

EOI Ref: GMBD(Def)/Simulator/EOI/2023/04

Date: 14.12.2023

**M/s. BEML LIMITED,
BEML SOUDHA,
SAMPANGIRAMNAGAR,
BENGALURU - 560002**

**Invitation for Expression of Interest (Eoi)
To partner with BEML Limited
for Co-Production and Supply of
15m Bridge Simulators to MoD, Gol**

Reference No: GMBD(Def)/Simulator/EOI/2023/04

Due closing date: 15.01.2024

Eoi response mail ID: bemleoi@beml.co.in

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**Issued by
M/s. BEML, Limited
(Under Ministry of Defence)**

Expression of Interest to Partner with BEML Limited for Co-Production and Supply of 15m Bridge Simulators to Ministry of Defence, Govt of India

A. INTRODUCTION:

- 1) BEML Limited is a leading multi-technology and multi-location company under the Ministry of Defence operating its business in three verticals viz., Defence & Aerospace, Mining & Construction and Rail & Metro. It offers high-quality products for diverse sectors of economy such as Defence, aviation, coal, mining, steel, limestone, power, irrigation, construction, road building, metro & railways. It has emerged as the forerunner of heavy engineering industry with a track record of growth and revenues for over five decades. For further details please visit our website www.bemlindia.in
- 2) The Indian Army is planning to procure **15m Bridge Simulators** with the intended usage of imparting realistic training to the crew of the bridge system to enable them to hone their skills for optimum utilization of the equipment, fault rectification of the system and further conserve the life of operational equipment.

B. OBJECTIVES OF THE EOI:

To identify an Indian potential Bidder with whom collaboration can be established for development of **15m Bridge Simulators** on No Cost No Commitment (NC-NC) basis, meeting Indigenous criteria of MoD requirement, in-house testing, participation in RFP followed by Users trials on NC-NC basis and on successful trials completeness and winning the contract, supply of full quantity of 15m Bridge Simulators to Indian Army and thereafter provide Warranty and after Sales support.

C. SCOPE OF THE COLLABORATION

- 1) BEML to respond to upcoming Request for Proposal (RFP), to be issued by Ministry of Defence (MoD). The configuration details of Bidder's product vis-à-vis desired specification of User shall be provided as per **Annexure-1**.
- 2) As mandated in the upcoming RFP, Bidders to abide/willing to provide Proto-types on NC-NC basis for User evaluation Trials from the date of TEC clearance from MoD to BEML.
- 3) Joint participation in User trials and other trials as per Trial directives issued by MoD.
- 4) On award of contract, BEML and Bidder will meet the MoD's Contractual obligations back to back as per mutually agreed terms & conditions through a definite agreement.

- 5) Jointly design and develop the simulator and provide the spares & maintenance, training, warranty and other support services for the project till the service life.

D. ELIGIBILITY CRITERIA:

The following are the mandatory conditions to be fulfilled by the Bidder for responding to the Eol.

- a. This Eol is governed by Public Procurement Order Make in India order 2017 and its amendments.
- b. In case of Indian consortium, the applicant must submit a document signed by all the members of the participating organizations stating the name of the lead Bidder. Parties will enclose a notarized copy of proof of Consortium constitution. Once the Consortium is declared while submitting the Eol, the same Consortium Partnership shall continue on award of contract by BEML from MoD till completion of project requirement during the tenure of the contract.
- c. Any Party shall submit the response in the capacity of an individual Party or as a part of only one Consortium. Any Party shall not be part of two consortiums.
- d. All the Parties in the consortium shall be liable for the entire scope of work and risks involved thereof to the entire contract value and as per law. The Parties shall accept for the full scope of work, acceptance to the part of work shall not be entertained and such offers shall be summarily rejected without giving any opportunity for further clarification.
- e. The Party must be registered in India as required by law with minimum five (5) years of continuous operation up to the date of publication of this EOI.
- f. The Party should have manufacturing and/or operations with at least five (5) years of infrastructure set up in India.
- g. Should be a registered Bidder with global reputation not placed on the restricted list for arms import by Indian MoD. Dealers/ distributors/ agents/ representatives are not eligible to participate in this Eol.
- h. The Bidder should have demonstrated/supplied the Simulators or equivalent equipment to its Indian Army/MHA and should have been accepted/in-service or shortlisted.
- i. Should have demonstrable experience of more than 5 years in developing/customizing Simulators for military/civilian applications.
- j. The Bidder shall be willing to modify their proposed Simulators to the MoD's RFP requirement.
- k. The Bidder must transfer the technology to BEML to locally supply the parts/assemblies under Buy Indian (IDDM) as per DAP 2020.
- l. The Bidder shall note that Govt. of India, Ministry of Defence will be acquiring these stores only through a competitive tender process following

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the DAP 2020. As per DAP 2020 one equipments has to be offered to the Ministry of Defence for Trial/testing on No-Cost-No-Commitment (NC-NC) basis. The firm shall be agreeable to offer Simulator with min 60% indigenous content to BEML abiding this condition.

- m. BEML will have the sole right to market the product in India for Military/MHA and export requirements.
- n. Bidder to hold IPR for the Simulator equipment being proposed under this Eol.
- o. Bidder to certify and Indemnify BEML with respect to any disputes on IPR proposed to be transferred to BEML.
- p. Bidder to certify that the Simulator technology/design/drawings are not sourced from MoD blacklisted firms.

The Bidder shall fill the required fields & submit the Eligibility Criteria while responding to this EOI enclosed at [Annexure-2](#) with supporting document/certificate/undertaking letter wherever applicable.

E. GENERAL TERMS & CONDITIONS

- a) This Eol document for 15m Bridge Simulator by the bidder does not have any relation with respect to the previous Eol / RFI / RFP floated for similar activities.
- b) This Eol document is not an offer and is issued with no commitment. BEML reserves the right to withdraw the Eol or change or vary any part thereof at any stage.
- c) BEML also reserves the sole right and discretion to disqualify any Party, should it be so necessary at any stage without assigning any reason. This is a fundamental condition of this Eol document and must be well understood and accepted by the Parties/Bidder before participating in the Eol.
- d) Timeline and sequence of events resulting from this Eol shall ultimately be determined by BEML.
- e) By submitting an Eol, each Party shall be deemed to acknowledge that it has carefully read all the terms & conditions of this Eol document, and has fully informed himself / herself as to all existing terms and conditions.
- f) **The Party/Bidder shall compulsorily fill up the following to this Eol document, along with all supporting documents.**
 - 1. **Operational Characteristic's and features as per [Annexure-1](#)**
 - 2. **Compliance to Eligibility Criteria as per [Annexure-2](#)**
- g) The Eol and all correspondence and documents shall be written in English.
- h) The Selected Party should not subcontract the work related to the agreed scope of work without prior written approval from BEML.

