



INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR KHARAGPUR – 721302

SUB:PROCUREMENT OF ACCESSORIES

Tender Notice No. IIT/EE/OTG/SM/ACC/2018-19/04 Date: 28.12.2018

Indian Institute of Technology Kharagpur, an Institute of National Importance, invites sealed quotations from reputed Original Equipment Manufacturers (OEMs) or their Authorized representatives & General Suppliers for the supply of **Accessories** for the Department of Electrical Engineering.

Interested vendors are requested to send their sealed bids under a **two cover system** as per requirement mentioned in tender document, along with the Technical Specifications & Compliance Certificate (as mentioned in **Annexure – I**) of the tender document.

Details are also mentioned in the Institute website www.iitkgp.ac.in [link: **Tenders**].

The proposal has to be sent in a sealed packet, containing two separate sealed envelopes (**Technical Bid** and **Price Bid**) duly superscripted with Reference Number (**Tender Notice No. IIT/EE/OTG/SM/ACC/2018-19/04** Date: **28.12.2018**) and **Serial Numbers of the Items Quoted for**, to the office of Prof. Siddhartha Mukhopadhyay, Department of Electrical Engineering, Indian Institute of Technology, Kharagpur, P.O. Kharagpur Technology, PIN: 721302 **on or before 17.01.2019 at 3.00 pm.**

The **technical bids will be opened on 17.01.2019 at 4.00 pm** in the Office of Prof. Siddhartha Mukhopadhyay, Department of Electrical Engineering, IIT Kharagpur in the presence of the vendors/ or their authorized representatives. Price bids will be opened (to be notified separately) only of those firms, who will be found technically qualified/short listed, after evaluation of their technical bids.

Prof. Siddhartha Mukhopadhyay
PI, CNE_OTG, IIT Kharagpur

Encl: Annexure – I & II

Copy to:

1. Institute website
2. Jt. Registrar (Stores & Purchase)
3. CPP Portal
4. Chairman, Purchase Committee
5. Notice Board

Procurement of Accessories

It will consist of the accessories as per the specifications given in **Annexure I**.

TERMS AND CONDITIONS

1. Technical bid should contain all relevant technical details; printed technical leaflet of models quoted and other details, which may be necessary to ensure that the offer is complete in all respects, e.g., technical specifications, etc.
2. Technical bid should also contain a Compliance Certificate duly signed by the bidder.
3. PRICE may be quoted either in INR or in foreign currency. Where tenderer intends to quote in Indian Rupees (INR), the price should be quoted "FOR IITKharagpur" basis. The price should be all inclusive including GST. The unit price without tax and the tax breakups should be shown separately for each item (if applicable). Prices for software components, if any, must be shown as separate line items.
4. IITKharagpur is registered under DSIR, Govt. of India. GST rate for scientific goods is 5% as per the Notification No. 47/2017 - Integrated Tax (Rate) dated 14th November, 2017. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder. Where tenderer intends to quote in foreign currency FCA/FOB source port price by Air/Sea to be quoted. In case of comparison between FOR IITKharagpur (quoted in INR) and FOB/FCA price (quoted in foreign currency) 20% will be added on FOB/FCA price after conversion to INR.
5. IITKharagpur is eligible for exemption for payment of Customs Duties in terms of Government of India Notification No.51/96-Customs dated 23.07.96. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder.
6. Item wise L1Bidder will be decided based on the price of the item mentioned in the specification.
8. Payment Terms: 100% Payment shall be made after delivery and successful installation / testing of the Accessory duly certified by PI, CNE_OTG.
9. Warranty:OEM warranty, at least 12 months from the date of successful installation of the equipment.
10. Delivery Period:The equipment should be supplied within 8 weeks from the date of receipt of the Purchase Order.
11. Liquidated Damage: In the event of failure to deliver the stores beyond the specified date, liquidated damages @ 1% per month or part thereof in respect of the value of stores will be deducted, subject to a maximum of 5%; alternately the order will be cancelled and the undelivered stores purchased from elsewhere at the risk and expense of the vendor.
12. Earnest Money Deposit (EMD): An amount of Rs. 10,000.00 (Rupees ten thousand) only (Refundable) in the form of Demand Draft drawn in favour of "Indian Institute of Technology Kharagpur", payable at Kharagpur or Bank Guarantee as per format at Annexure-II is to be submitted. After price bid opening and selection of item-wise L1 bidder(s), 2% of the order value (for the particular bidder) minus Rs. 10,000.00/- (rounded off to the next thousand) would have to be deposited by the bidder(s) before processing of the purchase order. EMD should be enclosed separately in an envelope and stapled with the Technical Bid document superscribed with the tender no. The validity of the EMD should be 6 (six)

