

**M/s. BEML LIMITED,
BEML SOUDHA,
23/1,4th Main
SAMPANGIRAMA NAGAR,
BENGALURU - 560002
Notice for Inviting
Expression of Interest (Eoi)
For**

Development of Driver Display Panel for ARV

Reference No: R&D(Def)/ELEC/ARV/2024-001

Due closing date: 12.04.2024 (12th April 2024)

Eoi response mail ID: bemleoi@bemltd.in

**Contact for
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Issued by

BEML LIMITED

(Schedule 'A' Company under Ministry of Defence, Govt. Of India)

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SECTION-1
Disclaimer

The information contained in this Expression of Interest (Eol) document provided to the Prospective Collaborator(s), by or on behalf of M/s BEML Ltd., or any of its executives or advisors, is provided to the Prospective Collaborator(s) on the terms and conditions set out in this Eol document and all other terms and conditions subject to which such information is provided.

1. The purpose of this Eol document is to provide the Prospective Collaborator(s) with information to assist the formulation of their proposal. This Eol document does not purport to contain all the information each Prospective Collaborator may require. This Eol document may not be appropriate for all persons, and it is not possible for BEML Ltd., its executives or advisors to consider the business/investment objectives, financial situation and particular needs of each Prospective Collaborator who reads or uses this Eol document. Each Prospective Collaborator should conduct his own investigations and analysis and should check the accuracy, reliability and completeness of the information in this Eol document and where necessary obtain independent advice from appropriate sources.
2. BEML Ltd., its executives and advisors 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. BEML Ltd., 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 BEML Ltd., is bound to select and shortlist any or all the Prospective Collaborator(s). Even after selection of suitable Prospective Collaborator, BEML Ltd., is not bound to proceed ahead with the Prospective Collaborator and in no case be responsible or liable for any commercial and consequential liabilities in any manner whatsoever.
5. The Prospective Collaborator(s) shall bear all costs associated with the preparation, technical discussion/presentation and submission of response against this Eol. BEML Ltd., 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 Collaborator(s) or by any other agency on their behalf shall lead to disqualification of their Eol.

7. Notwithstanding anything contained in this Eol, BEML Ltd., reserves the right to accept or reject any application and to annul the Eol process and reject all applications, at any time without any liability or any obligation for such acceptance, rejection or annulment and without assigning any reasons, thereof. In the event that BEML Ltd., rejects or annuls all the applications, it may at its discretion, invite all eligible Prospective Collaborators to submit fresh applications.
8. BEML Ltd., reserves the right to disqualify any applicant during or after completion of Eol process, if it is found there was a material misrepresentation by any such applicant or the applicant fails to provide within the specified time, supplemental information sought by BEML Ltd.,
9. BEML Ltd., reserves the right to verify all statements, information and documents submitted by the applicant in response to the Eol. Any such verification or lack of such verification by BEML Ltd., shall not relieve the applicant of his obligations or liabilities hereunder nor will it affect any rights of BEML Ltd.,

SECTION-2

Schedule of Eol process & contact details

A. Schedule of Eol process

The schedule of activities during the Eol Process shall be as follows -

Sl.No.	Description	Date
01	Issue of Eol Document	26.03.2024
02	Last date of Submission of Eol response	12.04.2024 (12th April 2024)

B. Contact Details related to Eol

Chief of Vendor Development Cell

23/1, 4th Main SR Nagar

BEML Soudha

BEML Ltd.,

Bangalore-560027

Karnataka

India.

Tel:

Mobile:9886379085 / 080 22963253

Email :srinivasantn@bemltd.in

SECTION-3
About BEML LTD.,

BEML Limited (formerly Bharat Earth Movers Limited) was established in May 1964 as a Public Sector Undertaking for manufacture of Rail Coaches & Spare Parts and Mining Equipment at its Bangalore Complex. The Company operates under three major Business verticals viz., Mining & Construction, Defence and Rail & Metro. The three verticals are serviced by nine manufacturing units located at Bangalore, Kolar Gold Fields (KGF), Mysore, Palakkad. The products manufactured under the three Business Verticals are mentioned below.

