



डेडीकेटेड फ्रेट कोरीडोर

EXPRESSION OF INTEREST

FOR

**Development, Installation, Commissioning and Operation of Track
Maintenance Management System for DFCCIL**

Dedicated Freight Corridor Corporation of India Limited
Expression of Interest

1. Background:

Dedicated Freight Corridor Corporation of India Ltd. (hereafter referred as DFCCIL) is a Special Purpose Vehicle set up under the administrative control of Ministry of Railways to undertake planning & development, mobilization of financial resources and construction, maintenance and operation of these Dedicated Freight Corridors on various identified routes in INDIA. DFCCIL is currently constructing Eastern and Western corridors, which are likely to be fully operational soon.

Track being the most important infrastructure asset for DFCCIL, there is a need to develop proper and efficient Track Maintenance Management System in line with various such system developments taking place in recent past, across World Railways, various infrastructure and other organizations.

DFCCIL intends to put in place a state-of-the-art Track Maintenance Management including Inspection system to maintain the assets in an effective manner requiring least dependence on subjective assessment.

2. Objective:

Dedicated Freight Corridor Corporation of India Limited has decided to initiate Structural Health Monitoring of its Track and invites Expression of Interest (EOI) in sealed cover from specialized agencies for development, installing, operating & maintaining of such Track Maintenance Management System.

3. Salient Features

ROUTES

Western Corridor : 1504 Route Kms from JNPT in Maharashtra to Dadri in UP

Eastern Corridor : 1856 Kms from Ludhiana in Panjab to Dankuni in West Bengal

TRACK

Rails : 60 KG 1080 Head Hardened

Sleepers : PSC sleepers suitable for 25 Tonne axle load

Turnouts: Canted T/Outs of 60 Kg thick web switches & weldable CMS crossings

Welding: Continuous Welded Rails all through including yards and Bridges etc.

Level Crossings: No surface crossing is planned . Grade separators are provided



Inspection system: Maximum use of modern techniques and instruments with least human subjectivity

Maintenance system: Mechanised Machine maintenance with least possible human involvement

4. Terms of References:

1. The Implementation of Track Maintenance Management System is to be carried out on DFCCIL. The focus of the TMMS should be on user friendly system to improve safety and efficiency of the entire network and to optimize the amount of investment required to keep the assets in good order.
2. TMMS has to ensure High quality, accurate and accessible information about the asset and evolve maintenance activity towards more sophisticated condition-based system.
3. The proposed system to have Maintenance planning with maintenance work schedules and generate instructions for planned and emergent works. It should also include Material Management System like inventory control and online record keeping.
4. The system should provide Instant access to information requested during inspection activities and requisite information to be searchable by asset/ defects and numerous other criteria.
5. The proposed TMMS to easily integrated with all major enterprise systems and to support DFCCIL for maintenance planning, work order generation, work maintenance support, stock and inventory management etc.
6. It needs to have efficient and organized work flows for all preventive and corrective railway maintenance works, giving new mobile working solutions that gives us much more confidence in the quality and accuracy of our data. Thus, giving better insight into the condition of assets to allow to maintain and invest in infrastructure more efficiently.
7. The work may be divided in two phases. The first phase will be the Development, Installation and commissioning of the Maintenance Management System covering all the requisite parameters for Track Inspection and Maintenance. The second phase will consist of initial data entry into the system for subsequent inspections, and maintenance of Track, ensuring snag-free functioning for a minimum period of 60 months. The system provide user friendly formats and menu for further data entry of track conditions, by the inspecting official / condition assessment equipment.
8. The scope of work shall broadly consist of:

A. Installing and Commissioning:

1. To develop the concept showing various parameters to be recorded and their inter-relationship. Scripts to provide workflows that guide field operatives through the asset verification process effectively providing a list of questions that they need to answer in order to complete the verification exercise including identifying the field measurements that may be required for deriving the parameters. Analyze these parameters captured through manual mode or other devices like RCRV based portable track measurement devices, Track recording Cars, Oscillograph results etc. Categorizing the analyzed data and giving outputs for planned, predictive and immediate maintenance need.
2. To develop a complete list of instruments/hand held devices like tabs/mobiles etc./sensors and accessories etc. used to measure/record the required parameters including "in the field" data entry of track inspections, defects and repairs, for approval of DFCCIL, including detailed specifications of each instrument.
3. To procure all the above instruments, accessories etc. and install and implement the concept on TMMS as per suggested yardsticks with due approval by DFCCIL. The payment of these gadgets shall be made separately as per agreed rates.
4. To transmit the processed ".csv" file/ other required software files into an object storage provided by DFCCIL/or the developer as the case may be as per the designated time schedule.
5. To provide central repository and back up inspection and defect records securely.
6. Generate reports and MIS in the prescribed manner and frequency.
7. TMMS to record, analyse and monitor all the asset with details and parameters as under, the list is indicative and not limited to following
 1. **Assets**
 - Creation of all track asset data
 - Output/Retrieval of information in desired profarma/ format
 - History of each asset on its alteration/improvement/deterioration /changes
 - Inspection and compliance
 - Record asset wise and retrieval of data in requisite form.

