

**BEML LIMITED,  
BEML SOUDHA,  
23/1, 4<sup>th</sup> Main  
SAMPANGIRAMA NAGAR,  
BENGALURU - 560027**

**Notice Inviting  
Expression of Interest (Eol)  
for Technology tie-up  
For  
Vehicle Based Mine Scattering System (VBMSS) for  
Indian Army**

**Reference No: CTPAM/Eol/FPIIC/VBMSS/2025/302**

**Due closing date: 21.04.2025**

**Eol response mail ID: [bemleoi@bemltd.in](mailto:bemleoi@bemltd.in)**

**Contact for  
Clarifications:** Mr. Madhusudhan BH,  
General Manager(O)-R&D  
FPIIC, Bangalore Complex, BEML Ltd.,  
Bangalore, Karnataka, INDIA  
Email: [madhusudhan.bh@bemltd.in](mailto:madhusudhan.bh@bemltd.in)  
Mobile: +91-7406897591

**Issued by**

**BEML LIMITED**

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

**INDEX**

<b>Sl. No.</b>	<b>Section</b>	<b>Description</b>
01	Section 1	Disclaimer
02	Section 2	Schedule of Eol process & Contact details
03	Section 3	About BEML Ltd.
04	Section 4	Details of Expression of Interest (Eol)
05	Annexure-1	Indicative Scope of Technology Transfer
06	Annexure-2	Prospective collaborator's experience in the field of VBMSS
07	Annexure-3	General technical specifications of VBMSS for Indian Army.
08	Annexure-4	Reference List: The prospective Collaborator's major supplies in last 15 years.
09	Annexure-5	Eol response format
10	Annexure-6	Certificate as to authorized signatories
11	Annexure-7	Declaration by the prospective collaborator regarding litigation
12	Annexure-8	Declaration by the prospective collaborator blacklisting

## **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	20.03.2025
02	Last date of Submission of Eol response	21.04.2025

#### B. Contact Details related to Eol

**Mr. Madhusudhan BH,**

General Manager(O)-R&D

FPIIC, Bangalore Complex, BEML Ltd.,

Bengaluru, Karnataka, INDIA

Email: [madhusudhan.bh@bemltd.in](mailto:madhusudhan.bh@bemltd.in)

Mobile: +91-7406897591

#### Note:

Submission of the Eol

The Eol shall be submitted **before 21.04.2025 through email only** mentioning Eol reference: CTPAM/Eol/FPIIC /VBMSS/2025/302 dtd 20.03.2025 in Subject to [bemleoi@bemltd.in](mailto:bemleoi@bemltd.in)

Queries if any, may be forwarded to [madhusudhan.bh@bemltd.in](mailto:madhusudhan.bh@bemltd.in) and [bemleoi@bemltd.in](mailto:bemleoi@bemltd.in)

\*\*\*

### SECTION-3

#### **ABOUT BEML LIMITED**

- a. BEML Limited is a leading multi-technology and multi-location company under the Ministry of Defence operating under three major Business verticals viz., Mining & Construction, Defence & Aerospace and Rail & Metro which are classified into 12 SBU's & 2 Micro SBU's. The three verticals are serviced by manufacturing units at four locations viz Bengaluru, Kolar Gold Fields (KGF), Mysuru and Palakkad.
- b. BEML offers high-quality products for diverse sectors of economy such as Defence, aviation, coal, mining, steel, limestone, power, irrigation, construction, road building, metro & railways.
- c. BEML has emerged as the forerunner of heavy engineering industry with a track record of growth and revenues for over Six decades. For further details please visit our website [www.bemlindia.in](http://www.bemlindia.in)

More details about the entire range of BEML's products and operations can be viewed by visiting our web site [www.bemlindia.in](http://www.bemlindia.in)

