

LETTER OF INVITATION

(Eol Reference No.CoE/IRISET/03/23)

*Centre of Excellence (CoE)/IRISET working under Ministry of Railways seeks response from Reputed Firms, meeting the requirements of this Eol and who are willing to be associated with Indian Railways for "**Empanelment of Agencies for Radio Survey in the field of LTE Technology and related Tools and Infrastructure**" to pursue existing need of Indian Railways.*

The Reputed Firms can be a company/Joint Venture/Consortium/Sole Proprietor/Partnership firm.

The proposed Eol is to empanelment of Firms who have sufficient experience in RF survey field, and who have capacity and capability of carrying out Radio Survey for LTE for the railway use. These interested firms can participate & submit the response as specified in this Eol document. Only one response shall be entertained from one firm.

Availing Eol Documents

*The Eol Document (**along with its amendment**) can be downloaded free of cost from the website <https://www.ireps.gov.in>*

Important Dates:

1. *Eol notice available on website 25.08.2023 at 19:00 hrs. onwards.*
2. *Pre-Eol meeting on 06.09.2023 at 15:00 hrs. at CoE/IRISET/SC in person as well as on-line through video conference.*
3. *Last Date and time for submission of response Up to 27.09.2023 at 15:00 hrs.*

Mode of submitting response to EOI

The response to Eol to be submitted online <https://www.ireps.gov.in> website and within the closing time & date as indicated above.

*(Lalit K. Mansukhani)
OSD/CoE/IRISET*

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SECTION-1
DISCLAIMER

1. *The purpose of this Eol document is to provide the prospective associate(s) with information to assist the formulation of their response.*
2. *COE/IRISET, its employees make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the Eol document.*
3. *COE/IRISET may, in its absolute discretion, but without being under any obligation to do so, modify, amend or supplement the information in this Eol document.*
4. *The issue of this Eol does not imply that CoE/IRISET is bound to shortlist any or all the prospective associate(s). Even after short-listing of suitable prospective associate(s), COE/IRISET is not bound to proceed ahead with the prospective associate(s) and in no case be responsible or liable for any commercial and consequential liabilities in any manner whatsoever.*
5. *The prospective associate(s) shall bear all costs associated with the preparation, technical discussion/presentation and submission of response to Eol. CoE/IRISET shall in no case be responsible or liable for these costs regardless of the conduct or outcome of the Eol process.*
6. *Canvassing in any form by the prospective associate(s) or by any other agency on their behalf shall lead to disqualification of their response to Eol.*
7. *CoE/IRISET reserves the right to accept or reject any or all the Eol responses received against this notice without assigning any reasons and without prejudice.*
8. *Indian Railways reserves the right to empanel more agency/agencies, as needed in the future.*

SECTION-2
ABOUT COE/IRISET

Center of Excellence (CoE)/IRISET is an organization setup for Modern Signaling at IRISET, Secunderabad under Ministry of Railways, Government of India. The primary objective of CoE/IRISET is to provide expertise and technical inputs in the field of modern signaling through competence building, research, design & standards, repository of best practices, support, solutions and knowledge management. As part of our ongoing efforts to enhance Railways telecom network infrastructure, we recognize the importance of partnering with proficient radio frequency survey agencies to carry out essential assessments and surveys.

SECTION-3

GENERAL INSTRUCTIONS TO THE BIDDERS

1. *The EOI shall be accepted under One Bid System. The envelop will contain “**Technical and Financial Qualifications**” as requested and super scribing on envelope “**Expression of Interest (Eoi) for Empanelment of Agencies for Radio Survey in the field of LTE Technology and related Tools and Infrastructure.**”*
2. *This CoE/IRISET reserves the right to amend or withdraw any of the terms and conditions contained in the EOI Document or to reject any or all the EOIs without giving any notice or assigning any reason. The decision of OSD/CoE, IRISET in this regard shall be final and binding on all.*
3. *Bidding firm(s) can be technology firms including Joint Ventures/ Consortiums /Sole Proprietors/ Partnership firms.*
4. *The bidder should produce Articles of Association (in case of registered firms), Bye laws and certificates for registration (in case of registered co-operative societies), Partnership deed (in case of partnership firm)*
5. *The bidder should submit the Original Power of Attorney/ Copy of Board Resolution in the name of the person signing the bid as per the applicable rules.*
6. *The Bidders must have furnished the necessary documents to establish their eligibility (indicating the page number in the bid) for each of the items given. Relevant portions in the documents should be highlighted. If a bid is not accompanied by all the necessary documents, it may be summarily rejected by CoE/IRISET.*

SECTION-4
DETAILS OF EXPRESSION OF INTEREST (EOI)

