

Ref: EOI/KGF/R&amp;D/DC/24 CuM-WD

Dt: 31 March 2022

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

Invitation for Expression of Interest (Eoi) for Design of 24 cum Walking Dragline from Leading Design consultants /agency who have worked with Original Equipment Manufacturers for Design and development of similar equipment.

<b>Eoi Reference</b>	<b>Ref. No. EOI/KGF/R&amp;D/DC/24 CuM-WD</b>
<b>Eoi closing date</b>	<b>Closing date: 2<sup>nd</sup> May 2022, Time: 17:00 Hrs</b>
<b>Eoi response email ID</b>	<b>bemleoi@beml.co.in</b>
<b>Contact for technical clarifications</b>	<b>Name : Mr. Hemanth Kumar . T - DGM(R&amp;D) Email : gde@beml.co.in Mob No: 9480233261</b>
<b>PLEASE MENTION Eoi Reference in e mail subject</b>	

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Date: March 31, 2022

**Expression of Interest (Eoi) for Design of 24 cum Walking Dragline from Leading Design consultants /agency who have worked with Original Equipment Manufacturers for Design and development of similar equipment.**

**Objective: “Make in India” and Self Reliability**

BEML Limited is seeking Design consultants / agency to work with BEML in design and development of 24 cu.m Walking Dragline as a clean sheet project with the overarching objective of “Make in India” and enhancing Self-Reliance in line with the vision of Honorable Prime Minister of India.

**1.0 Back ground**

BEML Ltd has three business verticals viz Defence & Aerospace, Rail & Metro and Mining & Construction with four manufacturing complexes located at Bengaluru, Kolar Gold Fields (KGF), Mysuru and Palakkad.

All the manufacturing divisions of BEML have been accredited with ISO 9001 – 2015 and ISO 14001 (HSC) certification. BEML has its own world-class composite R&D establishment for Design & Development of products.

The Company has a nationwide Marketing Network and an International Business Division for Exports activity.

Details of the BEML Ltd is available on [www.bemlindia.in](http://www.bemlindia.in)

**2.0 Overview of BEML Capabilities:**

BEML Limited, a Central Public Sector Enterprise coming under the Ministry of Defence was incorporated in 1964. Subsequently it became a listed company and is engaged in the design, development and manufacturing in the areas of Mining & Construction, Defence & Aerospace and Rail & Metro equipments.

**2.1 Mining & Construction**

BEML Ltd is engaged in the business of Hydraulic Excavators, Bulldozers, Wheel Loaders, Wheel Dozers, Dump Trucks, Motor Graders, Pipe Layers, Tyre Handlers, Water Sprinklers and Backhoe Loaders to customers in the Mining and Construction segments.

BEML has also developed Mining Dump trucks of 150 Ton and 200 Ton class and Excavators of both Hydraulic and Electrical of 180 Ton capacity.

## **2.2 Defence & Aerospace**

BEML Ltd is engaged in the business of High Mobility vehicle for all terrain operations, Heavy Recovery Vehicle, Pontoon Mainstream Bridge Systems, Crash Fire Tenders, Mobile Mast Vehicle, Engineering Mine Ploughs, Tank Transportation Trailers, Weapon Loading equipment, Armored Recovery Vehicle, Milrail Coaches and Wagons, ground support vehicles and other products to the Indian and other Armed Forces.

## **2.3 Rail & Metro**

BEML Ltd is engaged in the business of Integral Rail Coaches, Overhead Inspection Cars, AC/DC Electrical Multiple Units, Stainless steel EMUs, Utility vehicles, Track Laying Equipment, Broad-gauge Rail bus, Treasury Vans, Spoil disposal Units to the Indian and other Railways.

BEML Ltd has also successfully diversified into manufacturing state-of-the-art technology stainless steel Metro Cars for various urban Metro Corporations and enjoys a dominant market share in this segment

## **3.0 Research & Development:**

BEML Ltd has R&D establishment for Design & Development of high tech engineering products for its three verticals. It employs over 300 professionals with high experience and skills spanning a wide range of technology areas.

The R&D establishment has CAD Centre, Fluid-power, Powerline, Structural Engineering & Material Science laboratories and is continuously engaged in New Product Development and upgradation of existing products to meet customer requirements. More than 65% of Company's Sales Turnover is through in-house developed R&D products. The R&D expenditure is around 2 ~ 3% of its turnover.

## **4.0 International Business Division:**

BEML has a sizeable market share in export markets with exports to 68 countries across the globe. Over the years this division has exported over 1200 machines covering all the three verticals.