\*\*\*

## SECTION-4

### Details of Expression of Interest (Eol)

#### 4.1 Introduction:

BEML invites Expression of Interest (Eol) from the Prospective Collaborator(s), who are willing to associate with BEML Ltd., through a License & Technology Collaboration Agreement (**TCA**) for joint development of Vehicle Based Mine Scattering System (VBMSS) for Indian Army to enable BEML Ltd., to Design, Engineer, Manufacture, Assemble, Test, Supply, Field Install, Commission, Repair, Service and Retrofit. Ministry of Defence, Govt of India intends to procure Vehicle Based Mine Scattering System (VBMSS) under Buy (Indian-IDDM) Category of Chapter II of Defence Acquisition Procedure (DAP) 2020. Buy (Indian)-IDDM Category refers to the acquisition of from an Indian vendor for the products that have been indigenously designed, developed and manufactured with a minimum of 50% Indigenous Content (IC) on cost basis of the base contract price i.e., total contract price less taxes and duties.

The latest version of DAP 2020 can be accessed on GOI, MoD website: <https://mod.gov.in/dod/defence-procurement-proc--dap>.

#### 4.2 Scope of Cooperation:

BEML Ltd., is seeking Expression of Interest(s) from Prospective Collaborator(s) through TCA for joint development of Vehicle Based Mine Scattering System (VBMSS) for Indian Army. The TCA shall enable BEML Ltd., to Design, Engineer, Manufacture, Assemble, Test, Supply, Field Install, Commission, Repair, Service and Retrofit Vehicle Based Mine Scattering System (VBMSS) for Indian Army. The Prospective Collaborator(s) meeting the Pre-qualification requirements (PQR) 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. Detailed discussions on commercial and other terms and conditions to finalize the TCA shall be held with shortlisted Prospective Collaborator(s). The detailed terms and conditions for said TCA shall be mutually agreed upon.

### 4.3 Pre-qualification requirements (PQR)

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

1. The Prospective Collaborator should have designed, engineered, manufactured, tested, supplied and commissioned similar 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 EoI.

OR

2. The Prospective Collaborator should have designed similar vehicles (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 EoI.

#### Note:

Prospective Collaborator (s) shall take the responsibility for transfer of know how in the area of Design, Engineer, Manufacture and testing of Vehicle Based Mine Scattering System (VBMSS) 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 **21.04.2025**.

**Annexure-1:** Indicative Scope of Technology Transfer.

**Annexure-2:** Prospective Collaborator's Experience in the field of Vehicle Based Mine Scattering System (VBMSS) for Indian Army.

**Annexure-3:** General technical specifications of Vehicle Based Mine Scattering System (VBMSS) for Indian Army proposed for TCA.

**Annexure-4:** Reference List: The Prospective Collaborator's major supplies in last 15 years.

**Annexure-5:** EoI response format

**Annexure-6:** Certificate as to Authorized Signatories.

**Annexure-7:** Declaration by the Prospective Collaborator regarding litigation.

**Annexure-8:** Declaration by the Prospective Collaborator regarding blacklisting.



**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, provided that in case the English translation is found to be incorrect at a later stage, BEML Limited will have right to take appropriate action against the Prospective Collaborator as may be deemed fit.

**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. Over writing should be avoided. Copies of the credentials/ documents which are to be annexed must be self-attested and bear the signature and seal of the authorized signatory / authorised representative of the interested Entity/Firm/Company. The interested Entity/Firm/Company will be requested to produce the originals of all information / documents as and when so required by BEML.

**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 declared insolvent, bankrupted, 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 EoI, shall not be eligible to submit the EoI.

**4.4.9** BEML Ltd., shall receive applications pursuant to this EoI in accordance with the terms set forth herein, as may be 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 EoI for submission of applications.

*In case any amendment/corrigendum to this EoI is issued, it shall be notified only at [www.bemlindia.in](http://www.bemlindia.in). which shall form part of this EoI*

**4.4.10** Restrictions on Prospective Collaborator from a Country which shares a Land Border with India:

- a) Interested Prospective Collaborator from a country which shares a land border with India will be eligible to respond to this EoI only if interested Prospective Collaborator is registered with Competent Authority (Registration Committee constituted by the Department of Promotion of Internal Trade (DPIIT) of Govt. of India). Such registration should be at least valid for the entire period of EoI due date or any extension thereof.
- b) Interested Prospective Collaborator from a country which shares a land border with India means: a) An entity incorporated, established or registered in such country; or b) A subsidiary of an entity incorporated, established or registered in such country; or c) An entity substantially controlled through entities incorporated, established or registered in such country; or d) An entity whose beneficial owner is situated in such a country; or e) An Indian (or other) agent of such an entity; or f) A natural person who is a citizen of such a country; or g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

**4.5 REJECTION:** An Expression of Interest is liable to be rejected for any of the following conditions:

4.5.1 The Expression of Interest is not accompanied by required documentation and has failed to provide clarifications related thereto, when sought by BEML.