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- i) The Selected Party shall provide the number of resources available required for development of the work during different phases with necessary technical capabilities.
- j) The personnel of Selected Party must adhere to all the safety guidelines while handling/ manufacturing equipment, machinery, components etc. All the safety gadgets procurement and issue shall be within the scope of the work of the Selected Party.
- k) The terms and conditions as stated in this Eoi document are not exhaustive and BEML reserves the right to add or delete or modify any terms and condition in the RFP to be issued to the short-listed Parties.
- l) **Party/ Parties can refer BEML website (www.bemlindia.in) for BEML GENERAL PROCUREMENT TERMS & CONDITIONS from BEML PURCHASE MANUAL**

F. PRESENTATIONS ON PROPOSED SOLUTION/ METHODOLOGY

The Bidder shortlisted based on the eligibility criteria may be invited/video conference to make a presentation at a date, time and location notified by BEML. The purpose of the presentation would be to allow the Bidder to present its solution/methodology, experience, capabilities, infrastructure, and other key points, if any.

G. SUBMISSION OF THE EOI

The EOI response to be submitted online through BEML E-mail: bemleoi@beml.co.in, stating compliance to each points, along with the enclosures to be forwarded by interested reputed firms, super scribing "**Expression of Interest to Partner with BEML Limited for Co-Production and Supply of 15m Bridge Simulators to Ministry of Defence, Govt of India**"

For any Technical Clarifications, Contact

Deputy General Manager–R&D, Email: gawrr@beml.co.in

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| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
| 1                                                                                                                                    | <b>Operating Environmental Conditions.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |
|                                                                                                                                      | (a) <b>Temperature.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |
|                                                                                                                                      | i. Minimum Range - (-) 5°C to 5°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |
|                                                                                                                                      | ii. Maximum Range - 40°C to 50°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |
|                                                                                                                                      | (b) <b>Storage Temperature.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
|                                                                                                                                      | i. Minimum Range - (-)10°C to 5°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |
|                                                                                                                                      | ii. Maximum Range - 40°C to 55°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |
|                                                                                                                                      | (c) <b>Altitude.</b> Up to 3000 Meters above Mean Sea Level (MSL)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |
| 2                                                                                                                                    | <b>Equipment Composition.</b> The 15m Bridge Simulator shall comprise of the following sub systems: -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |
|                                                                                                                                      | (a) <b>Mock-up.</b> The Simulator should cover the following major aspects: -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
|                                                                                                                                      | i. Functional controls which effect the driving of the vehicle by the driver. Steering effect for both front and rear cabins should be as in original.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
|                                                                                                                                      | ii. Front Cabin to have soft panels to depict the instrument gauges. All relevant controls with interfacing electronics and controller will also be provided. Front cabin to also have arrangement for engagement of Power Take Off (PTO) valve to simulate start of the hydraulic system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |
|                                                                                                                                      | iii. Rear cabin to be akin to original equipment with to be projected on a curved Video Projection System (VPS) screen.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |
|                                                                                                                                      | iv. Commander training console consisting of vehicle Professional Valve Group (PVG) - 32 valve bank and two remotes connected to it as in original bridge for launch and pier operation will be placed in between front cabin & rear cabin as in original equipment. Two VPSs with curved screen will be provided for Commander training. One curved screen will show the launch procedure up to 90 degree and subsequently on the second screen up to final placement of bridge. It should have the facility to simulate failure of joystick remotes and force the Cdr to launch the Bridge from PVG 32 itself. To depict the failure of joystick remote of pier system deployment and train the crew to continue with launch from the pier valve bank, the system should have additional facility of an inclined platform with pier valve bank placed akin to the original equipment and a display associated with it. |                   |
|                                                                                                                                      | (b) <b>Instructor Station</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
|                                                                                                                                      | i. Interactive Instructor station (IIS) with multiple (min-4) monitor mountings and sufficient racks / trays for all equipment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |

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|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |
|                                                                                                                                      | ii. Connectivity of sound system for Prime Mover with all-wheel drives and steer with turbo-charged engine.                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
|                                                                                                                                      | (c) <b>Power Source.</b> The entire system should be able to operate on single phase 230V, 50 Hz AC power supply. Robust power management and protection features need to be built in, with specific feature to cater for power failures and frequency variations. Wires and electrical connection to be of 'Marked Teflon' (or better) wire with proper layout around mock up by casing.                                                                                                                                     |                   |
| 3                                                                                                                                    | <b>Software Features.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
|                                                                                                                                      | (a) <b>Computer Generated Imagery (CG1) Module.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |
|                                                                                                                                      | i. To be based on Unity Gaming and Rendering Engine for high quality rendering of the scenario for real time driving and bridge operation experience.                                                                                                                                                                                                                                                                                                                                                                         |                   |
|                                                                                                                                      | ii. To have dedicated channel outputs for all views.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
|                                                                                                                                      | iii. For front cabin driving the driver should have a feel of aligning the vehicle on setting out tape while seeing the obstacle and tape through the rear-view mirror. When aligning the vehicle on the tape the driver is required to be guided for correct alignment. This is to be done automatically using Artificial Intelligence. The driver should also gain experience in driving vehicle in customise sized marked VSL and turning of vehicle inside customised 'Turning Pad'.                                      |                   |
|                                                                                                                                      | iv. For rear cabin driving, the driver should gain experience in driving vehicle in customise sized marked VSL and turning of vehicle inside 'Turning Pad'. The assessment of skill for driving from rear cabin should be able to judge the precision of driving through VSL as well as show error message / corrections when driver drives over the unsafe area of minefield i.e. outside the VSL / Turning Pad. Driving cues also need to be supplied to the seat jerker for providing jerks as per the lay of the terrain. |                   |
|                                                                                                                                      | (b) <b>Terrain Depiction</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |
|                                                                                                                                      | i. The terrain should be customizable. Each type of terrain should have multiple options of approach to obstacle and multiple obstacle profiles i.e. canal, DCB and rivers.                                                                                                                                                                                                                                                                                                                                                   |                   |
|                                                                                                                                      | ii. Customised Vehicle Safe Lane, Turning Pad and mine field to be part of the different terrains.                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
|                                                                                                                                      | iii. Option for selection of exercise scenario from the mix of terrain and obstacle profile to be provided.                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
|                                                                                                                                      | (c) <b>Water Obstacle.</b> Following features of water obstacles to be include: -                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |

