



NATIONAL INSTITUTE OF TECHNICAL TEACHERS'

TRAINING & RESEARCH

CHANDIGARH-160019

(www.nitttrchd.ac.in)

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e-TENDER NOTICE

e-Tenders are invited for purchasing, installation, commissioning & training of **IoT Lab**. The bid document can be downloaded from the website of Chandigarh Administration at <https://etenders.chd.nic.in>.

1.	Tender Publish Date	25/01/2020 at 09.00 A.M.
2.	Tender Download/Sale Start Date	25/01/2020 at 09.00 A.M.
3.	Bid Submission Start Date	25/01/2020 at 09.00 A.M.
4.	Tender Download/Sale End Date	17/02/2020 at 05.00 P.M.
5.	Bid Submission End Date	17/02/2020 at 05.00 P.M.
6.	Physical submission of EMD and eligible documents (End Date)	17/02/2020 at 05.00 P.M.
7.	Bid Opening Date	18/02/2020 at 03.00 P.M.

The complete tender document is also available on NITTTR website at:- <http://www.nitttrchd.ac.in>.

Director

NITTTR Chandigarh

INSTRUCTIONS TO BIDDERS REGARDING e-TENDERING PROCESS

1. The Bidders shall have to submit their Bids online in Electronic Format Digital Signatures. For participation in the e-tendering process, the Bidders need to register themselves at <http://etenders.chd.nic.in/nicgep>. On registration, they will be provided with a user ID and a system generated password enabling them to submit their Bids online using Digital System Certificates (DSC).
2. Tenders without Digital Signatures will not be accepted by the electronic tendering system. No tender will be accepted in physical form and in case it has been submitted in physical, it shall be rejected.
3. Bids will be opened online as per time schedule mentioned in “*Terms and Conditions of the Tender*”.
4. Before submission of online bids, bidders must ensure that scanned copies of all the necessary documents have been uploaded with the bid.
5. Director, NITTTR, Chandigarh will not be responsible for any delay in online submission of bids due to any reason whatsoever.
6. Bidders should get ready with the scanned copies of EMD as specified in the tender documents. Related EMD as per the given amount in the form of a Demand Draft in favour of the Director, NITTTR, Chandigarh payable at Chandigarh/ Electronic Payment details should be submitted to Director, National Institute of Technical Teachers Training and Research, Sector-26 Chandigarh so as to reach him on or before the last date for receiving the tenders.
7. The details of EMD specified in the tender document should be same as submitted online (scanned copies). Otherwise tender will be rejected summarily.
8. The conditional bids shall not be considered and may be outrightly rejected in the very first instance.
9. The Financial Bid through e-tendering of only those bidders shall be opened who will qualify in the technical bid and are approved by the Purchase Committee/Technical Experts.
10. **The tenderers are required to upload all self-attested copies of the relevant documents required as per Terms & Conditions and Check List, failing which their bids may be summarily/outrightly rejected and will not be considered.**

TERMS AND CONDITIONS OF THE TENDER

1. The last date and time for receipt of tenders is 17.02.2020 up to 05.00 P.M. through e-tendering only.
2. Each tender must be accompanied with Earnest Money Deposit (EMD) in the shape of Demand Draft in favour of Director, NITTTR, Chandigarh payable at Chandigarh, valid for three months on any Scheduled Bank or, Electronically submitted through NEFT/RTGS in the following Bank Account:

Director, NITTTR Chandigarh
State Bank of India, Grain Market, Sector-26, Chandigarh
Account No: 55105008209
IFSC : SBIN0050116

3. The EMD amount is as shown below:

1.	IoT Lab	Rs. 30000/-
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4. The sealed envelope of EMD bearing the Advertisement No. and should be clearly superscribed as **“EMD for VR/AR Lab”** should be submitted in the office of Director, NITTTR, Sector-26, Chandigarh on or before **17/02/2020 upto 05.00PM.**
5. Those who are exempted for EMD from Government have to furnish documentary proof along with technical bid online.
6. The quantity of items and quantity indicated in the enclosed list are tentative. Director reserves the right to increase or decrease the quantity or delete some or all of the items depending on the needs of the institute.
7. The tenderer should indicate specifically the Goods and Service Tax (GST), Duties and Levies chargeable against each item if any. The Institute is entitled to custom duty exemption and concessional sales tax applicable to Educational and Research organizations.
8. The rates quoted should be F.O.R. , NITTTR Chandigarh. In case rates are chargeable at any other place, the packing and forwarding charges should be clearly mentioned indicating the mode of transport and insurance during transit.
9. The tenderer should clearly indicate the delivery period and validity period of the offer.
10. The tenderer should clearly indicate the availability of service and maintenance facilities at Chandigarh for the items quoted.
11. The above mentioned details particularly the Goods and Service Tax (GST) number, any other levies/charges, if not quoted properly, the bid can be cancelled. Conditional/doubtful bids will also be liable for cancellation. **[If the Goods and Service Tax (GST), any other levies/charges are not possible to enter in online tender, kindly quote your price inclusive of all taxes]**