4.5.2 Misrepresentation, lack of proper documentation, fraud, coercion, undue influence, canvassing etc.

4.5.3 The Expression of Interest is received after the closing time and date. If any information which would have entitled BEML to reject or disqualify the applicant becomes known after the applicant has been qualified, it reserves the right to reject the applicant at that time or at any time after such information becomes known to BEML.

**4.6. 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.

**4.7 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. Foreign entity interested for collaboration with BEML for Vehicle Based Mine Scattering System must have necessary clearance from their Govt. for Technology Sharing/ Transfer & Collaboration.

\*\*\*

**Indicative Scope of Technology Transfer**

**Annexure-1**

Sl. No.	Description
(a)	Licensing and transfer of state- of -t h e - a r t technology relating to Design, Engineer, Manufacture, Assemble, Test, Supply, Field Install, Commission, Repair, Service and Retrofit Vehicle Based Mine Scattering System (VBMSS) for Indian Army.
(b)	Transfer of improvements / modifications / developments / upgradations 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 Ltd.'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 licensed 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 Vehicle Based Mine Scattering System (VBMSS) 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, 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 Vehicle Based Mine Scattering System (VBMSS) 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. Casting and forging drawings are to be prepared only for critical components.

(l)	Deputation of BEML engineers to work with collaborator design team in order to absorb the technology/process being followed for licensed products.
(m)	Collaborator should enter in to a joint agreement on Intellectual Property Rights (IPR) with BEML Ltd.

\*\*\*

<b>Sl. No</b>	<b>Requirement</b>	<b>Prospective Collaborator's response YES/NO and remarks, if any</b>
(a)	Whether the Prospective Collaborator is an Original Equipment Manufacturer (OEM) of proposed Vehicle Based Mine Scattering System (VBMSS) for Indian Army or similar Vehicle.	
(b)	Whether documentary evidence to substantiate the below PQRs has been submitted by Prospective Collaborator.	
(c)	<p>The Prospective Collaborator should have designed, engineered, manufactured, tested, supplied and commissioned similar 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.</p> <p align="center">OR</p> <p>The Prospective Collaborator should have designed similar vehicles (broad technical specifications at Anexure-3) and their designed equipment should have completed at least three (03) years of service as on date of closing of this Eol.</p>	
(d)	Whether information on market share has been enclosed.	
(e)	Whether Prospective Collaborator's detailed reference list have been enclosed.	
(f)	Whether Prospective Collaborator's annual audited financial reports for last 3 years have been enclosed.	
(g)	Whether the Vehicle Based Mine Scattering System (VBMSS) for Indian Army or similar Vehicle offered for technology collaboration is the latest being marketed by the Prospective Collaborator.	
(h)	Whether customers (end users) letters / documentary evidence for satisfactory operation of model for Vehicle Based Mine Scattering System (VBMSS) for Indian Army which is being offered to BEML Ltd., under this Eol have been enclosed.	

