



भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA



BN 9290/8332 :0414
ISO 9001: 2008

No. AAI/KOL/CNS-PROC/SUPPLY_INSTALLATION/EMS/VO/20-21 Date: 01.12.2020.

To:

M/s. INCOTECH AUTOMATION SOLUTIONS PVT. LTD.

44, Hindusthan Park, KOLKATA-700029.

Email id: automation@incotech.in; Ph:- 033 24423014/15

Mob:- 9830932528, 9830533362

Sub: - **Work order for Supply and installation of Environment Monitoring System for CNS units of Kolkata Airport.**

References: -

- Your Bid No. 196480 against this office E-Tender No. AAI/KOL/CNS-PROC/SUPPLY_INSTALLATION/EMS/20-21 (Tender Id: 2020_AAI_55252_1)..
- Your offer documents against the above mentioned Tender.
- AAI Letter of Intent No. AAI/KOL/CNS-PROC/SUPPLY_INSTALLATION/EMS/LOI/20-21 Date: 06.11.2020
- Your acknowledgment to AAI Letter of Intent dated 11.11.2020 .

Dear Sir,

Reference may be made to the above mentioned correspondences and your offer (Technical, Commercial proposal and various subsequent technical clarifications) submitted against above referred tender.

Airports Authority of India, hereinafter referred to as purchaser, is pleased to place a purchase order for “**Supply and installation of Environment Monitoring System for CNS units of Kolkata Airport**” as per terms and conditions, specifications contained in reference documents.

1. Price :

The Price of “**Supply and installation of Environment Monitoring System for CNS units of Kolkata Airport**” is Rs. 15,52,155.00 (Rs. Fifteen Lakh Fifty Two Thousand One Hundred Fifty Five only) which is Exclusive of GST.

The Price of “**Supply and installation of Environment Monitoring System for CNS units of Kolkata Airport**” is firm and fixed. The price is inclusive of all duties and taxes, excluding GST.

2. 2.A Bill of material and cost of the work order:

Sl. No	Description of Items	Make & Model	Quantity	Amount (Rs.)
1	Wireless Trans-receiver	Phoenix contact	1 pair (02 Nos)	292528.00
2	Power Supply and Ups	Phoenix contact	02 Nos	58352.00
3	EMS Client Software	Phoenix contact	02 Nos	727462.00
4	All in one PC	Lenovo/Dell/HP	03 Nos	294000.00
5	Switch	Phoenix contact	01 No	5297.00
6	Cables, Racks, Connectors and any other accessories required to complete the project.	-----	01 Unit	53516.00
7	Installation of all the hardware and software (along with one additional client available with AAI) required to complete the project.	-----	01 Unit	121000.00
Grand Total: -			Rs. 15,52,155.00	

Total Rs. 15,52,155.00 (Rs. Fifteen Lakh Fifty Two Thousand One Hundred Fifty Five only) which is Exclusive of GST.

3. **Time Schedule:**

SL. No.	NAME OF THE EVENT	DATE	REMARKS
01.	EFFECTIVE DATE	07.12.2020	INTIMATION BY EMAIL/FAX
02.	SIGNING CONTRACT ON AWARD	21.12.2020	ON Rs.100.00 NON JUDICIAL STAMP PAPER (Annexure-I)
03.	SUBMISSION OF PBG	06.12.2021	ON Rs.100.00 NON JUDICIAL STAMP PAPER (Annexure-II)
04.	COMPLETION OF JOB	60 days from Effective Date.	

4. **Terms of Payment:**

- A) The payment of 70 % of the cost (including GST) of the equipment as per bill of material shall be released against the delivery of items (at site as per the order and their inspection by AAI after delivery) along with documentation against receipt of goods at site in good physical condition and on submission of the following documents in ORIGINAL

- (1) Pre- receipted Invoice/billing of 70 % of the cost (including GST) in triplicate.
 - (2) Itemized Packing list with cost of each item + 2 copies.
 - (3) Certificate of receipt of goods at site in good physical condition by authorized representative of AAI.
 - (4) Delivery Challan for 100% of the items in 3 copies with duly receipt of items at consignee's site.
- B) Balance 30% (including GST) of the cost of the equipment as per bill of material shall be released against the completion of installations and Site Acceptance Test of the items by AAI as per the order and on submission of the following documents in ORIGINAL

- (1) Pre- receipted Invoice/billing of 30 % (including GST) in triplicate.
- (2) Certificate of **completion/testing** issued by authorized representative of AAI for after completion of each site.