Center of Excellence (CoE)/IRISET invite interested agencies with relevant expertise and experience in radio frequency surveys to submit their Expression of Interest (EOI) for empanelment. The scope of work will primarily involve conducting comprehensive radio frequency surveys, including but not limited to:

- 1. Radio frequency spectrum analysis and mapping.*
- 2. Identification of interference sources and resolution strategies.*
- 3. Evaluation of signal propagation characteristics.*
- 4. Assessment of signal strength and quality.*
- 5. Compliance with regulatory requirements and guidelines.*
- 6. Recommendation of optimization measures for network performance improvement.*

Detailed scope of work, including but not limited to:-

The steps involved in a radio survey for LTE networks typically include the following:

- 1. Planning and Preparation:*
 - Define the survey objectives, such as coverage analysis, capacity planning, interference identification, or optimization.*
 - Gather relevant network information, including site locations, antenna configurations, and frequency bands.*
 - Identify the survey area and determine the required level of detail.*
 - Prepare the necessary equipment, including spectrum analyzers, signal generators, drive test tools, and mapping software.*
- 2. Site Survey:*
 - Visit the survey area and identify potential survey points, including outdoor and indoor locations.*
 - Conduct a visual inspection of existing network infrastructure, such as*

base stations, antennas, and back haul connections.

- *Identify potential obstacles or physical obstructions that may affect signal propagation.*

3. Data Collection:

- *Perform drive tests using a suitable vehicle equipped with survey tools and equipment.*
- *Collect data on signal strength, signal quality, interference levels, and other relevant parameters.*
- *Measure key performance indicators (KPIs) such as throughput, latency, and coverage.*

4. Spectrum Analysis:

- *Conduct spectrum analysis to identify and analyze signal interference and neighboring cell activity.*
- *Identify the presence of other radio systems operating in the survey area.*
- *Analyze the occupied bandwidth, signal power levels, and signal-to-noise ratios.*

5. Data Analysis:

- *Process and analyze the collected data using specialized software tools.*
- *Generate maps, plots, and reports to visualize and interpret the survey results.*
- *Evaluate network performance, coverage areas, signal quality, and potential interference sources.*

6. Optimization:

- *Identify areas with poor coverage or weak signals and propose optimization strategies.*
- *Evaluate the need for additional base stations or repeaters to improve coverage.*
- *Optimize antenna configurations, tilt angles, and transmit power levels to enhance signal quality and minimize interference.*

7. Reporting:

- Prepare a comprehensive report summarizing the survey findings, analysis, and recommendations.*
- Present the report to the relevant stakeholders, such as network operators, engineers, or management.*
- Provide actionable insights and recommendations for improving network performance and optimizing coverage.*

It's important to note that the exact steps and procedures may vary depending on specific project requirements, network technologies, and survey objectives.

SECTION- 5

RESPONSIBILITIES OF AN EMPANELLED FIRM(S)

- *The empanelled firm shall respond to each request for tender/quotation raised by various entities of Indian Railways, for RF survey within stipulated time.*
- *The empanelled firms shall provide training to the client personnel during the transition phase of the project (if required by Railway's entity on payment basis).*
- *The empanelled firms shall abide by all terms and conditions for the complete period of empanelment.*
- *The empanelled firm, when participating in a tendering process in various zones of Railways, shall be responsible for any inaccurate or incorrect information furnished as part of the bid submission. Further, the empanelled firm shall solely bear the consequences of the same.*
- *This empanelment shall be valid for Indian Railways.*
- *Empanelled firm must ensure fulfillment of regulatory compliances and licenses for the services being offered for. In this regard Empanelled Firm shall indemnify CoE/IRISET against any non-compliance and submit a declaration as per Annexure 1 on the company letter head duly signed by authorized signatory.*

SECTION- 6

PERIOD OF EMPANELMENT

- *The validity period of empanelment will be **3 years** from the date of Empanelment Letter is issued to the firm(s).*
- *The period of empanelment may be extended Year on Year basis as mutually agreed between CoE and the empanelled firm(s). CoE will review the performances of the Empanelled firms.*
- *Empanelled firms should follow high Quality standards in their services. However, CoE/IRISET reserves the right to terminate empanelment any time in case the services are not up to the mark.*

SECTION- 7
CONTACT DETAILS

All correspondence and clarifications shall be made to the following nominated person(s):