months from the date of issue. Any bid without EMD will summarily be rejected. No interest is payable on EMD. EMD will be refunded to the unsuccessful bidder after finalization of the tender process. No interest is payable on Security Deposit. Security Deposit shall be forfeited if the selected vendor fails to execute the contract after receiving the same.

[NOTE: IITKharagpur will give exemption for submission of tender fee and EMD who are registered with MSME or Central Purchase Organization or startups as recognized by DIPP as per revised rule 170 of GFR-2017 only. However proper and valid document in this regard must be submitted by the bidders in support of their claim.]

13. Bid Submission: Technical Bid and Price Bid should be submitted in two separate sealed envelopes quoting reference number and Serial Numbers of the Items Quoted for, on the top of the envelope. Technical bid should have a copy of the price bid with costs blanked out. Tender Fee and EMD should be enclosed with the Technical Bid documents, in separate sealed envelopes, stapled with the packet containing Technical Bid documents.
14. Acceptance of Tender: The authority of IIT, Kharagpur reserves the right to accept/reject any or the entire tender bids received without assigning any reason thereof.
15. Conditional offer will not be accepted.
16. Period of Validity: Bids shall remain valid for acceptance for a period of 120 days from the date of opening of the price bid. The benefit of downward prices (revision on account of budget/financial policy, tax revision, etc.) should be given to IIT Kharagpur by the selected OEM/vendor.
17. Past performance of the vendors will be judged at the time of Technical Evaluation.
18. The Institute does not bind itself to offer any explanation to those bidders whose technical bids have not been found acceptable by the Technical Evaluation Committee of the Institute.
19. Bidders should enclose the following documents:
 - i. Earnest Money Deposit (EMD).
 - ii. Certificate of Registration/Trade License.
 - iii. PAN number and GST registration number.
 - iv. IT returns for the last three years.
 - v. Copy of product literature technical leaflet, wherever applicable for which the prices have been quoted should invariably be enclosed.
 - vi. Signed copy of the tender document, with company seal, agreeing to the terms & conditions and declaration.
20. **All tenders are to be submitted or handed over to the office of Prof. Siddhartha Mukhopadhyay, Department of Electrical Engineering, IIT Kharagpur.** The bids (technical and price bids) once submitted shall be the property of the Institute and shall not be returned to the vendor in future.
21. **The person/officer signing** the tender/bid documents should be delegated with an appropriate authority.
22. **Opening of Price Bids:** The Price Bid(s) of only those vendor(s) who are found technically qualified will be opened and the same will be opened before the technically qualified vendor(s). **The date for opening of price bids will be notified separately.**
23. Bidder or his/her authorized representative (with proper authorization letter for opening of technical bids and also for opening of price bids) may choose to be present at the time of opening of Technical Bids/Price Bids.