(i)	Whether the Prospective Collaborator owns the IPRs for the technology being proposed for transfer under the Technology Collaboration Agreement (TCA) or have an unencumbered right from the owner of the IPRs to sub-license the technology, if applicable. If yes, whether list of such IPRs is enclosed.	
-----	--	--

**Signature & Seal:**

Authorised Signatory of the Prospective Collaborator



**Annexure-3**

**General technical specifications of Vehicle Based Mine Scattering System  
(VBMSS) for Indian Army proposed for TCA**

S. No.	Specifications / Parameters
<b><u>OPERATIONAL PARAMETERS</u></b>	
1	Specify if the VBMSS comprises of Dispensing system and is mounted on a 'High Mobility Vehicle (HMV)'.
2	Specify the HMV is a 6x6 or 8x8 or 10x10.
3	Specify if the P/W ratio permit unrestricted mobility in semi desert and desert terrain.
4	Provide the minimum crew requirement & specify if the cabin can accommodate them with battle loads.
5	Specify if the equipment has provision for reusable launcher/ tubes that can rapidly be reloaded by the crew using integral load handling device.
6	Provide the operating temperature range for VBMSS (Specify minimum and maximum temperature).
7	Provide the maximum operating altitude for VBMSS
8	Provide the life span of the equipment (less HMV and mines)
9	Provide the life of each tube/ launcher in terms of number of launches
<b>10. Dispensing Sub System</b>	
A	Specify if the dispensing system modular in design.
B	Specify if the dispensing system capable of being mounted/ integrated on existing inventory of HMV.
C	Indicate if there is a provision to ensure stabilisation of system while travelling & laying mines.
D	Specify if the dispensing system can dispense mines from both sides of the HMV using feature of electrical/ mechanical orientation mechanism.
E	Provide the maximum degree of rotation of dispensing system. Please specify.
F	Specify if the dispensing system have provision for single / salvo dispensing mechanism.
G	Specify if the system can fire a heterogeneous mix of A/pers & A/tk mines in a single salvo.
H	Provide the minimum and maximum range for laying mines from the dispensing system.
I	Provide the capability of the system in terms of number of mines dispersed without replenishment and travelling speed (i) Please specify no of launchers/ tubes for Anti Tank mines. (ii) Please specify no of launchers/ tubes for Anti personal mines. (iii) Please specify the numbers of each type of mines dispensed along with travelling speed, separately.
J	Specify if the dispensing system has an inbuilt safety mechanism to prevent accidental launch of mine.

K	Please specify the area which could be covered by the system in static position. Also, specify the average density of mines achievable in area.
L	Specify if the rate of mine laying scalable and controllable. Also, specify minimum and maximum laying rate for Anti-tank Mines & Anti personal Mines.
M	Dispensing system shall be able to work in manual as well as automatic mode wherein the system must offer the following: <ul style="list-style-type: none"> <li>(i) Electronically control operation of VBMSS with provisions for manual adjustments from within the vehicle in case of failure of automatic system.</li> <li>(ii) Provision to select rate of laying of mines.</li> <li>(iii) Is the cabin of the HMV adequately protected / shielded against accidental explosion of mines in the Launcher/ Scattering System</li> <li>(iv) Is protection as per STANAG levels applicable Please specify levels if applicable.</li> </ul>
N	Indicate if it is possible to control the dispensing of mines from the driver cabin.
O	Specify if the system affect the manoeuvrability of the HMV in any way.
P	Indicate if there is any provision for warning the crew in case of physical jamming of armed mines in the system.
Q	Provide the requirement for time and crew to reload and reuse the launcher pods using integral load handling device.
<b>11. Launcher Pods:</b> The launcher's control unit should have the following:	
A	Indicate if the system records the number of mines dispensed.
B	Indicate if the system displays the geographic coordinates of the area where mines are dispensed.
C	Indicate if the system is capable of storing spatial data of the minefield on DSM maps. Provide the Maximum No of entries it can record.
D	Specify if the control unit is programmable and provides flexibility to the user to fire pods only in one direction.
E	Specify if it have the feature to pre-set the elevation of various launcher pods for achieving desired ranges that would give complete area coverage.
F	Indicate if can provide flexibility to the user to have control over the time interval between firing from the launcher pods.
G	Specify if have control over the number and type of pods (purely anti personnel / anti tank mines) that can be fired
H	Quantify if the system can enable setting of Self Destruction time.
I	Indicate if the system offers option to abort.
J	Does the LCU have the provision to display status of each launcher.
K	Specify if there is a provision to select launcher tubes from which mines are fired.
L	Specify if there is a provision to give a pre-programmable dispersal pattern of