OSD/CoE

Indian Railways Institute of Signal Engineering and Telecommunications (IRISET),

Tarnaka Road, Secunderabad - 500 017

Phone: +91-40-27820315

Fax: +91-40-27823922

Shri Saurabh Verma, ED(TD)/COE

Email: saurabh.verma81@gov.in

Shri M. Muni Kumar, Dir(S&T)/COE

Email: directorsntcoekavach@iriset.railnet.gov.in

Section 8
EVALUATION CRITERIA

S.No	Descriptions of Technical Qualification	Maximum Marks	Evaluation
1	1.1. Participant should be in the field of RF planning from more than 3 years. Submit Incorporation Certificate/Work completion as a proof.	10	Yes/No
	1.2. Existence from one to three years. Submit Incorporation Certificate /work completion as a proof.	5	Yes/No
2	2.1. The bidder should have positive net-worth for preceding three years. A certificate, in original, from a Chartered Accountant must be submitted.	10	Yes/No
	2.2. The bidder should have positive net-worth for last one year. A certificate, in original, from a Chartered Accountant must be submitted.	5	Yes/No
3	3.1 Turnover of the firm more than 1 cr	10	Yes/No
	3.2 Turnover of the firm more than 20 lakh but less than 1 cr	5	Yes/No
4	Value of Radio Frequency Planning related projects successfully completed in India for Govt./PSU/Private firms/ Telecom service providers.		
	4.1 more than 2 cr	20	Yes/No
	4.2 more than 50 lakh less than 2 cr	15	Yes/No
	4.3 more than 20 lakh less than 50 lakh	10	Yes/No
5	Value of Current works on hand of Radio Frequency Planning related projects in the name of Firm for Govt./PSU/Private firms/ Telecom service providers.		
	5.1 more than 1 cr	15	Yes/No
	5.2 more than 50 lakh less than 1 cr	12	Yes/No
	5.3 more than 20 lakh less than 50 lakh	10	Yes/No
6	Experience of the TEAM LEADER of the team in RF field, network planning and network optimization only in terms of year.	20	Percentile. (Base reference=15) (Max Marks for 15 years or more of experience)

S.No	Descriptions of Technical Qualification	Maximum Marks	Evaluation
7	Key personnel on roll, in Bidder Organization -No. of key experts for design, planning report generation, testing, with their qualifications. 1 mark for each key personal with min 5 year of experience in the RF field and more than 1 year of employment in the organization.	15	Percentile* (Base reference=15) (Max Marks for key Manpower≥15)
	Total Marks	100	

Example for item No. 7 (In case more than one firm has responded):-

i. Considering two firms have responded, one having 8 Number of eligible Key personnel & other having 6 Number of eligible Key personnel. Base reference for this credential is 15. The Marks allotted to first company will be = 15 and to second company will be = $(6/8) \times 15 = 11.25$

ii. Considering three firms have responded, having 12, 8 & 6 number of eligible Key personnel. Base reference for this credential is 15. The Marks allotted to first company will be = 15 and to second company will be = $(8/12) \times 15 = 10$ and to third company will be = $(6/12) \times 15 = 7.5$

iii. Considering firms have responded for more than 15 key personnel, then max marks i.e. 15 shall be allotted to them.

The respondents who are considered eligible in Technical Criteria and Financial Criteria will be shortlisted as empanelment firms for RF survey.

Section 9
SHORTLISTING CRITERIA

1. When deemed necessary, CoE/IRISET may seek clarifications on any aspect of their bid from the bidder. However, that would not entitle the bidder to change or cause any change in the substance of the EOI submitted or price quoted. This would also not mean that their bid has been accepted.
2. CoE/IRISET may waive any minor in formality or non-conformity or irregularity in any bid, provided such waiver does not prejudice or affect the relative ranking of any other bidder.
3. Any effort by a bidder to influence CoE's bid evaluation, bid comparison or contract award decisions may result in the rejection of the bidder's bid and forfeiture of the bidder's EMD.
4. CoE/IRISET reserves the right to accept any bid, and to cancel/abort the EOI process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected bidders or bidders and of any obligation to inform the affected bidders of the grounds for COE/IRISET' sanction and without assigning any reasons.
5. Printed Conditions mentioned in the EOI will not be binding on COE/IRISET. If any specific condition is to be accepted it should be specifically mentioned in the pre-bid meeting and may get incorporated in EOI itself.
6. The respondents who are considered eligible in Eligibility Criteria given in section 9 will be shortlisted as eligible firm(s) for Special Limited Tender (SLT) for conducting Radio Survey in the field of LTE Technology and related Tools and Infrastructure in nominated section on Indian Railways.
- 7. Firms qualified with more than 50 marks shall be empanelled.**

Section– 10

DOCUMENTS TO BE SUBMITTED BY FIRMS

To participate in the empanelment process, interested agencies are requested to submit their EOI, including the following information:

