



International Centre for Free and Open Source Solutions

Swatantra,
South Pavilion, Sports Hub, Karyavattom,
Trivandrum - 695 581
Kerala, India.
Phone No: +91 471 2700013
Email: info@icfoss.in

NOTICE INVITING TENDER

For the supply of Outdoor LoRaWAN Gateway Mesh with Sub-GHz Backhaul

Tender No: ICFOSS/32/2019-TC4(IT)-Part(1) Dated 28/01/2025

Name of the material	For the supply of Outdoor LoRaWAN Gateway Mesh with Sub-GHz Backhaul
Delivery time	Within 4 weeks
Availability of Tender documents	Can be downloaded from the website http://icfoss.in up to 04-02-2025, 03:00 PM
Date of Publishing	28-01-2025
Last date & time of submission of bids	04-02-2025 at 04:00PM
Date & time of opening of bids	04-02-2025, 05:00PM
EMD (Earnest Money Deposit) Amount	1 % (rounded to the nearest rupees) of the total Quoted amount or Rs.1,500/- whichever is maximum.
Tender Fee	Rs. 400/-



All communications shall be addressed to the Secretary & Registrar, ICFOSS, Swatantra, South Pavilion, Sports Hub, Karyavattom, Trivandrum - 695 581 Kerala, India.

The bid documents and other details may be downloaded from the website <http://icfoss.in/tenders>. All bid documents along with EMD and Tender fee are to be submitted as **hard copy** and in the designated covers/envelops on the below address. The EMD amount and non-refundable Tender fee of Rs. 400.00/- shall be remitted only as Demand Draft separately in favour of “**ICFOSS**” and payable at Thiruvananthapuram. Bidder should ensure that Tender fees and EMD are remitted as separate transactions/DDs, such that EMD should be a separate DD and Tender Fee shall be separate DD. Combined remittance for Tender fee and EMD shall be treated as invalid transaction. Only manual submission shall be entertained. Late submissions will not be considered

Secretary & Registrar
Swatantra,
South Pavilion, Sports Hub,
Karyavattom, Trivandrum - 695 581
Kerala, India.
Phone No: +91 471 2700013
Email : info@icfoss.in

Place: Trivandrum
Date: **28-01-2025**

A handwritten signature in blue ink, appearing to read 'Bijumma'.

Procurement Officer
ICFOSS

Note: - If the date of opening of bids happens to be a holiday; the actual date for the same will be the next working day. No separate intimation in this regard will be issued.



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TENDER DOCUMENT

Tender No: ICFOSS/32/2019-TC4(IT)-Part(1) Dated 28/01/2025

Item required

SI No	Items	Qty
1	Border Gateway	1 No
2	Relay Gateway	5 No
3	External Antenna	6 No

Characteristics (for sub-GHz relay)

Devices per network	Typically 1000 sensors, depending on topology and messages/day
Distance between gateways	Between 2 and 10 km, depending on locations
Radio channels	8 RX + 1 TX
Relay configuration	Selectable SF, BW and TX power Channel hopping
Maximum hops	8, recommended 3-4
Network monitoring	Heartbeat messages Info page on LNS
Network flooding management	Per-gateway message ID cache Per-gateway max hop count



Network security	Standard LoRaWAN security for messages to/from end-devices Shared key for MIC checking for messages between gateways
Gateway power	Power adapter Battery Plus compatible (battery+solar)
Gateway installation	Pole mount

Border Gateway: RAK7289CV2 (with LTE)

- **Multi-Backhaul Support:** Ethernet, Wi-Fi, and Cellular (RAK7289CV2)
- **Power Options:** Compatible with RAK Battery Plus off-grid system
- **Enclosure Design:** IP67-rated enclosure with internal LTE, Wi-Fi, and GPS antennas
- **Pre-Flashed Software:** ChirpStack Gateway OS with Gateway Mesh protocol
- **Connectivity:** LoRa Sub-GHz and LTE

Relay Gateway: RAK7289V2 (External Antenna)

