.edu.in