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|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
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| ** The Bidder shall fill & submit their response / compliance with supporting document / certificate / undertaking letter |                                                                                                                                                                                                                                               |                   |
|                                                                                                                           | i. Cut section/fill section of canal/gap including dimensional changes.                                                                                                                                                                       |                   |
|                                                                                                                           | ii. Width of clear gap.                                                                                                                                                                                                                       |                   |
|                                                                                                                           | iii. Bank height.                                                                                                                                                                                                                             |                   |
|                                                                                                                           | iv. Water depth.                                                                                                                                                                                                                              |                   |
|                                                                                                                           | v. Water current.                                                                                                                                                                                                                             |                   |
|                                                                                                                           | vi. Bearing pressure of soil on banks & canal/DCB/ river bed of gap.                                                                                                                                                                          |                   |
|                                                                                                                           | vii. Slope of banks, whether lined canal/unlined canal.                                                                                                                                                                                       |                   |
|                                                                                                                           | viii. Bed profile of the gap.                                                                                                                                                                                                                 |                   |
|                                                                                                                           | ix. Effect of water current to be simulated along with regular water effects.                                                                                                                                                                 |                   |
|                                                                                                                           | (d) <b>Environment Selection.</b> Facility to set time of day, weather condition (clear, rain, storm, fog), sky condition (clear, overcast, various types of cloud formation) to be provided.                                                 |                   |
|                                                                                                                           | (e) <b>Multiple Span Launches.</b> Facility for launch of single and multiple spans (up to five spans) to be incorporated. To cater for shift in Centre of Gravity of the bridge, built in alert system in case bridge is unstable / topples. |                   |
|                                                                                                                           | (f) <b>Performance Module.</b> Should have the following have the following capability: -                                                                                                                                                     |                   |
|                                                                                                                           | i. To enable the instructor to monitor the performance of the trainee, and for controlling and monitoring the simulator. It would also be used for introduction of faults.                                                                    |                   |
|                                                                                                                           | ii. Facility for creating various categories of users like Administrator, Instructor & Trainee.                                                                                                                                               |                   |
|                                                                                                                           | iii. <b>Trainee Registration.</b> To fill in trainee particulars and save them to the database.                                                                                                                                               |                   |
|                                                                                                                           | iv. Soft panels for viewing the trainee parameters.                                                                                                                                                                                           |                   |
|                                                                                                                           | v. Create, Edit, Run and Save exercises for further reuse when required.                                                                                                                                                                      |                   |
|                                                                                                                           | vi. <b>Familiarization module.</b> For the purpose of trainee familiarization with the equipment as well as various features of the simulator.                                                                                                |                   |
| 4                                                                                                                         | <b>Other Provisions.</b>                                                                                                                                                                                                                      |                   |
|                                                                                                                           | (a) <b>Admin &amp; Security Features.</b> Provision of password protected User Interface for Admin, Instructor & Trainee.                                                                                                                     |                   |
|                                                                                                                           | (b) <b>Trainee and Instructor Interface with the Simulator.</b>                                                                                                                                                                               |                   |



|                                                                                                                                      |                                                                                                                                                                                                                                                                                         | <i>Annexure-1</i> |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
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| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                                                                         |                   |
|                                                                                                                                      | i. <b>Trainee.</b> Trainee should be able to operate the driving controls from the Front/Rear Driver Cabin and can perform the launching/de-launching operations from PVG-32 Valve Bank, Remote Controls as well as incline bench assembly.                                             |                   |
|                                                                                                                                      | ii. <b>Instructor.</b> Instructor should be able to register the trainee database, Exercise creation, Run Exercise, monitor trainee actions during run time exercise, Runtime fault inductions and generate performance evaluation report of trainee after completion of each exercise. |                   |
|                                                                                                                                      | <b>(c) Trainee &amp; Instructor Console features.</b>                                                                                                                                                                                                                                   |                   |
|                                                                                                                                      | i. <b>Trainee.</b> Enable the trainee, to perform launching/ de-launching operations as well as driving in various scenarios.                                                                                                                                                           |                   |
|                                                                                                                                      | ii. <b>Instructor.</b> Enable instructor, monitoring performance of trainee and to control and monitor the simulator. It would also be used for introduction of faults. Pop up alert / signal to alert any mistake done by trainee.                                                     |                   |
|                                                                                                                                      | <b>(d) Realism in Replication of Control System &amp; Instruments.</b> Driving/ operational controls in the simulator should be exact replica of original operator console/controls in the original equipment.                                                                          |                   |
|                                                                                                                                      | <b>(e) Type of Control Instrument Sys Required as Active &amp; Dummy.</b>                                                                                                                                                                                                               |                   |
|                                                                                                                                      | i. All the driving/operational controls should be active                                                                                                                                                                                                                                |                   |
|                                                                                                                                      | ii. Replication of original dashboard of vehicle with soft panel-based dashboard on the simulator.                                                                                                                                                                                      |                   |
|                                                                                                                                      | <b>(f) Movement of Objects.</b>                                                                                                                                                                                                                                                         |                   |
|                                                                                                                                      | i. The time required for launching / de-launching operations on the simulator should be as per originals.                                                                                                                                                                               |                   |
|                                                                                                                                      | ii. Simulation of objects and scenarios to provide realistic feel to the trainee.                                                                                                                                                                                                       |                   |
|                                                                                                                                      | <b>(g) Video Projection System (VPS).</b>                                                                                                                                                                                                                                               |                   |
|                                                                                                                                      | i. Front Cabin with curved screen for projecting scenario from a VPS.                                                                                                                                                                                                                   |                   |
|                                                                                                                                      | ii. Rear Cabin with curved screen for projecting scenario from a VPS.                                                                                                                                                                                                                   |                   |
|                                                                                                                                      | iii. Perspective view for projecting scenario from a VPS                                                                                                                                                                                                                                |                   |
|                                                                                                                                      | <b>(h) Sounds Required</b> To be able to produce realistic sounds of vehicle like Engine Starting, PTO Engagement, Cradle/Winch Operations.                                                                                                                                             |                   |
|                                                                                                                                      | <b>(j) Special Effects — Software and Physical.</b>                                                                                                                                                                                                                                     |                   |