	dispensed mines.
M	Specify if there is provision for Built in Test Equipment (BITE) and fault display facility. Provide the type of faults will it highlight.
N	Specify if there is a provision of checking the continuity of the firing circuits.
<b>12. Electro - Magnetic Interference / Electro - Magnetic Compatibility (EMI/EMC)</b>	
A	Specify if the VBMSS and mines comply with the relevant tests of following EMI/EMC standards. (i) Military Standard 461E. (ii) Military Standard 464C.
B	Provide the accredited laboratory (Indian/ International) which has certified your VBMSS along with mines.
13	Specify the electrical/ electronic sub systems complying to JSS 55555/equivalent standards.
<b><u>TECHNICAL PARAMETERS</u></b>	
14	Confirm whether the mine (Soft Target/Anti-tank) is capable to sustain thrust/set back force of launch for safe dispensing of mine.
15	Confirm is there a Provision for ensuring landing of mines in upright condition.
16	Provide the mechanism to ensure correct laying/positioning / orientation of mines upon landing.
17	Confirm whether the sub-munitions can be initiated in case of improper landing/ sideways landing in undulating terrain.
18	Confirm whether multiple sensors are incorporated for actuation of mines. Please mention the sensors separately for both types of mines.
<b>19. Please provide the under mentioned details with respect to Anti-Personnel Mine</b>	
A	Specify the weight of each sub-munition.
B	<b>Colour of Munitions:</b> Confirm whether the sub-munitions be painted with non-reflective camouflage colours. Please specify the possible options in colour.
C	Confirm whether the sub-munition fuze pressure activated. If not, specify the type of fuze.
D	Specify if the sub-munition fuze have provision for Self Destruct (SD) and Self De-Activation (SDA) mechanism.
E	Provide the various Self Destruct (SD) settings in terms of number of days
F	Provide the various Self De-activation (SDA) settings in terms of number of days
G	Provide the probability of failure of self-destruct mechanism. Specify if there is a provision for redundancy or backup with respect to the same. Provide the duration after which the self-deactivation mechanism will be effective.
H	Quantify the Minimum Shelf life (in years).
I	Specify if the shelf life be extended with inspection and repairs. If yes, specify the number of years it can be extended to.
J	Confirm the minimum safety distance from HMV for the for laying/ dispensing of mines considering the explosive content and lethality of dispensed mines

K	<b>Fragmentation Effect:</b> Provide the penetration capability against 1.5mm steel and any other relevant material.
L	Provide the percentage probability of achieving the terminal effects at target.
M	Specify the minimum actuating load.
N	Confirm whether the mine armed automatically on landing. If not, specify the time after which mine is armed automatically on landing.
O	Indicate if there is an indicator incorporated in the mine to indicate that it is fully deactivated and safe after expiry of SDA period.
P	Confirm whether the mine is water proof. Please specify maximum depth at which it is water proof.

**20. Please provide the under mentioned details with respect to Anti-Tank Mine**

A	Provide the weight of each sub-munition.
B	<b>Colour of Munitions:</b> Confirm whether the sub-munitions be painted with non-reflective camouflage colours. Please specify the possible options in colour.
C	Confirm whether the sub-munition fuze pressure activated. If not, specify the type of fuze.
D	Specify if the sub-munition fuze have provision for Self Destruct (SD) and Self De-Activation (SDA) mechanism.
E	Provide the various Self Destruct (SD) settings in terms of number of days
F	Provide the various Self De-activation (SDA) settings in terms of number of days
G	Provide the probability of failure of self-destruct mechanism. Specify if there is a provision for redundancy or backup with respect to the same. Provide the duration after which the self-deactivation mechanism will be effective.
H	Quantify the Minimum Shelf life (in years).
I	Specify if the shelf life be extended with inspection and repairs. If yes, specify the number of years it can be extended to.
J	Confirm the minimum safety distance from HMV for the for laying/ dispensing of mines considering the explosive content and lethality of dispensed mines
K	Confirm whether the mine armed automatically on landing. If not, specify the time after which mine is armed automatically on landing.
L	Indicate if there is an indicator incorporated in the mine to indicate that it is fully deactivated and safe after expiry of SDA period.
M	Confirm whether the mine is water proof. Please specify maximum depth at which it is water proof.