12. Any attempt direct or indirect, to cast influence, negotiation on the part of the tenderer with the officials/authority to whom he/she will submit the tender or the tender accepting official/authority before the finalization of tenders will render the tenderer liable for exclusion from consideration.
13. The requirements of the Institute in terms of category of equipment, detailed specifications and quantity are given in SCHEDULE OF TECHNICAL SPECIFICATION / REQUIREMENT (As per Annexures I). Director, NITTTR reserves the right to change the quantity for any/all items without assigning any reason.
14. The Tender must be submitted along with the copies of:
 - EMD in favor of Director NITTTR Chandigarh
 - Manufacturers Licence or Authority from the Manufacturer (if applicable)
 - Latest Income Tax Clearance Certificate
 - GST Number from Govt.
 - Certificate of Non Blacklisting from Magistrate/ Competent Authority
 - PAN or TAN
 - Balance Sheet of last three year (if applicable)
 - Product Specification/ Brochure
 - Tender Document duly signed
14. The Director reserves the right to reject any or all tenders without assigning any reason whatsoever.
15. The tenders will be opened on the date and time indicated in the presence of tenderers if any present on the occasion.
- 16. The tenders not accompanied by Earnest Money or incomplete in any respect will be rejected outrightly.**
17. No advance payment or payment against performa invoice will be made. Payment will be made after receipt, installation and testing of items, to the satisfaction of the authorized representative(s) of the Director.
18. In case, the item(s) is to be imported for supply, irrevocable letter of credit will be opened with the Bank. The Institute's Banker is State Bank of India, Extension Counter, Chandigarh College of Engineering and Technology, Sector-26, Chandigarh – 160019
19. All damaged or unapproved goods shall be returned at the risk and cost of the Tenderer and the incidental expenditure thereupon shall be recovered from them.
20. This institute is recognized as R&D institute and is exempted from Excise Duty. The quoted prices must be mentioned showing Excise Duty separately.
21. Training for the operation of equipment's, if any, shall be provided by the firm free of cost to the faculty/other staff of the institute.
22. The Equipment/Machinery will be maintained free of charges during the warranty period as on the terms and condition of the tender or Annexures.

23. Instructional materials and **e-manuals** will be uploaded by the supplier free of cost.
24. The bidder must fill the Check List from the authorized signatory only with the seal of the firm.
(As per Annexure-II)
25. There is No pre-bid meeting for this tender/bid.

Annexure I

TECHNICAL SPECIFICATIONS OF IoT Lab under Project SEBOT

S. No.	Technical Specification	QTY.
1	<p>Zigbee Cloud Kit</p> <ul style="list-style-type: none"> • Can bring wireless Internet connectivity to their ZigBee networks of devices through Gateway. • Popular choice for a wide range of field applications that require low-power, medium range, flexible networking that is easy to install, configure and maintain • Offers its own XBee ZigBee Gateway, a wireless way for dozens of XBee ZigBee devices to connect transparently to the Internet. <p>The Kit Includes:</p> <ul style="list-style-type: none"> • 1 XBee Gateway – ZigBee to Ethernet/Wi-Fi • 1 XBee-PRO® ZigBee 2.4 GHz module • 1 development board w/breadboard • Cables and power supplies <p>Basic prototyping components</p> <ul style="list-style-type: none"> – LED gauges – Jumper wires – 10K ohm resistors – Vibration motor – Temp sensor – Audio buzzer – Potentiometer <p>Sample web application (runs on Heroku)</p> <ul style="list-style-type: none"> – Completely open source for easy customization – Configurable widgets – Integrated with Digi Device CloudSM 	1
2	<p>Starter Kit - IoT Edition</p> <p>Features</p> <p>Various sensors and actuators for rapid prototyping</p> <p>Plug-and-play modules</p> <p>Works on lots of Arduino Compatible Boards</p> <p>Button: 2</p> <p>Sound Sensor : 2</p> <p>3-Axis Digital Accelerometer(±1.5g) : 2</p> <p>Touch Sensor: 2</p> <p>Light Sensor: 2</p> <p>Temperature Sensor: 2</p> <p>Rotary Angle Sensor(P) : 2</p> <p>Pieze Vibration Sensor: 2</p> <p>LCD RGB Backlight: 2</p> <p>Buzzer: 2</p> <p>Green LED: 2</p> <p>Blue LED: 2</p> <p>Red LED: 2</p> <p>Gear Stepper Motor with Driver: 2</p>	1