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| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                                                                                                                                                                                             |                   |
|                                                                                                                                      | i. Use of special controls and specialized driving through mine field gaps and over similar bridges for subsequent launches.                                                                                                                                                                                                                                                                                |                   |
|                                                                                                                                      | ii. Use of special controls with proper sequence and drills for launch/de-launch of bridge for a single span or multiple spans.                                                                                                                                                                                                                                                                             |                   |
|                                                                                                                                      | iii. Software to be based on 3-D Unity Gaming and Rendering Engine for high quality rendering of the scenario for real time driving and bridge operation experience as realistic.                                                                                                                                                                                                                           |                   |
|                                                                                                                                      | iv. Alert signal should be incorporated to alert the trainee when electric harness on the trestle leg approaches the max permissible depth of water launch of bridge.                                                                                                                                                                                                                                       |                   |
|                                                                                                                                      | <b>(k) Features in Scene Editor for Scenario/ EX Creation</b> Exercise creation, modify exercise, Delete Exercise & save exercise features should be incorporated in software.                                                                                                                                                                                                                              |                   |
|                                                                                                                                      | <b>(l) Obstacles Characteristics.</b> Features to include Cut section/fill section of canal/gap including dimensional changes, Width of clear gap, Bank height, Water depth, Water current, Bearing pressure of soil on banks and in bed of gap, Slope of banks, whether lined canal / unlined canal, bed profile of the gap. Effect of water current should be simulated along with regular water effects. |                   |
|                                                                                                                                      | <b>(m) Preparatory &amp; battle drills to be incorporated.</b> Customised VSL and Turning pads to be incorporated in mine field.                                                                                                                                                                                                                                                                            |                   |
|                                                                                                                                      | <b>(n) Types of Reports, After Action Review and What All Needs Storage.</b> Performance evaluation report based on:-                                                                                                                                                                                                                                                                                       |                   |
|                                                                                                                                      | i. Driving (Front / Rear) drills performed during exercise (Starting, Marching & stopping)                                                                                                                                                                                                                                                                                                                  |                   |
|                                                                                                                                      | ii. Launching / de-launching drills.                                                                                                                                                                                                                                                                                                                                                                        |                   |
|                                                                                                                                      | <b>(o) Performance Assessment Methodology.</b> Trainee Performance evaluation based on drills/actions performed during exercise.                                                                                                                                                                                                                                                                            |                   |
|                                                                                                                                      | <b>(p) Any Other Feature Desired By The User.</b>                                                                                                                                                                                                                                                                                                                                                           |                   |
|                                                                                                                                      | i. To be able to monitor shift in Centre of Gravity (CG) of bridge and alarm/light indicators for indication toppling of bridge during launch of multiple span bridge.                                                                                                                                                                                                                                      |                   |
|                                                                                                                                      | ii. To be able to monitor placement of subsequent span vehicles on already laid spans and indicate error for variation.                                                                                                                                                                                                                                                                                     |                   |
|                                                                                                                                      | iii. Incorporation of motion system to give a realistic feel to the user with degree of motion along x, y & z axes.                                                                                                                                                                                                                                                                                         |                   |
|                                                                                                                                      | iv. Instructor override facility.                                                                                                                                                                                                                                                                                                                                                                           |                   |

| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                                                                      |                   |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                             | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                      |                   |
| 5                                                                                                                                    | <b>Number of Work Stations Required.</b> Minimum two, one for trainer & one/multiple station(s) for trainee(s). Alternate architecture (if any) may be stated.                                       |                   |
| 6                                                                                                                                    | <b>Life Expectancy.</b> 21 years with two overhauls at seven and 14 years.                                                                                                                           |                   |
|                                                                                                                                      | <b>(a) Contemporary Technology.</b> Real Time data communication between trainee and instructor station.                                                                                             |                   |
|                                                                                                                                      | <b>(b) Networking Technology.</b> Realtime data communication between Front Cabin, Rear Cabin, PVG 32, PTO Valve Bank, Pier Valve Bank assembly and instructor station using File Transfer protocol. |                   |
|                                                                                                                                      | <b>(c) Hardware Configuration.</b>                                                                                                                                                                   |                   |
|                                                                                                                                      | i. Use of Commercially of the Shelf hardware.                                                                                                                                                        |                   |
|                                                                                                                                      | ii. Latest configuration-based desktop Personal Computers for simulation software with upgradable hardware to meet future requirements and facility for upgradation of software.                     |                   |
|                                                                                                                                      | iii. VPS for Front, Rear & Side projection.                                                                                                                                                          |                   |
|                                                                                                                                      | iv. Sound system for realistic sounds of vehicle, Winch/Cradle operation                                                                                                                             |                   |
|                                                                                                                                      | <b>(d) Operating System, Data base Aspects.</b>                                                                                                                                                      |                   |
|                                                                                                                                      | i. Minimum Windows 10 32/64 bit or latest version of Operating System with capability to be upgraded.                                                                                                |                   |
|                                                                                                                                      | ii. Minimum SQL Server 2019 for database or latest version.                                                                                                                                          |                   |
|                                                                                                                                      | iii. in built Anti-Virus software to be provisioned.                                                                                                                                                 |                   |
|                                                                                                                                      | iv. Archiving training data for future reference.                                                                                                                                                    |                   |
|                                                                                                                                      | <b>(e) Graphic User Interface (GUI) features.</b> Following min features to be incorporated on Graphics User interface (GUI):                                                                        |                   |
|                                                                                                                                      | i. Login. -                                                                                                                                                                                          |                   |
|                                                                                                                                      | ii. Create/Edit/Delete Exercise                                                                                                                                                                      |                   |
|                                                                                                                                      | iii. Run Exercise                                                                                                                                                                                    |                   |
|                                                                                                                                      | iv. Save Exercise                                                                                                                                                                                    |                   |
|                                                                                                                                      | v. Calibration                                                                                                                                                                                       |                   |
|                                                                                                                                      | vi. Diagnostics                                                                                                                                                                                      |                   |
|                                                                                                                                      | vii. Familiarization                                                                                                                                                                                 |                   |
|                                                                                                                                      | viii. Performance Evaluation Report                                                                                                                                                                  |                   |
|                                                                                                                                      | ix. Help                                                                                                                                                                                             |                   |
| 7                                                                                                                                    | <b>Architecture &amp; Design Aspects.</b>                                                                                                                                                            |                   |
|                                                                                                                                      | <b>(a) Mock-up or Strap-on or Desktop Version</b>                                                                                                                                                    |                   |

| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                                                                                                   |
| Bidder Response**                                                                                                                    |                                                                                                                                                                                                                                                                            |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                                                            |
|                                                                                                                                      | i. Functional controls which effect the driving of the vehicle by the driver to have electronics inbuilt into them such that the output is integrated via Hardware and Software.                                                                                           |
|                                                                                                                                      | ii. Steering effect for both front and rear cabins as in original                                                                                                                                                                                                          |
|                                                                                                                                      | iii. Front Cabin to have soft panels to depict the instrument gauges. All relevant controls with interfacing electronics and controller will also be provided. Front cabin to also have arrangement for engagement of PTO valve to simulate start of the hydraulic system. |
|                                                                                                                                      | iv. Rear cabin to be akin to original equipment.                                                                                                                                                                                                                           |
|                                                                                                                                      | v. PVG 32 valve bank and two remotes connected to it as in original bridge for launch and pier operation will be placed in between front cabin & rear cabin as in original equipment.                                                                                      |
|                                                                                                                                      | <b>(b) Individual, Crew or Team base.</b> Front, Rear Driver Cabin & PVG -32, PTO Valve Bank for 01 x Trainee and crew drill to be performed in simulation software.                                                                                                       |
|                                                                                                                                      | <b>(c) Wireless or Wired Communication with External Nodes.</b> Wired communication between Front Cabin, Rear Cabin, PVG-32, PTO Valve Bank, Incline Bench and instructor station.                                                                                         |
|                                                                                                                                      | <b>(d) Non-Scalable or Scalable.</b> Scaled as original.                                                                                                                                                                                                                   |
|                                                                                                                                      | <b>(e) Transferability.</b> Wheel based cabin / units for easier mobility for shifting / relocation of simulator from one location to another on rare occasions.                                                                                                           |
|                                                                                                                                      | <b>(f) Packaging &amp; Instln.</b>                                                                                                                                                                                                                                         |
|                                                                                                                                      | i. Screw mounting based fitted computer hardware for easy assembling / dismantling.                                                                                                                                                                                        |
|                                                                                                                                      | ii. Portable wheel-based cabin / units.                                                                                                                                                                                                                                    |
|                                                                                                                                      | iii. 230V AC, 50Hz operated hardware.                                                                                                                                                                                                                                      |
|                                                                                                                                      | <b>(g) Software Upgradability.</b>                                                                                                                                                                                                                                         |
|                                                                                                                                      | <b>(h) Indigenous Design &amp; Development.</b>                                                                                                                                                                                                                            |
|                                                                                                                                      | <b>(j) Dimensions.</b> Dimensions of simulator to facilitate indoor usage. Dimensions be specified including those of modular parts (if any)                                                                                                                               |
| 8                                                                                                                                    | <b>Electrical Power Supply.</b>                                                                                                                                                                                                                                            |
|                                                                                                                                      | i. The simulator should be able to run on 230V AC,50Hz.                                                                                                                                                                                                                    |
|                                                                                                                                      | ii. UPS Facility for Uninterrupted Power Supply on AC Mains failure.                                                                                                                                                                                                       |

| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                    |                   |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                           | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                    |                   |
|                                                                                                                                      | iii. <b>UPS/Power Conditioner.</b> Should be able to provide minimum one-hour uninterrupted Power supply as backup in case of failure of AC mains. |                   |
| 9                                                                                                                                    | <b>Ruggedisation.</b>                                                                                                                              |                   |
|                                                                                                                                      | (a) High Quality fabricated driver cabin, PVG 32 Valve bank& Instructor station.                                                                   |                   |
|                                                                                                                                      | (b) All hardware to be military grade.                                                                                                             |                   |
| 10                                                                                                                                   | <b>Endurance for Daily Operation.</b> At least 12 Hours with half hour gap post six hours.                                                         |                   |
| 11                                                                                                                                   | <b>Ergonomic Parameters.</b>                                                                                                                       |                   |
|                                                                                                                                      | (a) <b>Calibration Module.</b> It should be able to calibrate all pedals and levers.                                                               |                   |
|                                                                                                                                      | (b) <b>Diagnostic Module.</b> Requirement of Diagnostics Module to check serviceability of various hardware components fitted.                     |                   |
|                                                                                                                                      | (c) <b>Metrication.</b> The proposed equipment and its components should conform to metric standards including for screw, threads and gears        |                   |
|                                                                                                                                      | (d) <b>Ergonomics.</b> The design of the simulator should be: -                                                                                    |                   |
|                                                                                                                                      | i. Front Cabin based on driver seat, Soft panel-based instrument cluster, Gear Box and switches/controls for easy operation as in original.        |                   |
|                                                                                                                                      | ii. Rear Cabin based on driver seat, Gear Box and switches/controls for easy operation as in original.                                             |                   |
|                                                                                                                                      | iii. Functionality of PVG-32 Valve bank assembly as in original                                                                                    |                   |
|                                                                                                                                      | iv. User friendly simulation software                                                                                                              |                   |
| <b>INDIGENOUS CONTENT/PRODUCTION</b>                                                                                                 |                                                                                                                                                    |                   |
| 12                                                                                                                                   | Will your product meet Buy (Indian)/Buy (Indian-IDDM) specifications as per DAP-2020. Specify with details including Indigenous Content            |                   |
| 13                                                                                                                                   | Can the 15m Bridging Simulator be produced indigenously? If yes, what will be the indigenous content provided & verification process?              |                   |
| 14                                                                                                                                   | What is the overall percentage of Indigenisation for the 15m Bridging Simulator in terms of Cost?                                                  |                   |
| 15                                                                                                                                   | Does Indian Industry have the capability to design develop, manufacture, test and integrate the system including the critical technology?          |                   |
| 16                                                                                                                                   | How much time will the start-up / JV take to start production                                                                                      |                   |

| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                                                                                                                                                                                                         |                   |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                                                                                                                                                                | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                                                                                                                         |                   |
| 17                                                                                                                                   | If your firm is not the OEM, is the OEM willing to provide transfer of Critical technologies? If yes, what are the critical technologies which your industry has taken from global partners or Joint Venture (JV), if any? Or what are the essential critical technologies that can be provided (Depth and range also to be qualified)? |                   |
| 18                                                                                                                                   | How much time is required by the industry to deliver the 15m Bridging Simulator with Accessories/Platform with the stipulated indigenous content, post trials/Contract for operational use?                                                                                                                                             |                   |
| 19                                                                                                                                   | Please furnish details of IPR documentation/ Patents/ design resignation/ copyright etc registered with the authorised agency in respect of the 15m bridging system                                                                                                                                                                     |                   |
| 20                                                                                                                                   | Is the complete set of design and production drawing and source code for all software applications/ programmes available with your company? Can they be produced for verification                                                                                                                                                       |                   |
| 21                                                                                                                                   | Is there any Transfer of Technology (ToT) involved? If so, specify complete details including qualifying terms and conditions if any.                                                                                                                                                                                                   |                   |
| 22                                                                                                                                   | How and in what 'Time Frame' will you ensure the ToT?                                                                                                                                                                                                                                                                                   |                   |
| 23                                                                                                                                   | If the equipment is of foreign origin then, what is the capability of the Indian Vendor to indigenously design and Develop the required equipment?                                                                                                                                                                                      |                   |
| <b>TRIALS/PROTOTYPE/COTS</b>                                                                                                         |                                                                                                                                                                                                                                                                                                                                         |                   |
| 24                                                                                                                                   | What will be the time penalty and fall out if addl features/higher technology is asked in the prototype? OR if the equipment is to be fielded in 04 months/06 months, what level of technology (or type of prototype) would be made available?                                                                                          |                   |
| 25                                                                                                                                   | What is the likely time period reqd by the industry to field the prototype for trials post intimation of clearance in TEC? This date should factor in time for clearance, transportation etc.                                                                                                                                           |                   |
| 26                                                                                                                                   | Whether vendor certification can be given for maj parameter eg op temp and weather conditions etc?                                                                                                                                                                                                                                      |                   |
| 27                                                                                                                                   | Whether vendor is ready to provide the EUT (one set) as per the provisions?                                                                                                                                                                                                                                                             |                   |
| 28                                                                                                                                   | Transportability should be mentioned in the physical & tech parameters                                                                                                                                                                                                                                                                  |                   |
| 29                                                                                                                                   | <b>Time Schedule.</b> What is the earliest time by which deliveries can be made? Suggest part supply programs also?                                                                                                                                                                                                                     |                   |
| 30                                                                                                                                   | Is the prototype readily available or has to be designed/ manufactured?                                                                                                                                                                                                                                                                 |                   |

| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                                                                                                            |                   |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                                                                   | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                            |                   |
| 31                                                                                                                                   | In what time frame can the prototype of 15m Bridging Simulator be fielded for trials post issue of RFP? This data should factor time for transportation etc.                                                                               |                   |
| 32                                                                                                                                   | Specify the parameters (including parameters from JSS 55555) which can be certified by NABL accredited laboratories along with the details of such laboratories.                                                                           |                   |
| 33                                                                                                                                   | Elaborate on the infrastructure and logistics aspects of conduct of trials and suggested location of trials.                                                                                                                               |                   |
| 34                                                                                                                                   | Is the proposed equipment readily available as COTS? If so what quantities have been sold to various agencies (Govt/ otherwise) in the last five years? Details to be furnished.                                                           |                   |
| 35                                                                                                                                   | Will you/ OEM be willing to participate in trials as per DAP 2020 in India on NCNC basis?                                                                                                                                                  |                   |
| 36                                                                                                                                   | Will you be providing the crew required for operating the equipment for trials?                                                                                                                                                            |                   |
| <b>PRODUCT SUPPORT</b>                                                                                                               |                                                                                                                                                                                                                                            |                   |
| 37                                                                                                                                   | What is the warranty period offered for the 15m Bridging Simulator (in years and hours of operation)?                                                                                                                                      |                   |
| 38                                                                                                                                   | Have you supplied similar Simulator to any other firm in India/ abroad? If yes, furnish details of the supply, including quantity.                                                                                                         |                   |
| 39                                                                                                                                   | Does your firm have major repair and overhaul facility for major assemblies and component level repairs?                                                                                                                                   |                   |
| 40                                                                                                                                   | What is the likely 'Service Life' of the 15m Bridging Simulator produced by your company?                                                                                                                                                  |                   |
| 41                                                                                                                                   | 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?                    |                   |
| 42                                                                                                                                   | What kind of Engineering Support Package will you be offering? Please also mention cost implications, if any.                                                                                                                              |                   |
| 43                                                                                                                                   | What life time support can be provided by the vendor?                                                                                                                                                                                      |                   |
| 44                                                                                                                                   | 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)? |                   |
| <b>MAINTENANCE/REPAIR/UPGRADATION PHILOSOPHY</b>                                                                                     |                                                                                                                                                                                                                                            |                   |
| 45                                                                                                                                   | What would be the Maintenance Philosophy for repair and maintenance of the 15m Bridging Simulator? Can it be aligned with the system of unit and Field level repairs prevalent in the Defence Services?                                    |                   |



|                                                                                                                                      |                                                                                                                                                                                              | <i>Annexure-1</i> |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                     | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                              |                   |
| 46                                                                                                                                   | Are you ready to provide on-site AMC/ CMG for the equipment?                                                                                                                                 |                   |
| 47                                                                                                                                   | 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?                                |                   |
| 48                                                                                                                                   | 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?            |                   |
| 49                                                                                                                                   | 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?                      |                   |
| 50                                                                                                                                   | How many sub vendors are involved in the manufacturing of product? Is product support from all sub vendors also assured for the same period, as committed by you?                            |                   |
| 51                                                                                                                                   | What would be the infrastructure & skill sets needed for maintenance?                                                                                                                        |                   |
| 52                                                                                                                                   | Does your 15m Bridging Simulator have Built in Test Equipment (BITE) to support diagnostics and repair through modular replacement?                                                          |                   |
| 53                                                                                                                                   | Is there any software applicable to your 15m Bridging Simulator? If yes, can it be restored in field in case of any fault? Is it upgradable? Whether open paper license is available or not? |                   |
| 54                                                                                                                                   | Does your equipment or any of its sub system have counter to display cumulative usage to facilitate usage-based preventive/ period maintenance?                                              |                   |
| 55                                                                                                                                   | What would be the training requirement for maintenance of the 15m Bridging Simulator at field level?                                                                                         |                   |
| 56                                                                                                                                   | List out the special maintenance required for storage at lower / higher operating and storage temperature ranges.                                                                            |                   |
| 57                                                                                                                                   | List out the tools and accessories provided with the 15m Bridging Simulator.                                                                                                                 |                   |
| 58                                                                                                                                   | Is there any automatic diagnostic equipment available to check the health of engine, Hydraulics and sensors?                                                                                 |                   |
| 59                                                                                                                                   | What would be the upgradation philosophy with respect to the 15m Bridging Simulator                                                                                                          |                   |
| 60                                                                                                                                   | Elaborate upon the frequency and nature of upgrades recommended by you.                                                                                                                      |                   |
| 61                                                                                                                                   | Will software upgrades/patches be provided whenever required?                                                                                                                                |                   |



| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                                                                             |                   |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                                    | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                             |                   |
| 62                                                                                                                                   | Is the equipment modular in construction to facilitate repairs in field by replacing defective module? What is the Mean Time to Repair (MTTR) for repairs through replacement?                              |                   |
| 63                                                                                                                                   | What is Mean Time Between Failure (MTBF) for equipment and its main assemblies?                                                                                                                             |                   |
| 64                                                                                                                                   | Please provide details of inspection standards to ascertain serviceability of equipment as well as its modules/ components                                                                                  |                   |
| 65                                                                                                                                   | Please provide details of Indian origin generators and batteries to be provided with your equipment, where applicable                                                                                       |                   |
| 66                                                                                                                                   | Please provide details of Indian equivalents of oil and lubricants used with your equipment?                                                                                                                |                   |
| <b>TRAINING</b>                                                                                                                      |                                                                                                                                                                                                             |                   |
| 67                                                                                                                                   | Will you be able to offer Sectionised / 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. |                   |
| 68                                                                                                                                   | 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.                 |                   |
| 69                                                                                                                                   | 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.                                                    |                   |
| 70                                                                                                                                   | What are the facilities available at OEM/ Vendor premises to conduct training?                                                                                                                              |                   |
| 71                                                                                                                                   | How will you assist in carrying out training for user, maintenance personnel and QA personnel?                                                                                                              |                   |
| 72                                                                                                                                   | What is the recommended training period of maintenance and QA personnel and user/ crew?                                                                                                                     |                   |
| 73                                                                                                                                   | Can a user bilingual hand book, repair and maintenance manual and spare parts catalogue be provided with each 15m Bridging Simulator?                                                                       |                   |
| <b>COMMERCIAL TERMS/COST</b>                                                                                                         |                                                                                                                                                                                                             |                   |
| 74                                                                                                                                   | What will be the estimated price of the complete 15m Bridging Simulator? Also mention the Minimum Order Quantity for the price quoted                                                                       |                   |
| 75                                                                                                                                   | What is the approximate cost of the 15m Bridging Simulator as defined above in Indian Rupees (including taxes and duties)?                                                                                  |                   |
| <b>TIME SCHEDULE</b>                                                                                                                 |                                                                                                                                                                                                             |                   |

EOI Ref: GMBD(Def)/Simulator/EOI/2023/04

Date: 14.12.2023

| <i>Annexure-1</i>                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                |                   |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| SN                                                                                                                                   | Operational Characteristics and Features                                                                                                                                                                                                                                                                                                                                       | Bidder Response** |
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                                                                                                                                                                                                                                                                                                |                   |
| 76                                                                                                                                   | What is your annual production capacity for the 15m Bridging Simulator? Is it likely to increase? What is the recommended 'Delivery Schedule'?                                                                                                                                                                                                                                 |                   |
| 77                                                                                                                                   | What is the earliest timeframe by when the 15m Bridging Simulator can be delivered after placing of order?                                                                                                                                                                                                                                                                     |                   |
| <b>MISCELLANEOUS</b>                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                |                   |
| 78                                                                                                                                   | Are you an OEM of the equipment or an authorised vendor? If OEM, then forward your company profile?                                                                                                                                                                                                                                                                            |                   |
| 79                                                                                                                                   | Will your firm be willing to supply the 15m bridging simulator to Indian Army under provisions of DAP-2020                                                                                                                                                                                                                                                                     |                   |
| 80                                                                                                                                   | What are the enhanced parameters / specifications of 15m Bridging Simulator which can be offered?                                                                                                                                                                                                                                                                              |                   |
| 81                                                                                                                                   | Have you supplied similar equipment as defined above to Border Roads Organisation, Central Armed Police Forces, Para-Military 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)? |                   |
| 82                                                                                                                                   | Any other relevant information in terms of specifications/terms of ref, the OEM/ Vendor would like to share.                                                                                                                                                                                                                                                                   |                   |

## Annexure-2

| SI No                                                                                                                     | Eligibility Criteria                                                                                                                                                                                                                                                                                                                                                                                                     | Bidder Response**                                                                        |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| ** The Bidder shall fill & submit their response / compliance with supporting document / certificate / undertaking letter |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                          |
| 1.                                                                                                                        | The Party must be registered in India as required by law with minimum five (5) years of continuous operation up to the date of publication of this EOI.                                                                                                                                                                                                                                                                  | Submit company registration certificate                                                  |
| 2.                                                                                                                        | The Party should have manufacturing and/or operations with atleast five (5) years of infrastructure set up in India.                                                                                                                                                                                                                                                                                                     | Submit list of facilities, Testing facilities photos with specifications, brochures etc, |
| 3.                                                                                                                        | Should be a registered Bidder with global reputation not placed on the restricted list for arms import by Indian MoD. Dealers/ distributors/ agents/ representatives need not respond to this Eoi.<br><b>As per Appendix-C &amp; Appendix-D</b>                                                                                                                                                                          | Submit Appendix-C&D                                                                      |
| 4.                                                                                                                        | The Bidder should have demonstrated/supplied the Simulators or equivalent equipment to its Indian Army/MHA and should have been accepted/in-service or shortlisted.                                                                                                                                                                                                                                                      | Submit relevant supply order copy/acceptance letter from competent authority             |
| 5.                                                                                                                        | Should have demonstrable experience of more than 5 years in developing/customizing Simulators for military/civilian applications.                                                                                                                                                                                                                                                                                        | Submit supporting document / certificate                                                 |
| 6.                                                                                                                        | The Bidder shall be willing to modify their proposed Simulators equipment to the MoD's need and co-produce the equipment in BEML's plant.                                                                                                                                                                                                                                                                                | Submit Undertaking letter                                                                |
| 7.                                                                                                                        | The Bidder must transfer the technology to BEML to locally supply the parts/assemblies under Buy Indian (IDDM) as per DAP 2020.                                                                                                                                                                                                                                                                                          | Submit Undertaking letter                                                                |
| 8.                                                                                                                        | The Bidder should have supplied / executed one similar equipment with supply order to MoD/MHA from last 5 years.                                                                                                                                                                                                                                                                                                         | Submit supply order copy                                                                 |
| 9.                                                                                                                        | The Bidder shall note that Govt. of India, Ministry of Defence will be acquiring these stores only through a competitive tender process following the DAP 2020. As per DAP 2020 one equipment has to be offered to the Ministry of Defence for Trial/testing on No-Cost-No-Commitment (NC-NC) basis. The firm shall be agreeable to offer two equipments with min 60% indigenous content to BEML abiding this condition. | Submit Undertaking letter                                                                |
| 10.                                                                                                                       | BEML will have the sole right to market the product in India for military/MHA and export.                                                                                                                                                                                                                                                                                                                                | Submit Undertaking letter                                                                |