2. **General Environment of the section**
 Temperature
 Humidity
 Whether corrosion prone
3. **Track Parameter/condition Analysis**
 Gauge, Cross level, Alignment, Twist, Vertical and Lateral accelerations, Tamping cycles, drainage, mud pumping, rail fractures etc.
4. **Rail crack analysis-** Date, location, type of rail year of manufacture/laying wise
5. **Deep screening /Shallow screening** -recording date wise/section wise, overdue in graphical and tabular form
6. **Human resources details-** strength, vacancy, training details, medical details, competency, DAR details
7. **Control Operation details**
 Position of Locomotive provided, Cases of Accident/Derailment and Special Features, Cases of Rail Weld Fracture, Position of RF/WF/IMR Summary of RF/WF/IMR Mega Block Planned/Done, Position of Train Detention, Position of Machine Work Sites, Position of Track works, Position of Loose Flat/Hopper/wagons, Position of PRC Rake, Position of Ballast trains, Time Consumed on Speed Restrictions, Min/Max Rail Temperature, Night Foot Plate Inspection, TRC/OMS Recording Temporary Speed Restriction (TSR)
8. **Yard Plans/ESP/SIP**
9. **Fish plated joints**
10. **Rail fracture - location/rail section/LWR wise**
11. **MMU works-** works done, usage, attendance etc
12. **Inspection record, due, compliance other analysis**
13. **Land details**
14. **Location needing Inspection - OMS, TRC**
15. **Location needing attention**
16. **Level crossing**
17. **RUBs**
18. **ROBs**
19. **LWR**
20. **ALL RECORDINGS**
21. **MONSOON RESERVES**
22. **OHE MASTS**

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23. LOCATION HUTS
24. PURCHASE ORDERS
25. SECTION DETAILS including traffic pattern and density
26. **TRACK DIAGRAM as per approved format**
27. **TRACK MACHINES**
28. **TRACK MACHINE PLANNING**
29. **TRAFFIC CONTROL**
30. **TRACK STATISTICS**
31. **TRC ANALYSIS AND REPORT**
32. **UNUSUAL INCIDENCE**
33. **WELDING**
34. **USFD**
35. RAW - Railway affecting works

B. Operation and Maintenance:

1. Analyse the data / parameters feed by inspecting official / measuring equipment to monitor the health and performance of all assets and provide solutions to ensure that these are kept in the best of health all the time.
2. To diagnose defects if any and suggest immediate/ planned/ predictive attention. Record rectifications done / due etc. giving alert for immediate attention through SMS, email etc.
3. To monitor the data being received from the devices and check for any abnormal/absurd data being received. In case any absurd data is noted, it should be notified with likely cause of the same.
4. It should provide maintenance work support related to ongoing maintenance works.
5. It should give Graphic representation, recording GPS coordinates on reported defects
6. Budget management to support planning and optimization of maintenance budget and life cycle costs.
7. To enter into an Annual Maintenance Contract for all installed devices and accessories for a minimum period of 60 months.

5. Prequalification Process:

The prequalification process can be briefly described as:





6. Submission Requirements:

The interested parties would be required to fill the form given in Annexure A below-

ANNEXURE A

A. Company Details

Company Name:	
Type of Firm: (Corporate or company / Subsidiary / Division / Proprietor / Partnership.)	
Registered With & Registration No.:	
Date of Incorporation:	
<u>Statutory Details</u> GSTIN: PF No.: PAN No.:	
Address:	
Telephone:	
Website:	
Name of the Contact person:	
E-mail of the contact person:	
No. of years of relevant experience:	

Signature

B. Details of Relevant Work Performed in the last three years:

(attach completion certificates / references/recommendations)

Name of Client, Client's representative & contact details	Project Description	Contract Values.	Start Date	Completion Date

C. Details of Current Works in Hand:

(attach additional sheets if necessary)

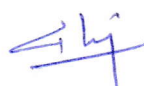
Name of Client, Client's representative & contact details	Project Description	Contract Value Rs.	Start Date	Completion Date

D. Total Value of Projects completed each year, for the previous three years.

Year	Location	Total Value of Works completed (Rs.)

E. Qualifications and experience of key personnel proposed for administration and execution of works. (attach resumes of key personnel)

Position	Name	Qualifications	Years of experience in proposed position



F. Financial Referees / References

(attach Solvency Certificate from the bank confirming that the company's bank account in a good standing)

Bank / Financial Institution	Name of Referee	Position	Contact Details

G. Current Financial Details

(attach financial statements & profit/loss statements for the previous 3 years)

Financial information in Rs.	Actual previous three years		
	1	2	3
1. Total assets			
2. Current assets			
3. Total liabilities			
4. Current liabilities			
5. Profits before taxes			
6. Profit after taxes			

H. Details of Current Litigation Involvement

Year	Award For or Against Applicant	Name of opponent and relation, cause of litigation, and matter in dispute

I. Quality Assurance - Industry Certificates & Awards

Does your company maintain a current?	Yes	No
Quality Assurance Program		
ISO 9001 certification		
Other Certificates & Awards		
Industry Accepted Quality Assurance Program		
What Industrial Codes and Authorizations does your company hold? (Please specify)		
With which other clients are you registered as a contractor? (Please specify)		

J. Health, Safety and Environment Management Program

Details	Yes	No
ISO 14001 Certification		
OHSAS 18001 Certification		
Other Certificates & Awards		
Do you have a current written safety program for field operations?		
Does your company implement a Health and Safety Policy for all its employees?		
Does your company have a written Health and Safety Policy Statement? please provide a copy		
Does your company employ qualified Safety professionals? If yes, include their CVs in the submission.		
Does your company have a Safety Management plan at the ongoing sites?		
Does your company maintain records of all accidents and injuries sustained?		



Health & Safety Performance for the past three years

Occurrences	Previous three years		
	1	2	3
Injuries requiring first aid			
Injuries requiring 1 day's absence			
Injuries causing hospitalization			
Fatal Injuries			
Total Man-Hours worked on Sites			

K. Client references

Name of Client	Name and Designation of Key Personnel	Contact Number	Email Address