- a. Name of the company - Certificate of incorporation & Profile.
- b. Legal Status of the company
- c. Brief description of the Company including details of its business, group/subsidiaries/affiliates
- d. Date of Incorporation
- e. Date of commencement of RF planning Business I.e. date of commencement of first RF work.
- f. CA certificates for Net worth turn over for last 3 years as required in financial eligibility.
- g. Authorized signatories (Certified copy of Power of Attorney)
- h. Details of relevant experience, highlighting previous radio frequency survey projects as required in technical eligibility.
- i. Technical expertise and qualifications of key personnel and Team leader as required in technical eligibility.
- j. Equipment and software capabilities.
- k. Approach and methodology for conducting radio frequency surveys.
- l. Any additional relevant information that demonstrates the agency's suitability for empanelment.
- m. Contact details,
- n. Registered office, Head office and local office addresses including Telephone nos. / Fax nos. (with documentary proof)

Signature of Authorized Signatory (with official stamp)

Name of Authorized Signatory:

Designation of Authorised Signatory:

Annexure 1
Format for Covering Letter
(On the Company's Letterhead)

To,

Officer on Special Duty (OSD)/Center of Excellence (CoE)

Indian Railway Institute of Signal Engineering and Telecommunications

Tarnaka Road, Secunderabad-500017

Phone: +91-40-27820315

Email : osd-coe@iriset.railnet.gov.in

Subject: Submission of Response to EoI for “Empanelment of Agencies for Radio Survey in the field of LTE Technology and related Tools and Infrastructure.”

1. I/We _____ undertake that I/We have full authority to submit this response to EoI, on behalf of _____ (name of the company) and I/We have reviewed and fully understood the shortlisting/eligibility criteria and information provided, the undersigned hereby submits response to EoI, for your evaluation.
2. I / We understand that you are not bound to accept the response to EoI and the submission of response does not guarantee association in subjected empanelment.
3. Our Participation in this EoI doesn't guarantee any qualification to future tender of RF planning.
4. CoE/IRISET is free to initiate different mode/method for appointment of activities / services / including, but not limited to, those not covered in the scope of this EoI.
5. I/We agree and understand that, this EoI is non-binding and non-committal.
6. Further, I/we confirm that neither CoE/IRISET nor any of its employees, associates, affiliates or its agents shall be liable to me/us for any liability arising directly or indirectly from our participation in the EoI Process.
7. I/We further agree, understand and fully comprehend that CoE/IRISET may in its absolute and exclusive discretion at any time; change, alter, replace, remove and/or cancel any or all part of the EoI Document. CoE/IRISET may also abandon, call-off, alter, replace and revise the subject empanelment procedure.
8. I/We confirm that the details furnished in this EoI response or any part thereof, including the appendices, and other documents and instruments delivered or to be delivered to CoE/IRISET, are true, accurate, verifiable and complete to the best of my

knowledge and belief. These submissions include all information necessary to ensure that the statements therein do not in whole or in part mislead CoE/IRISET in its Eol Process.

9. I/We fully understand and agree to comply that on verification, if any of the information provided here is found to be false or misleading or misrepresenting, I/we are liable to be disqualified from the Eol Process and any other action as deemed fit.
10. If any of the information provided here is found to be false or misleading or misrepresenting, which was not been noticed in the process of empanelment and discovered after empanelment then I/we are liable to be disqualified from the Empanelment list and any other action as deemed fit.
11. I/We agree for unconditional acceptance of all the terms and conditions set out in the Eol Document and also agree to abide by this Eol for a period of 120 days from the date of submission.

Signature of Authorized Signatory (with official stamp)

Name of Authorized Signatory:

Designation of Authorised Signatory:

Address of the Respondent:

Telephone & Fax of the Respondent:

E-mail address of the Respondent:

Annexure 2

Technical Credentials

Details of works successfully completed and works in hand, team leader experience and details of key personnel.

- i. Commencement date of first RF planning work carried out by the firm with proof.
- ii. List and proof of successfully completed RF planning works by the firm.
- iii. List and proof of RF planning works in hand of the firm.
- iv. CV of team leader to extract the experience of the Team leader of RF field, network planning and network optimization.
- v. List of Key Experts with Name, Designation, Employee Code, Qualification, date of joining in the RF/ network planning, network optimization department of the firm & their domain (i.e. planning design/development/testing/report generation).

Signature of Authorized Signatory (with official stamp)

Name of Authorized Signatory:

Designation of Authorized Signatory:

Annexure 3
Financial Credentials
Net worth, Profitability and Average Annual Turnover.