24. The addendum/corrigendum if any shall be published on Institute's Website and on CPP Portal.
25. The Institute at its discretion may change the quantity at any time before placing the order.
26. Copy of mandatory test reports, national testing/reliability and endurance test reports etc., certified or conducted at the manufacturing site, granted by the bureaus/quality control departments/national testing laboratories, as appropriate, should be enclosed.
27. Deviation from Specifications: It is in the interest of the tenderer to study the specifications in the tender schedule thoroughly before quoting so that, if the tenderer makes any deviations, the same are prominently brought out in the body of the tender. If you need to add any optional items to your system in order to meet our specifications, you are requested to quote for the total including the option required to suit our requirements. Otherwise, your tender will not be considered at all.
28. Guarantee: The tenderer has to declare that the goods sold to the buyer under this contract shall be of the best quality and workmanship and shall be strictly in accordance with the specifications.
29. Jurisdiction: All questions, disputes, or differences arising under, out of or in connection with the contract, if concluded, shall be subject to the exclusive jurisdiction at the place from which the acceptance of Tender is issued i.e. Jurisdiction of KOLKATA HIGH COURT. Acceptance to this effect is also necessary at the time of opening of Technical Bid.
30. Agency Commission, if any will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances.
31. **Tenderer(s), who are Indian Agents of OEMs:**
- (a) Bidders should enclose / furnish the following documents / details:
- Port of shipment and Country of origin is to be provided for each item.
 - Purchase order to be placed on: Should be mentioned in the quotation with full address.
 - Complete address and tele links for contact persons of principals and Indian agent offices dealing with this purchase.
 - Name and full address of the OEM's Banker and their swift code.
- (b) Should furnish a clear declaration as follows: We declare that I am/we are Accredited Agents of the suppliers aboard. DGS&D enlistment certificate needs to be attached (applicable only for the Indian Agents)

31. **Important**

- (a) Bid submitted with false information will not only be rejected but also the OEM/vendor will be debarred from participation in future tendering process.
- (b) The OEMs/Vendors need to submit a certificate that they are not currently debarred or blacklisted in IIT Kharagpur for any supplies, products or services, or at present in any national organization or educational institute/university.
- (c) In case of any dispute, the decision of the Director of this Institute shall be final and binding on the bidders.
- (d) For any query pertaining to this bid document, correspondence be addressed to:

Prof. Siddhartha Mukhopadhyay,
Department of Electrical Engineering
Indian Institute of Technology, Kharagpur 721302

siddhartha.mukhopadhyay@gmail.com / patrashamit@yahoo.com

- (e) In case the due date for submitting tender **happens to be a holiday, the same will be accepted on the next working day.** The timings will however remain unchanged.
Please Note that the Institute remains closed during Saturdays & Sundays.

Annexure I

Sl.	Item	Specification	Qty
1	TySOM-3 Development Board	Embedded development board (TySOM-3-ZU7EV), Dual-core/Quad-core ARM Cortex-A9 APU& 1GB DDR3 memory, x4 automotive wide lens 192-degree HDR Blue Eagle cameras and 1x 52-degree 4x cable 60 Inches (1.5 meter) and 4x cable 200 inches (5 meter) FMC-ADAS with 5 camera connectors based on DS90UB914Q deserializers, ultrasonic and LIDAR sensor connectors and a buzzer device	1
2	R-Car Starter Kit Premier H3	Arm CA57 (Armv8) 1.5 GHz quad core, with NEON/VFPv4, L1 cache I/D 48 K/32 K, L2 cache 2 MB, Memory controller for LPDDR4 4 GB in 2 channels, each 64-bit wide, 64 MBytesHyperFlash, 16 MBytesQSPI flash, 8 GByteeMMC, CN1 expansion connector 440-pin External power supply 5V / 4A-8A	1
3	DesignCore TDA3x Automotive Starter Kit	Texas Instruments TDA3x SoC Processor, FPD-Link™ III video inputs (4), HDMI video display output, HDMI video input Ethernet, CAN bus, and serial connectivity, Single DesignCore D3RCM-OV10640-953 Rugged 194 degree 1.3MP Camera Module	1
4	Inertial Sensor	IMU sensor system with 1) 3-axis 16-bit MEMS accelerometer LIS331DLH 2) 3-axis 16-bit MEMS gyroscope L3G4200D 3) 3-axis 10-bit Magnetometer HMC5883L Pitch -90deg to +90deg, Roll -180deg to 180deg, Yaw (absolute heading) 0deg at magnetic north -180deg to 180deg, Automatic tilt compensation for absolute heading (digital compass), UART communication	2
5	GPGPU Vision Prototype Kit for ADAS	Processor: S32V234 Processor with Linux BSP for SBC-S32V234 <ul style="list-style-type: none"> • Quad Arm Cortex-A53 cores running up to 1GHz, Plus M4 core up to 133MHz • Dual APEX-2 vision accelerator cores enabled by OpenCL™, APEX-CV and APEX graph tool • Supports ISO 26262 functional safety up to ASIL-C, IEC 61508 and DO 178 applications • 3D GPU (GC3000) with OpenCL 1.2 EP 2.0, OpenGL ES 3.0, OpenVG 1.1 • Hardware security encryption on CSE2 • Embedded Image Sensor Processing (ISP) for HDR, color conversion, tone mapping, etc. enabled by ISP graph tool • MIPI CSI2 and parallel image sensor interfaces • 4MB on chip system RAM with end to end ECC on all memories • DRAM controller support for DDR3 / DDR3L / LPDDR2 • -40°C to 125°C (junction temperature) operation • Interfaces and Peripheral: <ul style="list-style-type: none"> • Video input (2 x MIPI-CSI2) • Video Output (RGB to HDMI converter) • Gigabit Ethernet • 2GiB DDR Memory plus SD card slot and 16 GiBEMMC for NVM • 1x PCIE 2.0 • 2x CAN, 1x LIN and 1x UART • Up to 8 ADC channels • 2 user LEDs • Reset • 10 pin JTAG debug connector 	1

