



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन राष्ट्रीय महत्व का एक संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@iitism.ac.in || Website : www.iitism.ac.in

No. MME-500290-2017-18

Date: November , 2017

### Corrigendum-1

**Subject:** Submission of Bids for Supply and Installation of Micro Controller Unit with Lora Based Transeiver Modeul -04 Nos. & LORA GATEWAY -01No.

**Reference:** NIT No. MME-500290-2017-18 dated 13<sup>th</sup> November, 2017

**Following are the amendments in the above referred NIT:**

#### Existing Contents:

S No	Full Description of items/ store	Qty	Delivery
1	Supply & Installation of Micro Controller Unit with Lora Based Transeiver Modeul (Detailed specification is given in Annexure -1)	04 Nos	At the Earliest

#### Now Read as:

S No	Full Description of items/ store	Qty	Delivery
1	Supply & Installation of Micro Controller Unit with Lora Based Transeiver Modeul	04 Nos	At the Earliest
2	LORA GATEWAY	01 No.	
(Detailed Specification of item No. 1 & 2 is given in Annexure – I )			

*The others contents, terms & condition of the NIT will remain the same*

Deputy Registrar



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## NOTICE INVITING TENDER

**Subject: Supply & Installation of Micro Controller Unit with Lora Based Transeiver Modeul**

Indian Institute of Technology (Indian School of Mines), Dhanbad invites quotations for the following to be supplied and delivered in MME Department.

S No	Full Description of items/ store	Qty	Delivery
1	Supply & Installation of Micro Controller Unit with Lora Based Transeiver Modeul	04 Nos	At the Earliest
2	LORA GATEWAY	01 No.	
(Detailed Specification of item No. 1 & 2 is given in Annexure – I)			

### Tender Schedule

Particulars	Date & Time
Bid Security or Earnest money deposit	Rs 8,500.00 (Eight Thousand Five Hundred Only)
Last date and time for submission of tenders	01.12.2017 at 3:00 P.M.
Date and time of opening of tenders	01.12.2017 at 4.00 P.M.

1. You are requested to quote your lowest rates for the supply of above items in the attached format for Financial Bid (Annexure – II)
2. You may send your representative in the office of the undersigned at the scheduled date and time of opening of tender.
3. Tender should be submitted in sealed cover only superscribed with Enquiry No. and due date at the following address only:

*The Deputy Registrar (P&S)*

*Indian Institute of Technology (Indian School of Mines),*

*Dhanbad – 826 004 Jharkhand*



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## Terms & Conditions

- 1) The rates should be quoted for each item separately.
- 2) Conditional offer will not be accepted.
- 3) IIT (ISM) does not issue any Form 'C' or 'D' towards sales tax concessional rate. Hence, full rate of GST applicable should be quoted.
- 4) **Bid Security or Earnest money deposit (EMD)**: should be submitted in form of A/c payee demand draft drawn in favor of Registrar, IIT (ISM) Dhanbad and payable at any other bank/branch located in Dhanbad.
- 5) **Educational discount**, if any, should be clearly mentioned.
- 6) You are requested to submit your quotation strictly as per the specifications mentioned in the NIT.
- 7) Your tender must be valid for **minimum 90 days** from the date of opening of tender.
- 8) Please mention warranty/ guarantee in your offer clearly. Material/ equipment to be supplied must have minimum warranty/guarantee of **12 months**.
- 9) *Each page in the bid document must be numbered properly* and duly signed & sealed by the bidder on every page of the bid.
- 10) **The items/ materials shall be required to be delivered at MME Department/ Section through Purchase & Store Section, IIT (ISM) Dhanbad at the risk and cost of the tenderer.**
- 11) Unloading and installation shall be the complete responsibility of the supplier.
- 12) The stores are required to be delivered within 30 days. Late delivery may not be accepted.
- 13) The items offered should be of good quality confirming to BIS standards, wherever applicable.
- 14) **Advance payment is not admissible.** Payment shall normally be made within 3-4 weeks subject to receipt and acceptance & installation, PBG submission etc (as per Purchase Order Terms) of the ordered materials/items.
- 15) In the event date on which the tender is opened for acceptance is declared to be a holiday, the tenders shall be deemed to remain open for acceptance till the next working day.
- 16) Please send your offer by Regd.Post/ Speed Post/ Courier along with Courier receipt. Tender/ quotation will be received during IIT (ISM) working hours only (i.e. Monday to Friday). *Late or delayed tenders shall be summarily rejected.*
- 17) Any other information that you may like to obtain, you are free to contact IIT (ISM) before submission of tender.
- 18) IIT (ISM) reserves the right to accept and/or to reject any/ all tenders without assigning any reason.