	<p>Base Shield V2: 2 12V 2A American Standard AC/DC Power Adaptor: 2 British Standard Plug Converter: 2 European Standard Plug Converter: 2 Australian Standard Plug Converter: 2 Micro USB Cable: 2</p>																																			
3	<p>IoT Commercial Developer Kit</p> <p>Processor Intel® Atom™ processor E3815 (512KB Cache, 1.46 GHz) Graphics Intel® HD Graphics (up to 400 MHz). Internal support for 2.5-inch HDD or SSD Storage Built-in 4 GB eMMC device Expansion Up to 8 GB of 1333/1600 MHz DDR3L memory via SO-DIMM slot · Half-length mini PCIe* slot I/O USB 3.0 port · Five USB 2.0 ports (2 back, 3 internal) · HDMI* port · VGA port · Embedded Display Port · Headphone/microphone jack · Intel® Gigabit LAN Suggested-Use Models Thin client · Digital signage · Attach to back of monitor (All-in-One)</p> <p>Features</p> <ul style="list-style-type: none"> • Built-in Intel® IoT Gateway Software Suite in Intel® NUC Kit DE3815TYKE • sensors and actuators for rapid prototyping · Plug-N-play system • Easy-to-use base shield for Arduino/ Genuino 101 • Part List <table border="1" data-bbox="339 1178 1232 1822"> <tr><td>Intel® NUC Kit DE3815TYKE with 4G Memory</td><td>2</td></tr> <tr><td>Button</td><td>2</td></tr> <tr><td>Sound Sensor v1.2</td><td>2</td></tr> <tr><td>Touch Sensor</td><td>2</td></tr> <tr><td>Light Sensor v1.2</td><td>2</td></tr> <tr><td>Temperature Sensor v1.1</td><td>2</td></tr> <tr><td>Rotary Angle Sensor(P)</td><td>2</td></tr> <tr><td>Piezo Vibration Sensor</td><td>2</td></tr> <tr><td>LCD RGB Backlight</td><td>2</td></tr> <tr><td>Buzzer</td><td>2</td></tr> <tr><td>Red LED</td><td>2</td></tr> <tr><td>Green LED</td><td>2</td></tr> <tr><td>Blue LED</td><td>2</td></tr> <tr><td>Gear Stepper Motor with Driver</td><td>2</td></tr> <tr><td>Base Shield v2</td><td>2</td></tr> <tr><td>26AWG Cable</td><td>8</td></tr> <tr><td>B to A Type USB Cable – 0.5m</td><td>2</td></tr> </table>	Intel® NUC Kit DE3815TYKE with 4G Memory	2	Button	2	Sound Sensor v1.2	2	Touch Sensor	2	Light Sensor v1.2	2	Temperature Sensor v1.1	2	Rotary Angle Sensor(P)	2	Piezo Vibration Sensor	2	LCD RGB Backlight	2	Buzzer	2	Red LED	2	Green LED	2	Blue LED	2	Gear Stepper Motor with Driver	2	Base Shield v2	2	26AWG Cable	8	B to A Type USB Cable – 0.5m	2	2
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4.	<p>Starter Kit for LinkIt ONE</p> <ul style="list-style-type: none"> • Starter Kit for LinkIt ONE is a theme package for IoT (Internet of Things). • Designed to help you get an idea of IoT city and turn it into reality. • Includes many of the most popular plug-n-play modules for IoT city projects. • The modules range from Dust Sensor to UV Sensor, Temperature & Humidity Sensor, and Barometer Sensor etc.,. <p>Part List</p> <p>Dust Sensor Temperature & Humidity Sensor Pro Sound Sensor UV Sensor Barometer Sensor Light Sensor 3-Axis Digital Accelerometer(±16g) Led Bar Servo Touch Base Shield Guide</p>	1
5.	<p>ARDUINO STARTER KIT</p> <p>Customized Sensors Modules Direct fix in to ARDUINO Ready code for</p> <ol style="list-style-type: none"> 1. Distance Measurement 2. Compress Air Pressure leak detection 3. LPG Gas Detection. 4. Remote Control Switching of RGB LED Module <ul style="list-style-type: none"> • Distributor board which helps to reduced hardware Burdon for Connect LCD and Arduino without any cable. • Seven Segment Module will Direct fix in ARDUINO to check instant output of projects. • Less hardware uses for pin mapping of LCD and RFID Module with ARDUINO only 6 pins uses for both. 	1
6.	<p>Arduino Compatible IOT Internet of Things Kit</p> <p>A complete set of IOT internet of things kit with Arduino UNO R3 and ethernet shield and ESP8266</p> <p>Arduino-Uno-IoT-Internet-of-Things-All-in-one-Kit-15-Major-IoTcomponents</p> <p>Package Include:</p> <ol style="list-style-type: none"> 1. Arduino Uno R3 (original italian made), 1 piece. 2. W5100 Ethernet Shield: 1 piece. 3. ESP 8266 WI-FI module, 1 piece. 4. Temperature Sensor (LM 35), 1 piece. 5. Light Sensor (LDRS), 2 pieces. 6. Bread board 400 pins, 1 piece. 7. Jumper Wires M-M: 20 pieces. 8. Relay 5V, 1 piece. 	1