6	Xilinx ZynqUltraScale+ MPSoC ZCU104 Evaluation Kit	Configuration: USB-JTAG FT4232H, Dual Quad-SPI flash memory, MicroSD Card, PS DDR4 64-bit Component, Quad-SPI flash, Micro SD card slot, 4x directional pushbuttons, DIP switches, PMBUS, clocks, and I2C bus switching, USB2/3, FMC LPC (1x GTH), 3 PMOD connectors, PL DDR4 SODIMM Connector – 64 bit, USB-UARTs with FT4232H, JTAG/3xUART Bridge, RJ-45 Ethernet connector, SATA (M.2) for SSD access, HDMI 2.0 video input and output (3x GTH), DisplayPort (2x GTR), Programmable clocks, System clock, user clock, Jitter attenuator	1
7	Graphics Card	NVIDIA TITAN V, Volta architecture, At least 5120 CUDA Core or higher, 12288 MB HBM2 video memory	1
8	Graphics Card	NVIDIA RTX 2080TI, At least 4352 CUDA Core, 11 GB of GDDR6 Memory or better	1
9	Graphics Card	NVIDIA Quadro P6000, Pascal architecture, At least 3840 CUDA Core or higher, 12 GB of GDDR5X Memory	1
10	USB KVM Switch with all necessary cables	It should have a minimum of 8 ports. Connect computers via PS/2 and/or USB. Supports Linux and Windows operating systems. Support resolution up to 1920 x 1080. Hot-pluggable: all devices connected to KVM can be added or removed at any time without shutting down the devices. Easily switch between connected devices with: Hardware Push Button, Hot-Keys on PS/2 and/or USB keyboard, OSD menu. Supports LED display for PC and/or server status monitoring. Rack mountable in 19" rack (1U).	1
11	Rack Console	1 each of (a) 19 inch or higher LED monitor, (b) USB keyboard and (c) USB mouse (to be placed in rack)	1
12	Rack	36U floor standing. Width 600mm, Depth 1000mm. Tray for Rack Console. Rack should have redundant cooling fans and IEC power distribution units. Front Door with Toughened Glass quality. Removable side panels with ventilation provision. Castor wheels set of 4 with front wheels Brake provision. Adjustable mounting slots. Cable insertion on top and bottom panels to provide easy cable entry. Compatible with 19" International standards.	1
13	STMicroelectronics STM32F769I Evaluation Board	STM32F769NI microcontroller with 2-Mbyte Flash memory and 512+16+4-Kbyte RAM in BGA216 package, 2-Gbyte (or more) SDIO interface microSD card, Four I2C interfaces, RS-232 communication JTAG/SWD and ETM trace debug support, ST-LINK/V2-1 embedded IEEE-802.3-2002 compliant Ethernet connector, 8Mx32bit SDRAM, 1Mx16bit SRAM and 8Mx16bit NOR Flash, 512-Mbit Quad-SPI NOR Flash, 2Gx16bit NAND Flash interface to connect NAND Flash module, Camera module	1
14	LattePanda Alpha 864 - Single Board Computer	Intel 7th Gen Core m3-7y30 CPU, 1.6GHz to 2.6GHz Dual-Core, Four-Thread, Intel HD Graphics 615, 300MHz to 900MHz, 8G LPDDR3 1866MHz dual-channel RAM, 64GB eMMC V5.0I memory With/without Pre-installed Licensed edition of Windows 10	2
15	Intel Neural Compute Stick 2	Processor: Intel® Movidius™ Myriad™ X Vision Processing Unit (VPU), Supported frameworks: TensorFlow and Caffe, Connectivity: USB 3.0 Type-A, Compatible operating systems: Ubuntu 16.04.3 LTS (64 bit), CentOS 7.4 (64 bit), and Windows10 (64 bit)	6
16	NVIDIA JetsonAGX Xavier	Octal-core NVIDIA Carmel ARMv8.2 CPU @ 2.26GHz, 512-core Volta GPU @ with 64 Tensor Cores, Dual Deep Learning Accelerator (DLA) engines, 16GB 256-bit LPDDR4x @ 2133MHz (137GB/s), 32GB eMMC 5.1, Vision Accelerator engine, (4x) 4Kp60 H.264/H.265 video encoder, (2x) 8Kp30 / (6x) 4Kp60 H.264/H.265 video encoder, (16x) MIPI CSI-2 lanes, (8x) SLVS-EC lanes up to 6	1