- **Enclosure:** IP67/NEMA-6 industrial-grade enclosure with cable glands
- **8-Channel LoRaWAN Support:** Sub-GHz LoRa concentrator (RAK5146)
- **Multi-Backhaul Support:** Wi-Fi, Ethernet (RAK7289V2)
- **External Antennas:** External LoRa antenna; internal for Wi-Fi, GPS
- **Power Options:** DC 12V, PoE (802.3af) with Surge Protection
- **Dying Gasp:** Power failure protection with advanced "dying gasp" function

External Antenna

- **Gain:** 8.0 dBi
- **Material:** Fiber Glass
- **Connector Type:** N-Type Male
- **2pcs Mounting Brackets**

Terms & Conditions

- **Submission of bids**

The Tender should be submitted with the following documents. The documents shall include the following:

- Company registration details *
- Copy of Permanent Account Number (PAN) *



- Copy Of GST Registration Documents *
- Detailed specification of the item quoted
- Previous work orders supplied to any Government departments if any
- Signed Tender document with Tender form. *
- Financial bid in format given in **Annexure I** (BOQ Template) *

- **Earnest Money Deposit (EMD)**

The Tender should submit an EMD amount of 1 % (rounded to the nearest rupees) of the total Quoted amount or Rs.1,500/- whichever is maximum. The EMD amount should only be remitted as Bank Drafts in favour of “**ICFOSS**” payable at Thiruvananthapuram and shall be enclosed with the bid.

Forfeiture of EMD

EMD of a tenderer shall be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. Further, if the successful tenderer fails to furnish the required performance security within the specified period, its EMD shall be forfeited.

Refund of EMD

EMD furnished by all unsuccessful tenderer shall be returned to them without any interest whatsoever, at the earliest after expiry of the final tender validity period but not later than 30 days after conclusion of the contract. EMD of the successful tenderer shall be returned, without any interest whatsoever, after receipt of performance security from it as called for in the contract.

- **Tender Fee**

The Tender should submit a non-refundable Tender Fee of Rs.400/- . The Tender Fee should only be remitted as Bank Drafts in name of “**ICFOSS**” payable at Thiruvananthapuram and shall be enclosed with the bid.

- Item offered must be standard, proven product and already available in the market.
- Items offered must follow the required specifications
- Tender Documents shall be available only on the Internet and shall not be available for sales elsewhere.



- No price rise except Govt. levies will be allowed once order has been placed during the validity of the claim.
- Materials must be properly packed against any damage and insured except where hand delivery is proposed.
- Delivery / installation (If applicable) at the store should strictly be completed within the stipulated period of delivery
- Supplier will have to pay penalty on non-delivery after expiry of delivery date @ 1% of quoted price per week subject to maximum of 10%.
- Stores should be supplied to the “The Director, ICFOSS, Swatantra, South Pavilion, Sports Hub, Karyavattom, Trivandrum - 695 581 Kerala, India”.
- Equipment / stores supplied will be subjected to performance tests and in case the articles do not function / reach the expected standard, the suppliers are liable to replace the items free of cost at site. Cost of returning faulty goods will be to supplier’s account.
- Prompt and efficient after sales service must be rendered free within the guarantee period.
- If any equipment or part thereof is lost or rendered defective during transit, the supplier shall immediately arrange for the supply of the equipment or part thereof as the case may be.
- Purchaser reserves the right to cancel the order without any liability in case the materials are not supplied within the stipulated period or non - fulfillment of contractual obligations.
- **Payment:** The payment shall be made against completion of the entire supplies. The complete payment shall only be made against successful checking of the items supplied. In case of any defects the L1 bidder shall replace the item prior to the payment.
- **Warranty/ Support:** The items dispatched by the schedule of requirement shall carry minimum one year of replacement warranty from the date of acceptance of the items by ICFOSS. Warranty shall include free maintenance of the whole assembly supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should remain unattended for more than 48 hours. The defects, if any, during the guarantee/ warranty period are to be rectified free of charge by arranging the replacement wherever necessary. This includes cost, insurance, freight, custom duty, octroi, local taxes if any, should be borne by the bidder. A clear confirmation should be given for this item. The warranty certificate should be furnished along the bills.
- **Quoted rate:** The quoted rates shall be **inclusive** of all taxes and also the bidder shall include charges like duties, freight, handling, loading, unloading, insurance premium along with the quoted rate.