DEFENCE & AEROSPACE	MINING & CONSTRUCTION	RAIL & METRO
Tatra based High Mobility Trucks	Bull Dozers	Integral Rail Coaches
Recovery Vehicles	Excavators	Metro Cars
Bridge Systems	Loaders	AC EMUs
Vehicles for Missile Projects	Pipe Layers	OHE Cars
Tank Transportation Trailers	Wheeled Dozers	Steel and Aluminium Wagons
Milrail Wagons	Tyre Handlers	Track Laying Equipment
Mine Ploughs	Shovels	Utility Vehicles
Crash Fire Tenders	Dumpers	Treasury Vans
Snow Cutters	Water Sprinklers	Spoil Disposal Units
Aircraft Towing tractors	Motor Graders	Broad gauge Rail bus
Aircraft Weapon Loading Trolley	Underground Mining Equipment	

More details about the entire range of BEML's products and operations can be viewed by visiting our web site www.bemlindia.in

SECTION-4

Details of Expression of Interest (Eol)

4.1 Introduction:

This Expression of Interest (Eol) seeks response from the Prospective Design & Development Collaborator(s), who are willing to be associated with BEML Ltd., through a No Cost No Commitment (NCNC) agreement for joint development of Driver Display panel for ARV (Armoured Recovery Vehicle) for Indian Army to enable BEML Ltd., to Design, Engineer, Manufacture, Assemble, Test, Supply, Field Install, Trials, Commission, Repair, Service and Retrofit. BEML intends to supply BEML ARV to Indian Army and also support through Over hauling the in-service equipment. To promote MAKE IN INDIA concept, the project has been taken up with Maximum Indigenisation content.

4.2 Scope of Cooperation:

BEML Ltd., is seeking Expression of Interest(s) from Prospective Collaborator(s) for Technology Collaboration Agreement (TCA) for joint development of Driver Display Panel for ARV to Indian Armed forces. The TCA shall enable BEML Ltd., to Design, Engineer, Manufacture, Assemble, Test, Supply, Field Install, Trials, Commission, Repair, Service and Retrofit on tracked vehicle for Indian Armed forces. Interested Parties meeting the Pre-Qualification Requirements as specified in clause 4.3 below are invited to submit their response to this Eol, as per indicative scope of technology transfer given in Annexure-1. Upon receipt of response(s) against this Eol, BEML Ltd., will review the response(s) to ascertain suitability of the offer and shortlist Prospective Collaborator(s) for further discussions.

4.3 Pre-qualification requirements (PQR)

The Prospective Collaborator(s) shall meet following qualification requirements as on the date of submission of Eol (to be substantiated by a documentary evidence):

1. The Prospective Collaborator should have designed, engineered, manufactured, tested, supplied and commissioned similar project on Military vehicle (broad technical specifications at Annexure-3) and such equipment should have completed at least three (03) years of service as on date of closing of this Eol.

OR

2. The Prospective Collaborator should have designed similar project (broad technical specifications at Annexure-3) and their designed equipment should have completed at least three (03) years of service as on date of closing of this Eol.

Note:

Prospective Collaborator (s) shall take the responsibility for transfer of know how in the area of Design, Engineer, Manufacture and testing of Display Panel to BEML Ltd., within the specified timeframe.

4.4 Instructions:

4.4.1 The interested Prospective Collaborator(s) should submit their response(s) along with enclosed annexures on or before 12.04.2024 (12th April 2024)

Annexure-1: Indicative Scope of Technology Transfer

Annexure-2: Prospective Collaborator's Experience in the Development of Driver Display Panel For ARV

Annexure-3: General technical specifications Driver Display Panel of ARV for Indian Army for TCA

Annexure-4: Reference List: The Prospective Collaborator's major supplies in last 10 years.

4.4.2 The response shall necessarily be accompanied with following details:

1. Company background
2. Product Profile
3. Technical details
4. Reference list of customers
5. Annual Audited financial reports for last 3 (three) years.

4.4.3 Language: All correspondences and documents related to the Eol response shall be in English language, provided that any printed literature furnished by the Prospective Collaborator(s) may be written in another language, as long as such literature is accompanied by a translation of its pertinent passages in English language in which case, for purposes of interpretation of the bid, the English translation shall govern.

4.4.4 The Prospective Collaborator(s) shall abide by the terms & conditions, as applicable, of the Eol.

- 4.4.5** All pages of the response against this Eol shall be duly signed by the authorised signatory.
- 4.4.6** Multiple proposals from the same Prospective Collaborator should not be submitted.
- 4.4.7** BEML Ltd., at its discretion shall inspect the Prospective Collaborator's works/office/reference site premises for the purpose of evaluation, as deemed necessary before selection of Collaborator. BEML Ltd., decision in this regard shall be final.
- 4.4.8** Any Prospective Collaborator which has been debarred/blacklisted by Central/State Governments of India or by any entity controlled by Central/State Governments of India from participating in any of their project, as on date of submission of Eol, shall not be eligible to submit the Eol.
- 4.4.9** BEML Ltd., shall receive applications pursuant to this Eol in accordance with the terms set forth herein, as modified, altered, amended and clarified from time to time by BEML Ltd., and all applications shall be submitted in accordance with such terms on or before the date specified in this Eol for submission of applications.
- In case any amendment/corrigendum to this Eol is issued, it shall be notified only at www.bemlindia.in*

4.5 PROCESS TO BE CONFIDENTIAL:

Information relating to the examination, clarification, evaluation and comparison of Eol and recommendations shall not be disclosed to Prospective Collaborator(s). Any effort by Prospective Collaborator(s) to influence BEML Ltd., in processing of Eol or selection decisions may result in the rejection of the response against Eol.

