राष्ट्रीय प्रौद्योगिकी संस्थान, उत्तराखण्ड
NATIONAL INSTITUTE OF TECHNOLOGY, UTTARAKHAND

Ref.No.:NITUK/TEQIP-III/Procurement/2019/17/(XXVIII)/ Date:18.06.2019

ORDER TO BE PLACED UNDER PROPRIETARY CERTIFICATE

National Institute of Technology, Uttarakhand is going to place order for following software under proprietary article basis. Objection(s) if any, in this regard are called upon at **teqipthird@nituk.ac.in** from party/organization latest by the 9thJuly, 2019 before 05:00 PM.

In case of no objection received from any firm/agency on or before the above mentioned date and time, then order will be placed as under:

S. No.	Item	Party (Proprietary)	Sole Authorized Distributor in Indiaauthorized to quote/sale/supply the item on behalf of OEM to the Institute doing the procurement or the jurisdiction of area covered	Qty.	Specifications
1.	Qbot	Quanser Consulting Inc., 119 Spy Court, Markham, Ontario Canada	Edutech India Pvt. Ltd. Crystal Lawn, No 20 Haddows Road, Chennai – 600006, India	01 (One)	enclosed

Sd/-
Coordinator (TEQIP-III)

Encl:
1. Copy of Specification
2. Copy of OEM certificate(s)

Specifications

S. No.	Item Description	Specifications
1.	QBOT	a) Diameter - 35 cm b) Height - 27 cm (with Kinect mounted) c) Maximum linear speed - 0.7 m/s d) Available payload app. - 4.5 kg e) Battery life – Minimum 3 hours f) On-board computer GumstixDuoVero Zephyr with integrated 802.11 b/g/n WiFi g) QUARC maximum sample rate 1,000 Hz h) Camera resolution - 640 x 480 i) Depth sensing - 11 bit j) Depth sensor range - 0.5 - 6 m k) Must have following Sensors: i. 3 digital bump sensors ii. 3 digital wheel drop sensors iii. 3 cliff sensors iv. 3-axis gyroscope v. 2 wheel encoders vi. 2 programmable LEDs vii. 2 analog motor current sensors viii. 3 digital buttons ix. 2 overcurrent sensors x. 1 Z-axis angle measurement (heading) xi. 1 battery voltage sensor xii. 1 Kinect® RGBD sensor l) Must have the following Additional I/O channels: i. 8 reconfigurable digital I/O channels ii. 4 analog input channels iii. 2 encoder input channels iv. 4 PWM output channels v. 1 SPI bus channel vi. 1 UART serial port (interface 3.3 V serial device) vii. 1 I²C serial bus channel m) The equipment must have following features: i. Customizable with off-the-shelf sensors supported by QUARC, including digital (SPI, UART, I2C) and analog sensors. ii. Mounting holes for custom sensor-mounting structures or load carrying. iii. Camera mounting structure should be with manually adjustible tilt angle for varying viewing angles iv. Low power on-board computer with Linux operating system for high-level,

		real-time decision making and task execution. v. Easy integration of additional QBot (QBot 2, Qbot) and QBall (QBall 2, QBall- X4) units vi. Fully compatible with MATLAB®/Simulink vii. Fully documented system models and parameters must be provided for MATLAB/Simulink viii. Open architecture design which allows users to design their own controllers

QUANSER
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May 9, 2019

PROPRIETARY ITEM CERTIFICATE

Quanser is the world leader in education and research-based systems for real-time control design and implementation, providing control challenges for all levels of university education and research.

We confirm that the Quanser's solutions are proprietary Control lab systems, incorporating combination of specialized hardware and control software. We are the sole Manufacturers of this system in the world. **M/s. Quanser Consulting Inc., 119 Spy Court, Markham, Ontario, CANADA L3R 5H6:**

- **Quanser Aero**
- **QBot 2e ground robot**
- **SRV02 with Ball and Beam**

We also confirm that M/s. **Edutech India Pvt Ltd** 20, 1st Street, Haddows Road, Chennai - 600006, India, is authorized to sell all our products and is our distributor in India.

Please contact the undersigned for any queries on this subject.

Sincerely,

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