**21. Mine Capabilities and Characteristics**

A	<b>Penetration by Each Munition:</b> Provide the penetration capability against armour. Please specify with details.
B	Provide the percentage probability of achieving the terminal effects at target
C	Provide the effectiveness of the mines against targets especially moving tanks at various speeds.
D	Specify the minimum actuating load.
E	Confirm whether the mine can be fitted with an anti-disturbance device to prevent any attempt at breaching.
F	Provide the Number of mines (both Anti-tank Mines & Anti personnel Mines) which can be stored for reloading on VBMSS. Also, provide the provision for safety of these mines.

**22. HMV: Provide the under mentioned inputs with respect to HMV used in**

**VBMSS.**

A	Provide the Type of fuel.
B	Provide the Maximum Speed (in Kmph) with full load. (i) On road. (ii) Cross Country.
C	Provide the Wading Depth (in mm).
D	Provide the Minimum Ground Clearance (in mm).
E	Provide the Minimum Angle of Approach (in mm).
F	Provide the Minimum Angle of Departure (in mm).
G	Provide the Capacity of fuel tank (in liter).
H	Provide the Turning Circle Diameter (in mm).
I	Provide the Range of Operation on highway (in km)
J	Specify if the HMV have power assisted steering.
K	Confirm whether the HMV is Right Hand Drive (RHD) or Left Hand Drive (LHD).
L	Provide the Load Classification
M	Provide the Type of Engine (Give details).
N	Provide the Vehicle Weight (in Kg). (i) Unladen (ii) Laden
O	Specify if the HMV have ABS
P	Specify if the HMV have High Venitilation Air Conditioning (HVAC)
23.	Specify if the cabin of the HMV is provided with ballistic protection.

**24. Safety**

A	Specify if there any special requirement with respect to safe storage conditions for the mines.
B	Provide the details of the safety of mines in the system during transportation and subsequent firing.
C	Provide the details of Safety provision against sympathetic detonation of mines. Please mention for both types of mines
D	Provide the chances of accidental detonation on impact with ground while landing.
E	Specify the Provision for Safety if a tube misfires & does not launch the mines.

**25. Transportability**

A	Specify if the complete equipment is transportable by rail (broad gauge) in the existing in-service railway freight within over dimensional clearance (ODC) limits.
B	Specify if the complete equipment is transportable by air in the existing in-service aircrafts.
C	Confirm whether the mines used in the VBMSS are transportable by road, rail, sea and air without requiring controlled environment or any special arrangements for storage.

**MAINTENANCE PARAMETERS**

26	Confirm whether all the components of dispensing system are corrosion resistant.
27	Confirm whether the mines used in VBMSS are rugged and corrosion

	resistant.
28	Specify if the VBMSS is repairable under field conditions.
29	Confirm whether the oils & lubricants used on the equipment are of standard grade, conforming to Indian/ equivalent specifications.
30	<b>Paint:</b> Confirm whether the equipment painted is as per IS standards. Furnish the details.
31	Provide the Indian Origin generators and Maintenance free batteries with the equipment wherever applicable.

**TRIALS / PROTOTYPE / COTS**

32	Specify the parameters which can be certified by NABL accredited laboratories along with the details of such laboratories.
33	Confirm whether the proposed equipment is readily available as COTS. If so, furnish the number of quantities you have sold to various agencies (Govt/ otherwise) in the last five years.
34	Confirm if you will be providing the crew required for operating the equipment for trials.

**PRODUCT SUPPORT**

35	Have you supplied the VBMSS to any other agency in India / abroad? If yes, furnish details of the supply, including quantity.
36	Does your firm have major repair and overhaul facility for major assemblies and component level repairs?
37	Is there a requirement of periodic calibration of any Special Machine Tools/ Special Test Equipment (SMTs/ STEs)? If yes, will you provide capability to undertake calibration, as part of Engineering Support Package?
38	What kind of Engineering Support Package will you be offering? Please also mention cost implications, if any.
39	Will the Engineering Support Package cater for repairs of Special Test Equipment (STEs) also, to include spares, technical literature, training etc? If not, then what is your proposal for sustenance of Special Test Equipment's (STEs)?
40	What is the Warranty period provided by the vendor? What is cost of 24 months warranty as a percentage of Basic cost of main equipment?
41	What life time support (in years) can be provided by the vendor?