- C) 10% of the amount of the **total contract value** will be deducted towards the Security deposit from the payment that will be returned after completion of onsite 01 year (or as offered by the manufacturer) of Warranty/ guarantee period from date completion of installation and commission .

OR

On production of Bank guarantee and its verification, valid till 90 days after completion of warranty period.

5. **Paying Authority:**

- 5.1 The Regional Executive Director (ER), Airports Authority of India, NSCBI Airport, Kolkata, West Bengal-700 052 is the Paying Authority.
- 5.2 Payment shall be released through Bank Transfer/RTGS; the Supplier/Contractor is required to submit his bank details in his letter head pad or in the form of cancelled cheque.

6. **Liquidated Damages / Compensation for Delay:**

- 6.1 Time is the essence of the Contract.
- 6.2 If the contractor fails to complete the supply / work within time fixed under the contract, he shall pay to the AAI without prejudice to any other rights or remedy as may be available to

the purchaser, an agreed compensation amount calculated @1/2% of the total value of the uncompleted portion of the work per week or part thereof subject to a maximum value equal to the value of 10% of the Delayed goods.

- 6.3 The amount of compensation for delay and waiver of compensation for delay in case of justified reasons shall be decided at the discretion of Accepting Authority and the same shall be final and binding on the contractor. Time taken by AAI and local statutory authorities for approval of drawings, design, estimate, etc., force majeure reasons and any other reasons beyond control of the contractor shall be considered as justified reasons. The amount of compensation may be adjusted or set off against any sum payable to the contractor under this or any other contract with AAI.
- 6.4 Appeal for waiver of compensation for delay with due justification shall be decided as per the provisions of relevant clause of the Delegation of Powers (DOP) of Airports Authority of India. The decision of the competent authority on appeal shall be final and binding on the contractor.
- 6.5 Each site will be treated independently for calculating compensation. The delay applicable in the project shall also be site specific. The contract value shall be calculated separately for each site for this purpose

7. Guarantee/Warranty:

- 7.1 The material supplied should be under Guarantee/warranty for a period of minimum ONE year or as offered by the manufacturer whichever is more, commencing from "Commissioning Date".
AAI shall appoint maintenance in-charge for the purpose of implementation & monitoring of the work.
- 7.2 Complete hardware and Software shall be guaranteed against all defects/bugs and for a satisfactory performance, as per all the listed features, during the service period.
- 7.3 The contractor shall attend at his own expense and get the defect/bugs removed in the systems as detected by AAI during the period of warranty.

8 Performance Bank Guarantee:

- 8.1 The contractor shall submit an unqualified Contract performance guarantee (in lieu of Contract Performance security) of the value equivalent to 10% (ten percent) of the total contract price to AAI in the form of an irrevocable and unconditional bank guarantee on scheduled commercial bank as per Performa attached as **Annexure-II**. The guarantee shall be submitted within 30 calendar days from the Effective Date, and will be valid till 90 days after the end of the period of contract. In case contractor fails to submit the PBG within stipulated period, interest @ 12% p.a. on performance Guarantee amount would be levied (non-refundable) for delayed period of submission and shall be deducted from EMD or First running Bill. In case, contractor fails to submit performance bank guarantee within 60 days, AAI reserve the right to forfeit EMD and cancel the order.
- 8.2 The performance guarantee amount shall be payable to AAI without any condition whatsoever and the guarantee shall be irrevocable.
- 8.3 The performance guarantee shall be deemed to govern the following guarantees from the contractor, in addition to other provisions of the guarantee:
- 8.3.1 The Hardware / Software supplied under the contract shall be free from all defects / bugs and upon written notice from AAI, the contractor shall fully remedy, free of expenses to AAI, all such defects / bug as developed under the normal use of the said hardware / software within the period of guarantee/Warranty.
- 8.3.2 The performance guarantee is intended to secure the performance of the entire system. However, it is not to be construed as limiting the damages stipulated in any other clause.

- 8.4 The performance guarantee will be returned to the contractor at the end of the warranty period.
- 8.5 The contractor as per operation, installation, maintenance manuals and performance guarantee tests supplied by the contractor, will do the loading, installation & commissioning of systems. The contractor will be fully responsible for the guaranteed performance of the supplied systems and warranty obligations. In case of any problem after commissioning and during guarantee period the contractor will depute his supervisor(s) to AAI's site within 24 hours of intimation to remove all defects at contractor's cost.