## Annexure-2

| SI No                                                                                                                                | Eligibility Criteria                                                                                         | Bidder Response**                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <i>** The Bidder shall fill &amp; submit their response / compliance with supporting document / certificate / undertaking letter</i> |                                                                                                              |                                                                               |
| 11.                                                                                                                                  | The Bidder shall accept BEML to hold IP rights for all technologies developed for said Simulators project.   | Submit Undertaking letter                                                     |
| 12.                                                                                                                                  | Bidder to hold IPR for the equipment being proposed under this EoI.                                          | Submit Undertaking letter                                                     |
| 13.                                                                                                                                  | Bidder to certify and Indemnify BEML with respect to any disputes on IPR proposed to be transferred to BEML. | Submit Undertaking letter                                                     |
| 14.                                                                                                                                  | Bidder to certify that the Simulators technology/design/drawings are not sourced from MoD blacklisted firms. | Submit Undertaking letter                                                     |
| 15.                                                                                                                                  | Enclose EoI Response Format as per <a href="#">Appendix-A</a>                                                | Submit Appendix-A                                                             |
| 16.                                                                                                                                  | Enclose Certificate as to Authorize signatories as per <a href="#">Appendix-B</a>                            | Submit Appendix-B                                                             |
| 17.                                                                                                                                  | Brief description on company profile covering below aspects:                                                 | Submit supporting document / certificate / undertaking letter for each aspect |
|                                                                                                                                      | 1. Company registration certificate                                                                          |                                                                               |
|                                                                                                                                      | 2. Brief write-up on Company Products profile, core capability                                               |                                                                               |
|                                                                                                                                      | 3. Auditor certified statements of Annual turnover of the company in the last 3 years.                       |                                                                               |
|                                                                                                                                      | 4. Credit Rating of your Company equivalent to CRISIL rating                                                 |                                                                               |
|                                                                                                                                      | 5. Board of directors.                                                                                       |                                                                               |
|                                                                                                                                      | 6. Head Quarters.                                                                                            |                                                                               |
|                                                                                                                                      | 7. Infrastructure Capabilities                                                                               |                                                                               |
|                                                                                                                                      | 8. Quality Management, ISO certificates or equivalent                                                        |                                                                               |
|                                                                                                                                      | 9. Subsidiaries / JVs in India                                                                               |                                                                               |
|                                                                                                                                      | 10. Strategic alliance with foreign companies                                                                |                                                                               |
|                                                                                                                                      | 11. Contact details of the Single Point of Contact.                                                          |                                                                               |

**Appendix' A**

{With Cover Letter in Company letterhead}

**Eoi RESPONSE FORMAT**

To,  
Corporate Purchase  
BEML Limited  
SR Nagar, Bangalore 560027  
E-mail: edcpm@beml.co.in

Dear Sir,

Ref: Expression of Interest to Partner with BEML Limited for Co-Production and Supply of 15m Bridge Simulators to Ministry of Defence, Govt of India

Having examined the Expression of Interest (Eoi) document dated \_\_\_\_\_, downloaded from the BEML website, i.e [www.bemlindia.in](http://www.bemlindia.in), we, the undersigned, intend to submit an Eoi in response to the aforesaid Eoi document.

We attach hereto the Eoi and response as required by you, which constitutes our Eoi.

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 :      |                        |                          |

EOI Ref: GMBD(Def)/Simulator/EOI/2023/04

Date: 14.12.2023

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 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 in its short-listing process.

We fully understand and agree to comply that on verification, if any of the information provided here is found to be misleading the short-listing process, we are liable to be dismissed from the selection process or termination of the contract after the execution of the contract.

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 to act on behalf of our company/ corporation/ firm / organization and empowered 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 Company) Seal / Stamp of Party

Witness Signature:

Witness Name: Witness

Address:

***Appendix' B***

{With Cover Letter in Company letterhead}

**CERTIFICATE AS TO AUTHORIZED SIGNATORIES**

I, , ..... , the Company Secretary  
of ..... , certify that  
..... Who signed the above Simulator  
Eoi is authorized to do so and bind the company by authority of its board / governing  
body.

Date :

Signature :

(Company Seal)

***Appendix' C***

{With Cover Letter in Company letterhead}

**DECLARATION BY THE BIDDER**

This is to certify that our person/persons/Company/Firm/Associations does not have any litigation, arbitration cases against BEML Ltd or pending before the Court / Arbitrator in connection with any contract / tender issued by BEML Ltd.

Signature of Bidder with  
(Company Seal)



***Appendix' D***

{With Cover Letter in Company letterhead}

**DECLARATION BY THE BIDDER**

This is to certify that \_\_\_\_\_ (Name of the Firm) has not been banned / black listed / debarred from Trade by any BEML / CENTRAL / State Govt. Dept. / Autonomous Institution / PSUs in India at the time of bid submission. Also the Simulator technology / design / drawings are not sourced from MoD banned / black listed / debarred firms.

I / we hereby certify that all the information given above is factual.

Signature with date of Authorized signatory

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

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

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