		active sensor streams and 36 virtual camera channels, (5x) PCIeGen 4 controllers 1x8, 1x4, 1x2, 2x1 (3x) Root Port & Endpoint (2x) Root Port, (3x) USB 3.1 + (4x) USB 2.0, (3x) eDP 1.4 / DP 1.2 / HDMI 2.0 @ 4Kp60, 10/100/1000 BASE-T Ethernet + MAC + RGMIIPHY, Dual CAN bus controller, UART, SPI, I2C, I2C, GPIOs	
17	Graphics Card	NVidia Quadro P4000, Pascal architecture, At least 1792 CUDA Core or higher, 8 GB of GDDR5X Memory	1
18	Lidar	Range: 80m or more, Accuracy: +/- 5cm or better, Horizontal FOV: 360 degree, Vertical FOV: +/- 10 degree or better, Horizontal angular resolution: About 0.2 degree or better, Vertical angular resolution: About 2 degrees or better, Sample rate: About 300000 per second or more, Communication: Ethernet / UART, Rotation rate: 20Hz or better, Channels: 8 or more, Laser: Class I (eye safe), Protection: IP66 or better	1
19	Long Range Automotive Radar Sensor	Operating Frequency: 76-77 GHz Detection Range: About 0.5–200 m Accuracy: 0.2m or better Field of view: About 10 degrees at full range Update Rate: About 60-70ms	1
20	Mid Range Automotive Radar Sensor	Operating Frequency: 24-25 GHz or 77-76 GHz Detection Range: About 0.5–100m Accuracy: 0.2m or better Field of view: About 10 degrees at full range Update Rate: About 50-70ms	1

ANNEXURE – II

MODEL BANK GUARANTEE FORMAT FOR FURNISHING EMD

Whereas(hereinafter called the "tenderer") has submitted their offer dated for the supply of (hereinafter called the "tender") against the purchaser's tender Notice No.

KNOW ALL MEN by these presents that WE of having our registered office at are bound unto (hereinafter called the "Purchaser") in the sum of for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this Day of 20

THE CONDITIONS OF THIS OBLIGATION ARE

- (1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:
 - (a) If the tenderer fails to furnish the Performance Security for the due performance of the contract.
 - (b) Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name & address of the Bank and address of the Branch