

Ref. No.: AERO/DPM/2025/01

Date: July 18, 2025

Domestic Limited Tender Notification for Selecting Technology Partner for Development of Universal Data Processing Module for Existing IWS System

Submission: August 11, 2025

This is a limited tender notification is in response to the Expression of Interest (EOI) published in IISc portal on June 18, 2025 with Tender reference no: EOI/DPM/AE/2025/01. This limited tender is published and send to responded bidder **L2Mrail, MIG sector-A, Site no: 1048, Ward 3, Industrial Area, Yelahanka New Town, Bangalore 560064 , Mr Sreenivasa Rao Ganapa, Managing Director, email: rao@l2mrail.com, sinha@l2mrail.com**

This is a Request for quote (RFQ) from the identified domestic (India-based) company to be Technology partner for the development of Universal Data Processing Module (DPM) for the existing IWS system at the Department of Aerospace Engineering, Indian Institute of Science, Bangalore. With respect to this tender, the rules laid out by the Government of India in order No. P45021/2/2017-pp-BE-II issued by the Public Procurement Section, Department or Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 4th June 2020, will be followed. The tender should be submitted in two separate sealed envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach us duly signed on or before 5 PM on August 11, 2025.

The bids should be addressed to:

The Chairman,
Department of Aerospace Engineering,
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Prof. S. Gopalakrishnan
email: krishnan@iisc.ac.in

1	Section 1	Bid Schedule	As specified by IISc
2	Section 2	Eligibility Criteria	As specified by IISc
3	Section 3	Specifications	Technical specifications
4	Section 4	Terms and Conditions	As specified by IISc
5	Section 5	Technical bid	Annexure 1: Bidder details
			Annexure 2: Declaration regarding experience of bidder
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			Annexure 4: Declaration of acceptance of Terms and conditions
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Section 1: Bid Schedule

1.	Tender No	AERO/DPM/2025/01
2.	Tender date	July 16, 2025
3.	Item	To be Technology Partner for the development of Universal Data Processing Module
4.	Tender type	i) Technical bid (Part A) ii) Commercial bid (Part B)
5.	Place of tender submission	The Chairman, Department of aerospace Engineering Indian Institute of Science Bangalore 560012, India. Kind attention: Prof. S Gopalakrishnan
6.	Last date and time of tender submission	August 11, 2025, 5 PM
7.	Contact for further clarification	Prof. S. Gopalakrishnan Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Ph: +91-80-2293-3419 email: krishnan@iisc.ac.in

Section 2: Eligibility Criteria

1. The applicant must be a company, partnership firm, or LLP registered in India under the applicable laws (e.g., Indian Companies Act, 1956/2013; Partnership Act, 1932).
2. The organization must preferably have a technology implementation office in Bengaluru, India.
3. If the organization is a startup company, it must be a DPIIT-recognized.
4. The organization must have access to a lab or dedicated workspace within Bangalore to facilitate easy collaboration with IISc on this proposed R&D activity.
5. The organization must have a minimum of 5 years of experience (as of 15th June 2025) in developing products and systems for the railways in collaboration with academic institutions, government bodies, public sector units, or allied agencies (Note this condition can be relaxed to 3 years if the organization is a startup or MSME).
6. Demonstrated experience in railway electronics, embedded systems, or related engineering domains is required.
7. Proven track record in R&D, product development, or system integration, with at least two Intellectual Properties (IPs) owned by the organization.
8. Must possess in-house technical capabilities or have strategic partnerships to support project delivery/product development.
9. Should have successfully executed at least one R&D project for Indian Railways through RDSO in collaboration with IISc or similar organization, with a project cost exceeding ₹1 crore.
10. Must nominate at least one full-time scientist with a doctoral degree and two M.Tech professionals for this project.
11. The identified company should sign and submit the declaration for Acceptance of Terms and Conditions as per - Annexure 4.
12. The identified company must be not blacklisted/banned/suspended or have a record of any service- related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.

Section 3: Technical Specification for the being Technology Partner

The selected company should perform following activities

- **Design and development** of both hardware and software for a universal DPM
- Ensuring **compatibility** of the developed product with multiple IWS variants (including LHB coaches and other rolling stock)
- Real-time **data acquisition, processing, and visualization**
- Acquisition and interpretation of strain signals from existing IWS systems
- Experimental testing under varying loads to evaluate signal-load relationships
- Seamless **integration** with existing systems Specified by IISc
- Comprehensive **documentation, testing, and field deployment**
- Provision of **long-term maintenance and upgrade support**
- Development of models to estimate **lateral and vertical wheel forces**
- Computation of **derailment coefficient** and other relevant safety metrics

The above activities should be performed under 3 three milestones, MS1, MS2 and MS3 as given under by the identified company :

- MS-1: 2 months
- MS-2: 3 months
- MS-3: 3 months

ID	Denomination	Description
MS-1	Feasibility of Development	Literature review, system and subsystem experiments, signal analysis, and submission of a feasibility report to IISc
MS-2	Design and Development of Data Acquisition system	Design and development of data acquisition system and a submission of detailed report to IISc along with the developed hardware.
MS-3	Design and Development of universal DPM	Design and develop a universal DPM compatible with existing hardware to estimate rail-wheel forces through model parameter optimization. The identified company should provide a final detailed report to IISc comprising of all the milestones and deliver the developed hardware/product.

- For each of the above milestones, the company should provide PERT or ACTIVITY Chart with precise timelines

The payment against each of the above milestones will be based on the following compliance of activities.