9 Scope of Work: -

Sl No	Items	Parameters/Features	Qty
1	Wireless Trans-receiver	The wireless trans-receiver must be IP 20 rated of Industrial grade and it must be supplied with all the necessary accessories like antenna and antenna cables to cover an aerial distance of at least 800meters. The trans receiver along with all its accessories must be mounted in an IP 67 enclosure and must support the following features: - Power Supply: 10 V DC to 36 V DC Ambient temperature Operation: 0 °C to +60 °C It must operate in the license free band of 2.4 GHz or 5.0 GHz with a maximum data transmission speed up-to 300 Mbps and must support the wireless standard of IEEE 802.11. It must have following security features: - WPA PSK (pre-shared key) - WPA2 - AES - TKIP - Supports 802.1X/RADIUS - MAC filter The minimum antenna gain must not be less than 9 dBi and the minimum IP rating of the antenna must not be less than IP 65 to ensure outdoor installation of the antenna. As the antenna will be installed in an open environment, there must be surge arrestor in between the antenna and the wireless trans-receiver module with a Nominal discharge current I_n (8/20) μs (line-earth) capacity 50 kA and a maximum discharge current I_{max} (8/20) μs maximum (line-earth) capacity of 60 kA.	1 Pair (2 Nos)
2	Power Supply and UPS	The wireless trans-receiver module should be powered by UPS back-up of minimum 1hour in order to avoid any interruption in the power line. The Panel mounted Industrial UPS must be IP 20 rated and must support the following features: - In the event of supply voltage failure, battery mode must be activated without any interruption. There should be three switching outputs on the UPS module which should provide information when the UPS operates on battery mode, when there is any alarm on the UPS and when the battery of the UPS is almost flat. Input Voltage Range: 85-264 V AC Frequency Range: 45-65 Hz The efficiency of the UPS operation should be more than 86%. Ambient temperature Operation: 0 °C - +55 °C The rechargeable battery of the UPS should be maintenance free based on lead AGM, VRLA technology. The Power Supply and the UPS module should be protected by an external, pluggable and KEMA approved Surge Protector Device. The Maximum discharge current I_{max} (8/20) μs of the SPD must not be less than 40 KA. The SPD should have a potential free contact which should get activated in case the SPD fails.	2 Nos
3	EMS Client Software	EMS should monitor power supply status, temperature, humidity etc. and also it should generate audio-visual alert immediately if any parameters deviate from the pre-defined value which shall be defined at the time of installation. The EMS software is to be used on wide range of network Media including RS 232, RS 485, Ethernet and Mobile Network(3G), which should automatically collect and store data from metering devices or control devices. The main components of EMS Software will be as:	2 Nos

		Full SCADA (Supervisory Control and Data Acquisition) function with visualization, trend representation, and alarm management.	
		The system should record and report the failure events so that corrective actions can be implemented immediately. The system should reliably communicate with real time data transmission from all the metering devices. All data from all the metering devices should be effectively centralized at the central SCADA system, which can be further utilized for various types of report generation.	
		The software should provide report of various inputs and outputs as per the requirement with time intervals starting from 1ms.	
		The software should support Data logging, trend display, and recipe management.	
		There should be options for event, alarm and data logging and it should also allow customization for further analysis of various faults, i.e., fault duration and type of fault.	
		The system should support SMS messages using SMPP protocol or GSM Protocol.	
		Web Server for distribution of viewer views over LAN.	
		It should support creation of scripts in VBA and IL.	
		It should be fully scalable with process diagrams for using one design on different devices and monitor sizes.	
		It should have security features like access protection with user management.	
		It should support real-time database coupling with ODBC to MS ACCESS, MS EXCEL and SQL server.	
		The Software should support server client architecture.	
		Key features - EMS Software must be scalable in network size and no. of devices with a flexible architecture. - It should collect data from power and energy meters communicating over RS232, RS 485, Ethernet, wireless (3G) and other industry standard networking protocols and should integrate any third-party energy meters, equipment and web services. - It must be able to receive and integrate data from AI/AO/DI/DO module. - It must share data with third-party SCADA, Plant automation and Commercial business systems like PI servers, SAP/ERP being compliant with ODBC/OPC standards - Should have modules for preconfigured and custom reports. It supports Microsoft Excel/PDF and other third-party reporting tools. The reports can be scheduled for distribution via email. - It can provide online/offline trends and can graph any combination of measured parameters and aggregate loads. - It should come with built in Alarm Manager to be triggered on complex conditions, generate alarm messages and log all relevant event data. - EMS software must have provision in future to provide an optional Mobile Android app for monitoring over internet if required.	
		Real-time monitoring Features EMS System must: - Display Single Line Diagrams (SLD) visualizing main distribution system across one or more substations or PCCs. The diagrams are accessible from any workstation PC, locally or over intranet. - Display real-time power and energy measurements in meter templates or group wise, historical data with selectable commands and data logs, alarm status, Load status (on/off, temperature, pressure, etc.) as selectable menu items. - Use MS Excel interface to perform sophisticated data computations, then display and log derived values based on real-time data. - Easy to design user diagrams for any customized views representing readings in numbers, bar or trend graphs, one-line with back ground elevation diagrams, maps, photos and animation. - Easy to switch between diagrams, easy to move to further levels of detail, e.g. start with a substation overview then move to open a feeder diagram, then move to see a device template for real-time data and pre-configured options for historical data analysis. - Group relevant devices and parameters together to gain convenient status read-outs. - Easily extract and analyse selected ranges of information from the database using easy click commands.	

