Enquiry No – CE/TE/TRBD/04/15   Date: 23/02/2015

Sub: Real Time Based Data Acquisition System and Data Integrator with Sensors for Research in Transportation Engineering

Dear Sir,

Please send sealed quotation(s) with two bid systems in Indian rupees with **all technical details** of,

S. No	Name	Qty	Specification
1.	Real Time Based Data Acquisition System and Data Integrator with Sensors for Research in Transportation Engineering	01	A real time, modular data acquistion system to interface with multiple sensors on a real world moving vehicle (as described below) to collect the data from around and inside the vehicle to understand the driver behaviour w.r.t trasnport engineering. The hardware selected to build this system should satisfy the following minimum conditions. Real Time Controller with following specifications (1 Quantity) • High-performance multi-core system for intense embedded monitoring and control applications • 1.33 GHz dual-core Intel Core i7 processor or better, 32 GB nonvolatile storage or better, 2 GB DDR3 800 MHz RAM or better • 1 MXI-Express, 4 USB Hi-Speed, 2 Gigabit Ethernet, and 2 serial ports for connectivity, expansion • 8-slot Spartan-6 LX150 FPGA chassis for custom I/O timing, control, and processing or better • LabVIEW Real-Time for determinism or Windows Embedded Standard 7 for flexibility • 0 to 55 °C operating temperature range Measurement Modules Analog Input Module (1 Quantity) • 16 differential channels, 100 kS/s per channel sample rate • ±10 V measurement range, 16-bit resolution • ±30 V overvoltage protection • 250 Vrms channel-earth, CAT II (spring-terminal), or 60 VDC channel-earth, CAT I (D-SUB) isolation • 36-position spring-terminal or 37-pin D-SUB connectors available

| | | | | Accelerometer Module (1 Quantity)
•   2 channels, 51.2 kS/s per channel simultaneous sample rate, 24-bit resolution
•   Built-in support for accelerometer, powered sensor, full-bridge, and voltage measurements
•   Support for 1/4-bridge, 1/2-bridge, 60 V and current measurements via measurement-specific adapters
•   60 VDC, CAT I, channel-to-channel isolation
•   9-pin D-Sub connectivity
•   -40 °C to 70 °C operating range, 5 g vibration, 50 g shock

DIO Module (1 Quantity)
•   32-channel, 7µS, digital I/O
•   5 V/TTL, sinking/sourcing digital I/O
•   Bidirectional, configurable by line with shift-on-the-fly capability
•   60 VDC, CAT I isolation
•   Industry-standard 37-pin D-SUB connector

Serial Port Module (1 Quantity)
•   4 RS232 (TIA/EIA-232) serial ports for CompactRIO
•   Baud rates from 14 b/s to 921.6 kb/s
•   Data bits: 5, 6, 7, 8; Stop bits: 1, 1.5, 2; Flow control: XON/OFF, RTS/CTS, None
•   Individual 64 B UART FIFO buffers per port
•   8 to 28 VDC externally powered; PC-MF4-PT cable
3-Axis LIDAR Scanning Sensors (3 Quantities)
- SICK Make with Resolution of 10 cm
- Distance Measurement 100m
- Customized for scanning in 2 planes - X-Y and X-Z
- Customized with additional 2 servo motor
- HSould be able to measure distance headway of surrounding features in 360 degrees while the vehicle is in motion.
Occlusion rate less than 10% |
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Kindly arrange to send the sealed quotation(s) to the following address: Professor In Charge, Transportation Engineering Laboratory, Department of Civil Engineering, IIT Kanpur, 208016 by **0**4-03-2015 **date extended up to 11 March 2015**

Note:
1. The integrated system should be complete with all enclosures, connectors and cables. The software development to collect the correlated data has to be done by the vendor.
2. The vendor should provide an authorization certificate from the OEM of the Real Time Data Acquisition to quote for this tender.
3. Quotation must be valid for 30 days.
4. . IIT Kanpur can ask the vendor to give a live DEMO of the system at IIT Kanpur as a part of technical evaluation
5. Delivery period should not be more than **4 weeks** and <u>delivery should be at IIT Kanpur</u>..
6. Send complete detail of the product(s).
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Thanking you

Sincerely,

(Manoj Kumar)

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