**MAINTENANCE / REPAIR / UPGRADATION PHILOSOPHY**

42	What would be the Maintenance Philosophy for repair and maintenance of the VBMSS? Can it be aligned with the system of unit and Field level repairs prevalent in the Defence Services?
43	Are you ready to provide on-site AMC/ CMC for the equipment?
44	Please provide inputs, including costs (as a percentage of basic cost of the main equipment) for on-site Comprehensive AMC and AMC without spares separately?
45	Are you willing to provide Maintenance Transfer of Technology (MToT) for sustenance of equipment as per requirements given at Appendix H to Schedule I to Chapter II of DAP 2020?



46	What is the type of product support and period for which you commit the product support for sustenance of equipment in terms of supply of spares/ AMC/ calibration etc?
47	How many sub vendors are involved in the manufacturing of mine scattering system? Is product support from all sub vendors also assured for the same period, as committed by you?
48	How many sub vendors are involved in the manufacturing of prime mover? Is product support from all sub vendors also assured for the same period, as committed by you?
49	What is Mean Time Between Failure (MTBF) for equipment and its main assemblies?
50	Will you provide details of Inspection Standards to ascertain serviceability of equipment as well as its Major Assemblies?
51	What would be the infrastructure & skill sets needed for maintenance?
52	What is the Mean Time to Repair (MTTR) for repairs through modular replacement and other replacements?
53	Will OH facility for major assembly & component level repairs be provided by OEM?
54	Will the firm be providing buy back policy for spares provided along with the equipment?
55	Will the vendor be interested in maintaining stks of spares in IA central/distributed Ordnances on a Vendor Managed Inventory model?
56	Is there any software applicable to VBMSS with Accessories? If yes, can it be restored in field in case of any fault? Is it upgradable? Whether open paper license is available or not?
57	Can you provide Indian origin generators and maintenance free batteries where applicable?
58	Does your equipment or any of its sub system have counter to display cumulative usage to facilitate usage-based preventive/ period maintenance?
59	What would be the training requirement for maintenance of the VBMSS at field level?
60	Will software upgrades/ patches be provided whenever required?
61	What is Provision of life extension beyond 20 years?
62	What are the options for Preservation/Mothballing of eqpt?

**TRAINING**

63	Will you be able to offer Sectionized/ Cut Models, 3D models \CDs for training? Please elaborate the scope/ components covered and the indicative cost of training in terms of basic cost of the equipment.
64	Have you developed a class room trainer and a Computer Based Training (CBT) package for training? If yes, what would be the indicative cost of CBT in terms of basic cost of the equipment.
65	Will you be able to provide IETM Version 4 or higher? If yes, what would be the indicative cost of IETM Version in terms of basic cost of the equipment.
66	What are the facilities available at OEM/ Vendor premises to conduct training?
67	How will you assist in carrying out training for user, maintenance personnel and QA personnel?

68	What is the recommended training period of maintenance and QA personnel and user/ crew?
69	Can a user bilingual hand book, repair and maintenance manual and spare parts catalogue be provided with each Tunnelling Jumbo with Accessories?
<b><u>MISCELLANEOUS</u></b>	
70	Are you an OEM of the equipment or an authorised vendor? If OEM, please provide your company profile?
71	Will your firm be willing to supply the VBMSS along with mines to Indian Army under provisions of DAP-2020?
72	What are the enhanced parameters/ specifications of VBMSS along with mines which can be offered?
73	Are you willing to accept the Option Clause? Give the duration for which the clause would be valid?
74	Have you supplied similar equipment as defined above to Border Roads Organisation, Central Armed Police Forces, Paramilitary Forces or any other Ministry of Defence Agencies (if yes, please provide details of year of supply, quantities and specifications of product? Also specify if the supplied equipment is the COTS variant or bring out details of modifications)?
75	Any other relevant information in terms of specifications/ terms of ref, the OEM/ Vendor would like to share