	<ol style="list-style-type: none"> 9. Trim pot 10K, 1 piece. 10. Diode IN4007, 5 pieces. 11. Resistor 220ohm, 10k ohms each 10 pieces. 12. LEDS (red, green yellow) each 5 pieces. 13. Network RJ 45 1 piece. USB cable (Type A-B) 1 piece. 14. Battery holder 1 piece. 15. Breadboard Power Supply: 1 piece. 16. NRF 24LO1 module. 1 piece. 17. RGB 1 piece. 18. HC SR-04 ultrasonic sensor 1 piece. 19. PIR sensor 1 piece. 20. IR sensor 1 piece. 21. Battery snaps 1 piece. 22. Switches 5 pieces 	
7.	<p>Edge Gateway</p> <p>1 Intel Atom E3827 1.75GHz + 4GB DDR3L-1333MHz (Soldered on V3 D1 CPU Stepping Motherboard)</p> <p>1 64GB Solid State Drive SATA (2280)</p> <p>1 Wireless 802.11n LAN LBEE5ZZ1EN Radio Label</p> <p>1 Mobile Broadband (WWAN) Radio Label for Edge Gateway.</p> <p>1 WWAN and WLAN Host Label for Edge Gateway.</p> <p>1 Phoenix adapters kit for Edge Gateway (Connectors include RS232,1xRS422/RS485, 2xRS485)</p> <p>1 Wireless 802.11n LAN LBEE5ZZ1EN Card, ROW</p> <p>1 3G 5580 Mobile Broadband Card for Edge Gateway.</p> <p>1 Wall Mount for Edge Gateway.</p> <p>Software</p> <p>1 Ubuntu Core 16</p> <p>1 EDM FI Agent Ubuntu Core</p>	2
8.	<p>BeagleBone Black</p> <ul style="list-style-type: none"> • 1Ghz cortex-a8 processor with 512mbyte ddr3l • Micro hdmi, micro sd, usb host + client, 10/100 ethernet, 5v • 4Gb emmc preloaded with debian linux • 512Mbyte ddr3l • A true open hardware, community-supported embedded computer for developers and hobbyists. • Boots linux and get started on development in less than 5 minutes with just a single usb cable. <p>Core architecture: arm.</p> <p>Core sub-architecture: cortex-a8.</p> <p>Features:</p> <ul style="list-style-type: none"> • 3d graphics/neon floating-point accelerator • 4gb emmc on-board flash storage • USB interface. • Kit contents: dev board am3358, usb cable. • No. Of bits: 32bit. • Silicon core number: am3358. • Silicon family name: sitara - am335x. • Silicon manufacturer: texas instruments. 	2