Note: ICFOSS holds the DSIR certificate which makes ICFOSS eligible for tax exemptions, Seller is responsible for cross checking the category codes and HSN numbers and apply appropriate exemptions

The Taxes may include (excise duty, sales tax, service tax, entry tax etc), duties, levies, freight, handling, loading, unloading, insurance premiums etc complete and shall remain firm throughout the contract period. No compensation will be paid in case of any upward revision in the statutory taxes and levies or introduction of new taxes and levies.

I / We hereby declare that I/We have read and understood the above instructions for the guidance of tenders.

Place :

Date :

Name, Signature and seal of Tenderer

Please submit the hard copy of this document duly signed by the authorized signatory to the following address:

**Secretary & Registrar
ICFOSS
Swatantra,
South Pavilion, Sports Hub,
Karyavattom,
Trivandrum - 695 581
Kerala, India.**



TENDER FORM

To,
Secretary & Registrar
ICFOSS
Swatantra,
South Pavilion, Sports Hub,
Karyavattom,
Trivandrum - 695 581
Kerala, India.

Dear Sir,

Sub: Bid form

Ref: No.ICFOSS/32/2019-TC4(IT)-Part(1)

1. Having examined the conditions of tender contract, the receipt of which is hereby duly acknowledged. i/we undersigned, offer to supply all hardware & software and execute all works in conformity with tender specifications referred above and also to the said terms & conditions from the sum shown in the commercial bid(s) attached herewith and made part of this bid.
2. I / We undertake, if our Bid is accepted to complete delivery & commissioning of all Items specified in the contract within 4 weeks calculated from the date of issue of your purchase order/LOI.
3. We understand that you are not bound to accept the lowest or any bid, you may receive.
4. I / We affirm that I / We have enclosed the acceptance of all terms and conditions and also all brochures detailing the technical specification of the items quoted by me/us.
5. I / We hereby confirm that all the items supplied are in proper working condition and tested successfully.
6. The tender document for the works mentioned above have been obtained by me from the URL: <http://icfoss.in/tenders>, the official website of ICFOSS and I / we hereby certify that I / we have read the entire terms and conditions of the tender document, which shall form part of the contract agreement and I / we shall abide by the conditions / clauses contained therein.
7. My /our GST & PAN Numbers are as follows.
8. GST Registration Number.



9. PAN Number.

10. Dated thisday of..... 201.....

11. Signature of

12. In capacity of

13. Duly authorized to sign the bid for and on behalf of

14. Witness 1.

15. Signature

16. Witness 2.

17. Signature

ANNEXURE I (BOQ TEMPLATE)

Date:

Tender Inviting Authority: ICFOSS					
Name of Work: For the supply of Outdoor LoRaWAN Gateway Mesh with Sub-GHz Backhaul					
Contract No: ICFOSS/32/2019-TC4(IT)-Part(1) Dated 28/01/2025					
Bidder Name :					
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be submitted after filling)					
Sl. No.	Item Description (as specified in Tender documents)	Quantity	Units	BASIC RATE Per Kit (inclusive of all Taxes)	TOTAL AMOUNT (inclusive of all Taxes)
1	Border Gateway	1	Nos		
2	Relay Gateway	5	Nos		
3	External Antenna	6	Nos		
Grand Total (inclusive of all Taxes)					
Quoted Rate in Words					

Authorized Signature
(With Signature and Seal)

*Envelope should be marked with the heading 'For the supply of Outdoor LoRaWAN Gateway Mesh with Sub-GHz Backhaul.'