**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 15 years**

SL No	Name of Country where Vehicle Based Mine Scattering System (VBMSS) for Indian Army or similar Vehicle was supplied	No. of unit supplied	Year of Supply

**Annexure-5**

*{To be printed and submitted on Prospective Collaborator's official letterhead}*

**Eol RESPONSE FORMAT**

To,  
Corporate Purchase  
BEML Limited  
SR Nagar, Bangalore 560027  
E-mail: bemleoi@bemltd.in

Dear Sir,

Ref: **Expression of Interest to collaborate with BEML Limited for Notice Inviting Expression of Interest (Eol) for technology tie up for Vehicle Based Mine Scattering System (VBMSS) for Indian Army**

Having examined the Expression of Interest (Eol) document dated \_\_\_\_\_, downloaded from the BEML Limited website, i.e., [www.bemlindia.in](http://www.bemlindia.in), we, the authorised signatories of the Prospective Collaborator, intend to submit the response/proposal to the aforesaid Eol document.

We attach hereto the response/proposal to Eol as required as per the Eol document, which constitutes our response to Eol.

Primary and Secondary contacts for our company are:

	<b>Primary Contact</b>	<b>Secondary Contact</b>
Company Name:		
Name:		
Title:		
Address:		
Phone:		
Mobile:		
Fax:		
E-mail:		

We confirm that the information contained in this response or any part thereof, including its exhibits, and other documents and instruments delivered or to be delivered to BEML Limited are true, accurate, verifiable and complete. This response includes all information necessary to ensure that the statements therein do not in whole or in part mislead BEML Limited in its short-listing process nor suppressed any material facts.

We fully understand and agree that on verification, if any of the information provided herein is found to be false /misleading, our response / proposal is liable to be disqualified / rejected from the selection process or termination of the definitive agreement, if the Prospective Collaborator is selected, besides other action as may be required as per the BEML Limited Purchase Manual.

We agree to the unconditional acceptance of all the terms and conditions set out in the EoI document.

It is hereby confirmed that I / We are entitled and duly authorised to act on behalf of the Prospective Collaborator and empowered and authorised to sign this document as well as such other documents, which may be required in this connection.

Dated this

(Signature)

(In the capacity of)

(Name)

Duly authorized to sign the EoI Response for and on behalf of:

(Name and Address of the authorised representative/signatory with Seal / Stamp of the Prospective Collaborator)

Witness Signature:

Witness Name:

Witness Address:

**Annexure-6**

{To be submitted in the letter head of the Prospective Collaborator}

**CERTIFICATE AS TO AUTHORIZED SIGNATORIES**

I, ....., the Company Secretary  
of ....., the  
Prospective Collaborator herein do hereby certify that Mr./Ms  
..... Who signed the EoI floated by  
BEML for technology tie up for Vehicle Based Mine Scattering System (VBMSS) for  
Indian Army is authorized to do so and bind the company by authority of its board /  
governing body.

Date:

Signature:

(Company Seal)

**Annexure-7**

{To be submitted in the letter head of the Prospective Collaborator}

**DECLARATION BY THE PROSPECTIVE COLLABORATOR**

This is to certify that we, \_\_\_\_\_, the Prospective Collaborator herein do not have any litigation, arbitration cases or any litigation against BEML Ltd pending before any Court / Arbitrator in connection with any contract / tender issued by BEML Ltd.

Signature of Prospective Collaborator  
(with Seal /Company Seal)

**Annexure-8**

{To be submitted in the letter head of the Prospective Collaborator}

**DECLARATION BY THE PROSPECTIVE COLLABORATOR**

This is to certify we \_\_\_\_\_ have not been banned /  
black listed / debarred by BEML / Central / State Govt. Dept. / Autonomous  
Institution / PSUs in India at the time of bid submission.

I / we hereby certify that all the information given above are true and correct.

Signature with date of Authorized signatory

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Firm's Seal: \_\_\_\_\_