		Reporting Tool Features - Reporter should come with manual report generator to generate reports manually at any time and as well as with schedule report generator to configure the reporting schedules. The Schedule reporter should also distribute reports automatically over email. - It must generate reports through Microsoft® Excel™/pdf. The Excel sheets can be formatted as per the user requirement based on the queried data. Daily reports, analysis of report, other reports, etc. must be available. - The reports must be of wide time range starting from Block wise, Hourly, Daily, weekly, monthly, quarterly or yearly based time gaps for any parameter logs. - The reports must be further customizable as per user requirement. The reports can also combine with other databases to make more advanced energy management reports.	
		Trend analysis features: - Generate one or more to a maximum of sixteen parameters in any single diagram either as separate graph scales or on a single scale. - Generate graphs of any measured or derived parameter. - Graph aggregate load profiles from multiple metering points or compare related parameters from across enterprise. - Create usage profiles to reveal demand peaks, over load trends, or unused capacity. - Track energy-related costs for each substation, feeder, process or equipment or area.	
		Alarms and events - Alarm Manager to be used to generate alarms on black outs, outages, load tripping, equipment down times etc. - The user must be able to configure alarms to generate message on power outages, power supply variations in Voltage & frequency, over load and under load limit crossings or equipment conditions. - Should generate alarms on communication failures from metering devices or network component failures. - Alarm messages must be distributed through operator workstations, email, SMS via pre-configured alarm texts. - Alarms should also be configured using combinational logic in IL scripts to generate more complex or summary conditions-based alarms.	
		Log complete information of an event with accurate timestamps.	
4	All in One PC	Display Size: 24 Inch Minimum Mounting: With both Wall and Table Option CPU: Minimum Intel core i5 RAM: 4GB Minimum HDD: 1 TB Minimum Keyboard and Mouse: Wireless Optical Optical Drive: Yes (External or Internal) OS: Windows 10 Minimum Network Connectivity: LAN, Wi-Fi and Bluetooth Speaker: External mono or stereo, Power o/p: Minimum 4W rms	03 Nos
5	Switch	Degree of protection: IP20 Ambient temperature (operation): From -10 °C to 60 °C Ambient temperature (storage/transport): From -20 °C to 85 °C Permissible humidity (operation): 5 % - 95 % (non-condensing) Permissible humidity (storage/transport): 5 % - 95 % (non-condensing) Mounting type: DIN rail Interface: Ethernet (RJ45) No. of ports: 5 (RJ45 ports) minimum Transmission speed: 10/100 Mbps Basic functions: Unmanaged switch / auto negotiation, complies with IEEE 802.3, store and forward switching mode Status and diagnostic indicators LEDs: US, link and activity per port Supply voltage: 24 V DC, Supply voltage range: 12 V DC-48 V DC	01 No
6	Cables, Racks, Connectors and any other accessories required to complete the project.	Industry standard items to be used.	1 Unit
7	Installation of all the hardware and software (along with one additional client available with AAI) required to complete the project.	Industry standard installation procedure to be followed.	1 Unit

10 POST INSTALLATION ACCEPTANCE TESTING/INSPECTION:

The testing/inspection shall be performed after the completion of installation. The inspectors shall verify the component level details during this testing and shall sign the installation report after completion of the post installation testing. Defects/shortcomings brought out in this testing shall have to be attended as per the contract within the permitted time schedule.