9.	<p>Intel Galileo</p> <ul style="list-style-type: none"> • Microcontroller board based on the Intel® Quark SoC X1000 Application Processor, • 32-bit Intel Pentium-class system on a chip • Board based on Intel® architecture designed to be hardware and software pin-compatible with Arduino shields designed for the Uno R3. • Digital pins 0 to 13 (and the adjacent AREF and GND pins) • Analog inputs 0 to 5 • Operate at either 3.3V or 5V • Core operating voltage 3.3V • A full sized mini-PCI Express slot, 100Mb Ethernet port, MicroSD slot, RS-232 serial port, USB Host port, USB Client port, and 8MByte NOR flash come standard on the board. 	1
10.	<p>Intel Edison Module</p> <ul style="list-style-type: none"> • Intel® graphics drivers and software, compatibility, troubleshooting, performance and optimization • Processors (Intel® Core™, Intel® Xeon®, etc); processor utilities and programs (Intel® Processor Identification Utility, Intel® Extreme Tuning Utility, Intel® Easy Streaming Wizard, etc.) • Data Center Products including boards, integrated systems, Intel® Xeon® Processors, and RAID Storage • Support for Intel® Compute Sticks and Cards • Support for Intel® NUC products • Support for BIOS and Driver Issues on Intel® NUC Products • Support for Graphic Issues on Intel® NUC Products • Support for Wireless and Bluetooth Issues on Intel® NUC Products • Support for Boot Issues on Intel® NUC Products • Peer-to-peer support only • Includes Intel® AMT/SCS/Manageability Commander • Support for key Deep Learning Frameworks and Libraries optimized for Intel Hardware <p>I/O Specs # of USB Ports: 1 USB Revision USB 2.0: 1 USB 2.0 Configuration (External + Internal): 1 USB 3.0 Configuration (External + Internal): 0 # of Serial Ports: 2 Serial Port via Internal Header: Yes Audio (back channel + front channel): 1 I2S Integrated LAN: No Integrated Wireless†: Yes, 802.11n</p>	2
11.	<p>Open Mote</p> <ol style="list-style-type: none"> 1. Micro-Controller <ol style="list-style-type: none"> 1.1. ARM Cortex-M3 with code pre-fetch <ul style="list-style-type: none"> • Running at 16 MHz or 32 MHz • 32 Kbytes RAM • 512 Kbytes FLASH 1.2. On-chip peripherals: <ul style="list-style-type: none"> • 4x general purpose, 1x sleep timer • 1x 12 bit ADC with 8 channels • 2x SPI, 2x UART, 1x I2C 1.3. Security hardware acceleration: 	5

	<ul style="list-style-type: none"> • AES-128/256/SHA2 encryption • ECC-128/256 secure key exchange <p>1.4.Low-power operation:</p> <ul style="list-style-type: none"> • Active mode: 7/13mA (16/32 MHz) • LPM1: 600uA (full retention, 4us wake-up) • LPM2: 1.3 uA (16 Kbyte RAM retention, 128us wake- up, wake-up from RTC) • LPM3: 0.4 uA (16 Kbyte RAM retention, 128us wakeup, wake-up from GPIO) <ul style="list-style-type: none"> • Transceiver 1 Operates in the 2.4 GHz ISM band with support for IEEE 802.15.42006 • Transceiver 2 (ATMEL, AT86RF215) Operates in the 868/915MHz and 2.4 GHz ISM bands with support for IEEE 802.15.4g-2012 	
12.	<p>Waspote Starter Kit</p> <p>This kit includes:</p> <p>x1 Waspote 802.15.4 PRO uFL (since 25th August until stocks last)</p> <p>x1 Waspote Gateway 802.15.4 PRO uFL (since 25th August until stocks last)</p> <p>x1 2300 mAh LiPo Battery</p> <p>x1 mini USB Cable</p> <p>The modules available for integration in Waspote are categorised in:</p> <ul style="list-style-type: none"> -ZigBee:/802.15.4 modules (2.4GHz, 868MHz, 900MHz).Low and high power. - GSM - 3G/GPRS Module (Quadband: 850MHz/900MHz/1800MHz/1900MHz) - Sensor Modules (Sensor boards) - Storage Module: SD Memory Card - GPS Module 	2
13.	<p>Zolertia-RE-Mote</p> <p>The Professional Pack includes:</p> <ul style="list-style-type: none"> • 10 x the amazing RE-Mote Internet of Things hardware. • 10 x Multiband antenna. • 10 x White Zolertia® RE-Mote enclosure. • Phidgets (x2) and Ziglet (x1) connectors in each Re-Mote. • 6 x micro USB cable. 	2

Annexure II

CHECK LIST DULY FILLED IN TO BE ATTACHED WITH PRE-QUALIFYING- CUM-TECHNICAL BID FOR THE MACHINERY/EQUIPMENT/SERVICES FOR NITTTR CHANDIGARH

- | | | |
|----|--|--------|
| 1. | Whether EMD in the shape of Demand Draft valid for three months, for the asked-for amount attached? | Yes/No |
| 2. | Whether tender document duly signed by authorized signatory Attached? | Yes/No |
| 3. | Whether a list of institutions / organizations where your firm has supplied this item / equipment / instrument / services recently, is Attached. | Yes/No |
| 4. | If you are an authorized agent / dealer / distributor of the firm / company / manufacturer and whether authority Letter as issued by them in your favour attached? | Yes/No |
| 5. | Whether Technical brochure of the equipment/services attached? | Yes/No |

Note :- If Yes, must attach all relevant documents.

**Signature of authorized signatory
with seal of the firm**