4.6 GOVERNING LAWS & JURISDICTION:

The Eol process shall be governed by, and construed in accordance with the laws of India and the Courts at Bangalore (India) shall have exclusive jurisdiction over all disputes arising under, pursuant to and / or in connection with the Eol process.

Annexure-1

Indicative Scope of Technology Transfer

Sl.No.	Description
(a)	Licensing & transfer of state- o f - t h e - a r t technology relating to Design, Engineer, manufacture, Assemble, Test, Supply, Field Install, Commission, Repair, Service and Retrofit Driver Display panel of ARV for Indian Army.
(b)	Transfer of improvements/modifications/developments/up gradations to be carried out by the Prospective Collaborator(s) during the period of TCA for taking care of new market requirements and obsolescence. Subsequent updates required due to component obsolescence or updates implemented by Prospective Collaborator(s) due to safety consideration would also be provided.
(c)	Assistance in planning & establishing the new manufacturing, assembly and testing facilities & processes/ suitable augmentation at BEML's existing facilities/processes by way of expert advice in terms of identifying, sizing & selection and preparation of specification of equipment / machinery required for manufacturing, their layout and foundation etc. Deputation of Collaborator's expert for commissioning of the manufacturing facilities, design of special tools and dies, jigs & fixtures etc.
(d)	Support through engineering services from Collaborator's design office / manufacturing facilities for products.
(e)	Training of BEML Ltd., engineers to Design- know-how knowledge transfer, Engineer, Manufacture, Assemble, Test, Supply, Field Install, Commission, Repair, Service and Retrofit the Driver Display panel of ARV for Indian Army.
(f)	Deputation of Collaborator's experts to assist BEML Ltd., in absorbing the technology for licensed products.
(g)	Transfer of applicable Proprietary software/computer programs including logics and source code, simulator, drawings & documents if any.
(h)	During the field trials and regular operation, if any modifications/updates are carried out to improve the performance/reliability of the system the same shall also be transferred to BEML Ltd., with complete know-how.
(i)	Technology being proposed should be the latest/ state-of-the-art being marketed by the Prospective Collaborator.
(j)	Transfer of information to enable BEML Ltd., to source/procure those items, which Prospective Collaborator sources from other vendors (as these are not manufactured by the Prospective Collaborator) for use in Driver Display panel of ARV for Indian Army.
(k)	Manufacturing 2D drawings of all the developed components are to be prepared. Installation or Mounting drawings of off-the-shelf or proprietary components drawing may be received from the respective suppliers. 2D layout drawings are to be prepared for all sub assembly of components including system wise.
(l)	Deputation of BEML engineers to work with collaborator design team in order to absorb the technology/process being followed for licensed products.

(m)

Design & Developed display Panel for BEML ARV, Intellectual Property Rights (IPR) will be with BEML Ltd.,

Annexure-2

Prospective Collaborator's Experience in the Development of Driver Display Panel For ARV

SL No	Parameter	Supporting Documents
1.	Only OEMs are eligible to participate in this tender	Bidder shall submit sufficient proof e.g., Factory registration certificate / MSME certificate etc., to prove OEM. Other Govt dept., DRDO, etc
2.	The Average Annual financial turnover during the last 5 years ending 31st March 2023 shall be more than 60 Crores	Audited Balance sheets and Profit & Loss statements etc.) with details of turnover for last Five (5) years
3.	Firms should have Design & Development, testing, trails installation and commissioning capability for mil grade display in Defence vehicles.	R&D setup details, Infrastructure details such as plant & machinery, shop details, Area etc., required to carry out the activity to be submitted.
4.	Firms having more than 10 years of experience in design & development of vehicle mounted Mil grade display	1. List & Copies of POs executed for similar type. PO with on-going projects if any, can be submitted.
5.	Firm should have supplied similar proven system to Indian Army in last 10 years, details to be furnished.	2. Customer Certificate for successful completion in similar nature of project to military application to be submitted as a proof.
6.	Consortium of firms will not be considered. It is desirable that the firm shall not outsource in part or full scope of the Design & Development. However, if it is essential for the firm to source critical technologies/components from other agencies/vendor, the details have to be disclosed at this stage itself.	Proof of infrastructure for in house Design & Development has to be furnished. Relevant details to be submitted
7.	This project from BEML/ MoD is being executed under NO COST NO COMMITMENT (NCNC) must have minimum 80% indigenous content on cost basis and it should be manufactured & indigenized in India	Certificate for the indigenous content being offered to be signed by CFO/ Statutory auditor of the bidder to be provided.
8.	The firm should commit providing Service & Spares support for a minimum period of 35 years	Certificate for complying statement to be submitted.
9.	Firms should have complete testing facilities for the supply item	Document proof for having test facility to be provided.
10.	Firm should be certified for the latest Quality Management System	Details of Quality Management System, Quality Control System etc., and related certificates to be submitted.
11.	Cost Breakup as required by BEML/MoD in detail to be provided	Complied/ Not Complied
12.	Warranty support as per MoD requirement back to back to be provided	Complied/ Not Complied
13.	NDA, NCA ,etc to be provided without ambiguity as	Complied / Not complied