1. Report on feasibility of design and development of DPM to work with existing IWS (MS1)
2. Design of digital data acquisition system based on LabViEW or equivalent platform (MS2)
3. Experimental results of impact load variation on strain output signals (MS2)
4. Detailed report for items 2 and 3
5. Design of Universal DPM to work with existing hardware of IWS and also a unit of DPM. The designed DPM should estimate rail wheel lateral and vertical forces by optimization of parameters (MS3)
6. Validation of the developed DPM should be done on Filed trails identified by IISc. The results should be compared with the results of existing DPM (MS3)
7. A final detailed report comprising of all the three milestones (MS3)

Section 4: Terms and Conditions

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bidsystem).
 - a) Technical Bid (Part-A) – Technical bid consisting of all technical details and checklist for conformance to technical specifications. The proposal should contain a compliance table. The compliance table should include all the items of the technical specifications in the same order and format. The additional column should indicate compliance in a “Yes” or “No” response.
 - b) Commercial Bid (Part-B) – Indicating item-wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.
3. The technical bid and price bid should each be placed in separate sealed covers, superscribing on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscribed with the Tender No, Tender Description & Due Date.
4. The SEALED COVER superscribing tender number and due date & should reach the office of the Chairman, Department of Aerospace Engineering, Indian Institute of Science Bangalore 560012, India. Kind attention: Prof. S Gopalakrishnan, on or before the due date mentioned in the tender notice. In case the due date happens to be a holiday, the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
5. The identified company must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.
6. The vendor must provide a compliance statement in a tabular form concerning each technical specification in the tender document duly supported relevant proof of experience.
7. Wherever requested, data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed as technically non-compliant.
8. The institute reserves the right to verify the accuracy and seek clarification of submitted specifications after opening the technical bids. Based on such clarification, if specifications are found to be unsuitable, the technical committee reserves the right to disqualify identified company. Any discrepancy between the promised and verified specifications will be deemed as technical non-compliance.

9. In the commercial bid, the price should be inclusive of all discounts. The price quotation should include the cost of installation and training of potential users, if any.
10. The quotations should be on FOR-IISc Bangalore basis in INR only.
11. Any statutory increase in the taxes and duties subsequent to the bidder's offer, if it takes place within the original contractual date, will be borne by IISc, Bangalore, subject to the claim being supported by documentary evidence. However, if any decrease takes place, the advantage will have to be passed on to IISc, Bangalore. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from the bidding process.
12. The identified company must submit a list of all Indian customers (only Government of India organizations) where similar work has been undertaken. Additionally, IISc shall have the absolute right to take the opinion of other departments/institutes for their opinion/experience about the identified company's services. Based on such input, IISc may decide about the rejection of the identified company.
13. The identified company shall include testimonials from the companies they have performed similar work.
14. Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
 - a) To accept OR reject the tender from the identified company either in full or in part..
 - b) To reject the tender, offer not conforming the tender terms.
15. The indenter reserves the right to relax any or all of the above conditions without assigning any reason.

Annexure 1:

Details of the Bidder: The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Sr. No.	Type	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

(Signature of the Bidder)
Name:
Designation, Seal

Date:

Annexure 2:

Declaration regarding experience

To,

The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Prof. S Gopalakrishnan

Ref: Tender No:

Dated:

Sub: Technology partner for the Development of Universal data Processing Module

I have carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has _____ years of experience in the railway domain, especially in the development of Data processing Module.

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 3:

Declaration of track record

To,
The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Prof. S Gopalakrishnan

Ref: Tender No:

Dated:

Sub Technology partner for the Development of Universal data Processing Module

Sir,
I have carefully gone through the Terms & Conditions contained in the above referred tender.
I hereby declare that my company / firm is not currently debarred / blacklisted by any Government / Semi-Government organizations / institutions in India or abroad. I further certify that I am competent officer in my company / firm to make this declaration.

OR

I declare the following:

Sr. No.	Country in which the company is debarred/ blacklisted / having pending case	Blacklisted / debarred by Government / Semi Government Organizations or Institutions / having pending case	Reason	Time Period

(Note: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

(Signature of the Bidder)
Name:
Designation, Seal

Date:

Annexure 4:

Declaration of acceptance of terms and conditions

To,
The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.

Kind attention: Prof. S Gopalakrishnan

Ref: Tender No:

Dated:

Sub: Technology partner for the Development of Universal data Processing Module

Sir,
I have carefully gone through the Terms & Conditions contained in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 5:

Details of items quoted:

- a. Company Name
- b. Technical Expertise in the development of Data Processing Module
- c. Detailed technical specifications
- d. Specification Compliance Sheet
- e. Remarks, if applicable

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach Testimonials and record of previous experience in the domain along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

Section 5 – Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned below:

Please provide the price of individual components, preferably in the following manner.

1. Manpower costs
2. Working Expenses
3. Travel Costs

Items requested in the mandatory specification section

S.No	Description	Costs in INR
1.	Manpower Costs	
2	Working Expenses	
3.	Travel costs	
4.	Total costs	

Section 6 - Checklist

The following items must be checked before the bid is submitted.

1. Sealed Envelope “A”: Technical Bid
Technical bid (signed by the authorized signatory and sealed) with the below documents:
 - a. Annexure 1: Bidders details
 - b. Annexure 2: Declaration regarding experience
 - c. Annexure 3: Declaration of trackrecord
 - d. Annexure 4: Declaration of acceptance of terms and conditions
 - e. Annexure 5: Details of item quoted.

2. Sealed Envelope “B”: Commercial Bid

Your quotation must be submitted in two separate sealed envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date. These envelopes should be put in a bigger cover which should also be sealed and duly superscribed with Tender No., Tender description & Due Date.