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## Annexure – I

### Item I Specification

### MICROCONTROLLER UNIT WITH LORA BASED TRANSCEIVER MODULE

SL	Specification	Value
Controller unite Specification		
1.	MICROCONTROLLER	ATmega 1281 or Better one
2.	Frequency	8MHz or More
3.	EEPROM	4KB or More
4.	FLASH MEMORY	128 KB or more
5.	SD card capability	YES(2GB or more)
6.	Weight	20 gm or less
7.	Dimension	73.5 x 51 x 13 mm or less
8.	Temperature range	-20°C, +65°C
9.	Humidity	20% to 90%, non-condensing
10.	Consumption	
	ON:	9mA or less
	Sleep:	62μA or less
	Deep Sleep:	62μA or less
	Hibernate:	0.7μA or less
11.	Interface Capabilities	<ul style="list-style-type: none"> <li>• UART</li> <li>• SPI</li> <li>• I2C</li> </ul>
12.	RTC	32 kHz or more
13.	WATCHDOG Timer	
13.	Electrical characteristics	
	Battery voltage	3-5 volts
	USB charging	5 V - 480 mA(Max)
	Solar panel load	6-12 V - 300 mA(Max)
14.	Input / Output	7 or more analog inputs, 8 or more digital I/O 2 or more UARTs, 1 I2C, 1 SPI, 1 or more USB
LORA BASED TRANSCEIVER MODULE SPECIFICATION		
15.	protocol	LoRaWAN 1.0, Class A
16.	Form factor	17.8 x 26.7 x 3.34 mm or small
17.	Weight	
18.	Interface	<ul style="list-style-type: none"> <li>• UART</li> <li>• SPI</li> <li>• I2C</li> </ul>
19.	Operating voltage	2.1V to 3.6V
20.	Current consumption	38.9 mA or less
21.	Frequency	868 MHz ISM frequency band
22.	TX power	TX Power: up to +14 dBm or less
23.	Range	Sub urban: 14 km or more Urban :4 km or more



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## Item 2 Specification

### LORA GATEWAY

24.	Packet Data	Up to 100 Mbps downlink, Up to 50 Mbps uplink
25.	Radio Frequency	LoRa 868 MHz
26.	Storage	Micro SD
27.	Input Voltage	9 volt or less
28.	Connectors	Ethernet 1 RJ-45 Ethernet 10/100 port
29.	Dimensions (L x W x H)	6.35" x 4.23" x 1.69" (161.3 mm x 107.4 mm x 42.8 mm) Or less
30.	Weight	500 grams or less
31.	Chassis Type	Metal
32.	Environmental Operating Temperature	-30° to +70° C*
33.	Storage Temperature	-40° to +85° C
34.	Relative Humidity	20% to 90%, non-condensing



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Annexure - II

**Format for Financial Bid**

NIT No.: MME-500290-2017-18

Date:

Bidders Ref: No.

Date:

GSTIN No.:

**Subject: Supply & Installation of Micro Controller Unit with Lora Based Transeiver Modeul**

Sl. No.	Full Description of Items with (HSN Code/SAC Code)	Qty.	Rate	Amount
		Packing & Forwarding (if any)		
		<b>Total</b>		
		GST		
		Freight (if any)		
		Installation (if any)		
Amount should be in figure as well as word		<b>Grand Total</b>		

**Note:**

- 1) All the details must be provided as per prescribed format only
- 2) Prices quoted by the bidders should include GST, HSN Code, SAC Code, duties, livies, transportation cost and insurance costs etc. if any
- 3) All the rates must be quoted in Indian Rupees.