Following details must be provided on a separately signed sheet with duly referred supportive documents:

- i. Respondents have to submit certified letter from CA regarding the **Net worth, Profitability and Average Annual Turnover** figures in a tabular form and give details of the calculations for the figures arrived at by them linking with the supporting documents certified by Chartered Accountant for verification during evaluation process for last 3 financial years (2020-21, 2021-22, 2022-23).
- ii. Copies of Annual Audited Financial statements (including Auditor's report) including Balance Sheets with all notes and related income statements for last 3 financial years (2020-21, 2021-22, 2022-23).
- iii. Any other financial details considered relevant.

Signature of Authorized Signatory (with official stamp)

Name of Authorized Signatory:

Designation of Authorised Signatory:

Annexure 4

Format for Declaration:

[To be printed on the applicant company's / Lead Member's letter head and signed by its Authorized Signatory]

dd/mm/yyyy

To,

**Officer on Special Duty (OSD)
Center of Excellence
Indian Railway Institute of Signal Engineering and Telecommunications
Tarnaka Road, Secunderabad-500017.**

Subject: Submission of EoI for “Empanelment of Agencies for Radio Survey in the field of LTE Technology and related Tools and Infrastructure.”

1. In response to the above EoI notification for subject work, as an owner/ partner/ Director of _____, I/ We hereby declare that presently our firm is having unblemished record and is not declared in eligible for corrupt and fraudulent practices either indefinitely or for a particular period of time by the Government of India and/or any State Government in the last 3(three) financial years (2020-21, 2021-22, 2022-23).
2. I/We further declare that presently our Firm is not blacklisted and not declared ineligible for reasons other than corrupt and fraudulent practices by any State/ Central Government/ PSU on the date of submission of response.
3. If this declaration is found to be incorrect then without prejudice to any other action my/our response may be rejected and CoE/IRISET may take any other action that may deem fit to it.

Yours sincerely,

Signature of Authorized Signatory (with official stamp)

Name of Authorized Signatory:

Designation of Authorized Signatory:

Address of the Respondent:

Telephone & Fax of the Respondent:

E-mail address of the Respondent:

Annexure 5

FORMAT FOR AFFIDAVIT TO BE SUBMITTED BY RESPONDENT

(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 100/- .The stamp paper has to be in the name of the Respondent)**

To,

Officer on Special Duty (OSD)

Center of Excellence (CoE)

Indian Railway Institute of Signal Engineering and Telecommunications

Tarnaka Road, Secunderabad-500017

Subject: Submission of EoI for “Empanelment of Agencies for Radio Survey in the field of LTE Technology and related Tools and Infrastructure”.

I.....(*Name and designation*)** appointed as the attorney/authorized signatory of the participant (including its constituents), M/s_____ (hereinafter called the participant) for the subject empanelment procedure as per the EoI reference No. CoE/IRISET/03/23 of CoE/IRISET, do hereby solemnly affirm and state on the behalf of the participant as under:

1. I/we the participant am/are signing this document after carefully reading the contents.
2. I/We the participant also accept all the conditions of the EoI and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have obtained the EoI documents as mentioned in Letter of Invitation and printed the same. I we have verified the content of the printed document from the website and there is no addition, no deletion or no alteration to the content of the EoI document. In case of any discrepancy noticed at any stage, the master copy available with the railway Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.

5. I/We also understand that my/our response will be evaluated based on the documents/credentials submitted along with the response and same shall be binding upon me/us.
6. I/We declare that the information and documents submitted along with the response by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.
7. I/we certify that I/we the participant(s) is/are not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of submission of response, either in individual capacity or as a HUF/ member of the partnership firm/LLP/JV/Society/Trust.
8. I/we understand that if the contents of the certificate submitted by us are found to be forged/false or incorrect at any time during process for evaluation of response, CoE/IRISET may take action as deemed fit. Further, I/we (*insert name of the participant*)** _____ and all my/our constituents understand that my/our response shall be summarily rejected.
9. I/we also understand that if the contents of the certificate submitted by us are found to be false/forged or incorrect at any time, it will lead to termination of the association with CoE/IRISET besides any punitive action as deemed fit by CoE/IRISET.
10. I/We have read the clause regarding restriction on procurement/hiring from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or, if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfill all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed).

DEPONENT

SEAL AND SIGNATURE OF THE PARTICIPANT

VERIFICATION

I/We above named respondent do hereby solemnly affirm and verify that the contents of my/our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

DEPONENT

SEAL AND SIGNATURE OF THE PARTICIPANT

Place:

Dated:

****The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by respondent. This affidavit should be attested before Magistrate/Notary Public. This affidavit is to be given by each member of JV.**

********End of the Document********