11 BILLING AND SHIPPING ADDRESS:

- a) General Manager (CNS), Kolkata, Airports Authority of India, ATS Complex, NSCBI Airport, Kolkata-700052.
- b) CNS Store, Store Complex, O/o General Manager (CNS) Kolkata, Airports Authority of India, NSCBI Airport, Kolkata-700052 (Near Airport gate no. 2, Glass house, operational office building of AAI).

12 PATENTS, LIABILITY & COMPLIANCE OF REGULATIONS:

- a) Contractor shall also protect and fully indemnify AAI from any claims from contractor firm's workmen/employees, their heirs, dependents, representatives etc. or from any other person (s) or bodies/companies etc. for any act of commission or omission while executing the order.
- b) Contractor shall be responsible for compliance with all requirements under the Indian & International laws and shall protect and indemnify AAI completely from any claims/penalties arising out of any infringements by contractor firm or its workmen/employees.

13 PACKING AND MARKING FOR SUPPLIES REQUIRING AAI ASSISTANCE & HANDLING:

- a) All packing shall be strong enough to withstand rough handling during loading, unloading and transporting of the packages. Fragile articles shall be packed with special precaution and shall bear the marking like 'Fragile', 'Handle with care' and 'This Side Up' etc.
- b) All delicate surfaces of goods shall be carefully protected and painted with protective paint/compound and wrapped to prevent rusting and damage.
- c) Wherever required material shall be packed in polyethylene bags and silica gel or similar dehydrating compound shall be put inside the bags to protect the material. The contractor firm shall be held liable for all damages or breakage of the goods attributable to defective or insufficient packing as well as for corrosions due to insufficient protection.
- d) On three sides and top of package, markings as desired by AAI, shall be provided with indelible paint.

14 TERMINATION OF INSOLVENCY:

The AAI may at any time terminate the Contract by giving written notice to the supplier, without compensation to the Contract, if the Contractor becomes bankrupt or otherwise insolvent as declared by the competent court provided that such termination will not prejudice or affect any right or action or remedy which has accrued or will secure thereafter to AAI. In the event of termination, a penalty to the contractor the AAI shall en-cash Contract Performance Bank Guarantee. The AAI in such case shall pay for the assessed value of the executed work that can be used. No payment shall be made for the efforts put in by the contractor in case the same are of no value to AAI. The balance unfinished work of the project will be got done by fresh tendering on contractor's risk and that extra expenditure will be recovered.

15 Other Term & Conditions:

- 16.1 This letter of award of the work shall form a part of the contract and all terms & conditions mentioned in AAI E-Tender No. **AAI/KOL/CNS-PROC/SUPPLY_INSTALLATION/EMS/20-21** (Tender Id: **2020_AAI_55252_1**) published in website www.etenders.gov.in shall be applicable on this contract / Work Order and shall remain unchanged and binding to both the parties i.e. AAI and **M/s. INCOTECH AUTOMATION SOLUTIONS PVT. LTD**
- 15.1 **M/s. INCOTECH AUTOMATION SOLUTIONS PVT. LTD.** is required to enter into an agreement to be signed on Rs.100/- non-judicial stamp paper (to be stamped in accordance with stamp act) with Airports Authority of India within **15** days from the Effective Date. The format of the agreement is enclosed as "**Annexure-I**" of this letter awarding work.
- 16 AAI GSTN is: **19AAACA6412D1Z5**.
- 17 A duplicate copy of this award letter is enclosed herewith, which may be returned duly signed in each page, to this office as a token of your acceptance.
- 18 Please acknowledge the receipt of this letter.



के /साहा .के.K.K.SAHA

उप महाप्रबंधक/ प्रा.वि.भा (सीएनएस)DGM (CNS) ,

भारतीय विमानपत्तन प्राधिकरण /Airports Authority of India

एन.एस. सीहवाई अड्डा.आई.वि ., कोलकाता/N.S.C.B.I.AIRPORT,KOLKATA.

Encl: As mentioned above.

Signature Not Verified

Digitally signed by HEMANT KUMAR
SINHA

Date: 2021.08.05 16:07:13 IST

Location: eProcurement System for Central
PSUs