	per BEML requirement.	
14.	IPR, drawings, documents, design & development under this scope of work & supply will be property of BEML Ltd.,	Undertaking on letter head to be provided.
15.	Integration, commissioning, Field trail support and training to be provided.	

Signature & Seal:

Authorised Signatory of the Prospective Collaborator

Annexure-3

General technical specifications of Development of Driver Display Panel(DDP) of ARV on No Cost No Commitment (NCNC) Basis

1. BEML ARV is a high speed, tracked armored recovery vehicle designed to fulfil the recovery/evacuation of tracked vehicles out of a battle field. The BEML ARV is characterized by high maneuverability, equipped with special appliance for protection of crew.

The main vehicle parts are: Armour with load platform, Engine with systems, units of power transmission system, running gear, hydraulic system, vehicle steering system, electrical system, communication equipment, day and night observing instruments, NBC appliance, fire extinguishing devices, electrical welding, voltage converter, towing devices, main winch, auxiliary winch, crane, dozer and armament.

2. The vehicle is equipped with a Driver Display panel which provide, control and perform various functions on the vehicle. It consists of Display screen, Switches, LED indications, Circuit breaker, interface ports & connectors

The Driver panel should provide following real time information about the Vehicle:

- a) Engine Oil temperature
- b) Coolant Oil temperature
- c) Engine Oil Pressure
- d) Gear Oil pressure
- e) Fuel level
- f) Battery voltage
- g) System Current Consumption
- h) Vehicle Speed
- i) Engine RPM
- j) Current Date & Time
- k) Hydraulic oil temperature.
- l) Display of error message code when system failure.
- m) Engine Hour
- n) Crane Hour
- o) Dozer Hour
- p) Odometer (distance travelled)

The above information should always be display in Numerical value as well as in range scale view (between Max & Min value.) in panel. The driver panel should also have built in test facility.

3. The Driver Display Panel Should also have various Control Switches for lighting, motors, pumps, relays and dedicated functional switches for various operations like (Navigation, NBC, etc). The Driver panel should also have circuit braker of various rating in range from 10A to 50A. It should also have memory to save various critical operation parameters for diagnosis purpose.

3.1 It should also interface port for uploading and downloading of data with panel.

3.2 The driver panel should also generate various alarm code when system parameters go critical or out of range. The alarm code (signal format) should be match with vehicle communication system, for which information will be provide during development stage.

3.3 The driver panel display screen should be designed in such a way that its display can be readable in direct sunlight also. Further it should have adaptive brightness control features with manual provision to control it.

3.4 The driver Panel should be designed in such a way that it should match with present vehicle configuration both mechanically as well electrically.

The system should be designed with $27^{+2}_{-5}V$, DC.

3.5 The Complete driver panel should meet the following Test criteria:

- a) EMI/EMC : 461 F/ G as applicable for ground Army vehicle.
- b) JSS55555 : 2020 (rev 4) for Environmental testing



Fig 1 (Driver Panel Image: only for representational purpose)

Note: The above fig 1 is only for representational purpose and actual design and appearance of panel will vary when final product will be developed.

Signature & Seal:

Authorised Signatory of the Prospective Collaborator

Annexure-4

Reference List: The Prospective Collaborator shall furnish a summary of their product reference as detailed below for major supplies in last 10 years

SL No	Similar Driver Display Panel supplied to Defence Organisation in the last 10 years	No. of unit supplied	Year of Supply with supporting documents

Note :

Submission of the EOI

Willingness to develop Driver Display Panel for ARV on No Cost No Commitment (NCNC) basis mentioning the EOI reference No. on company letter head with authorised seal and signature attested.

All the pages of this EOI to be signed and attested with company seal to be scanned and submitted along with required documents and certificates.

The Eoi shall be submitted **before 17:00 hours of 12.04.2024** through email only mentioning Eoi reference : R&D(Def)/ELEC/ARV/2024-001 in e mail Subject

bemleoi@bemltd.in

Technical queries if any, may be forwarded to

arunprasad.k@bemltd.in

Contact Ph: 9489884673.