## **5.0 BEML Ltd seeks partnership with reputed design consultants / agency who have worked with Original Equipment Manufacturers for Design and development of Walking Dragline.**

With the increase in demand for power, Indian Coal Industry is facing challenge of increasing coal production to meet the demand. Towards meeting this goal, Indian Coal Industry is expanding its base by starting exploring and extraction of coal from new coal blocks.

To meet this demand major coal production company in India M/s CIL is going for higher capacity equipment like Walking Dragline / Rope Shovels / Electric hydraulic excavators / Dumpers etc. BEML being the leading manufacturer of mining equipments in India would like to participate in the new product tenders and expand its product portfolio and to achieve the dream of India to be Atmanirbhar (Self sufficient). BEML is actively seeking partnerships with leading Design Consultants / agency, who have worked with globally reputed Original Equipment Manufacturers (OEMs) to design and develop 24 cum Walking Dragline. BEML will take the full responsibility of Manufacture and sourcing of the aggregates. The After-Sales-Service will be rendered by our nationwide service network and with the support of our aggregate suppliers.

Generally, the specification, productivity and life expectancy of Walking Dragline equipment required in Indian Coal Mines is as per the detailed NIT document, which will be shared as one of the main documents during the Design phase. However, there may be minor variations in the specifications from mine to mine like bucket capacity and range.

**The role and responsibility of selected Design Consultant / agency:**

Design consultant / agency to work / contribute on a new clean sheet design and development of a 24 cum Walking Dragline, which is a large and complex undertaking that involves many different stages. The following, shown below, is a list of the typical stages.

1. Market Analysis and Product Definition
2. Machine & System Specifications
3. Conceptual design of the equipment considering the space requirement for each aggregate
4. Selection of Major Component/System Suppliers/aggregates
5. Conceptual layout
6. Detailed design
7. Development Engineering, Design, and Drawings
8. Arriving quality plan
9. Component Tooling & Patterns
10. Prototype Procurement and Manufacturing Processes
11. Support / co-ordinate for vendor development
12. Design / Build Assembly Fixtures
13. Prototype Qualification Process
14. Development of Product / Technical Manuals
15. Associate for erection and commissioning of the product
16. Engineering, Design and Drawing Revisions / Improvements from Procurement, Manufacturing, and Assembly
17. Engineering, Design and Drawings of Machine Options

18. Component Lab Testing
19. Prototype Field Testing
20. Engineering, Design, and Drawing Revisions / Improvements from Testing
21. Production Launch
22. Co-ordinate for 03 year of initial proveness criteria
23. Sustaining / Maintenance Engineering.

BEML will be the leading and responsible party for the development of the 24 cum Walking Dragline. BEML will be responsible for the overall project management of the engineering and design portion of the project, and for all of final CAD modeling, drafting, BOM, and transfer of information into the pertinent BEML databases (PDM and ERP). In addition to the engineering and design role, BEML shall be responsible to support this project with the necessary personnel from marketing, manufacturing, purchasing, and product support (service and warranty). These personnel will be required to supply information, answer questions, and make decisions from time to time throughout the engineering and design phase.

The Design consultant / agency shall provide the engineering and design expertise to support and assist BEML in the development of this 24 cum Walking Dragline.

Design consultant / agency will also assume the lead role and be responsible for the engineering and design of specific systems and components as detailed below.

### **Walking Dragline Design Methodology**

Considering the magnitude of the project it is recommended to adopt a phased approach. Since the task of developing a Walking dragline from a clean sheet is large and complex, it is helpful to segment and group tasks into phases. The phases start from design specifications and increase in detail and complexity until designs are finalized, verified, approved, and drafted. The phased approach also allows for appropriate reviews and approvals to be built into the project. The following are the typical phases of this Walking Dragline design project:

1. Specification Phase
  - a. Machine
  - b. System
  - c. Major Supplier / Component Selection
2. Preliminary Design Phase
  - a. Basic Engineering Calculations – Sizing
  - b. Machine Concept / Layout
  - c. Specification/Review
  - d. Supplier Selection
3. Conceptual Design Phase

- a. Major Component Specifications
  - b. Engineering & Design
  - c. Analysis & Verification
  - d. Supplier Selection
4. Detailed Design Phase
    - a. Engineering & Design Refinement / Iterations
    - b. Analysis & Verification Refinement / Iterations
    - c. Final Design
    - d. Final Analysis & Verification
  5. Drafting Phase
    - a. Manufacturing Drawings
    - b. Assembly Drawings
    - c. Bill of Materials

The design consultant / agency to note the following points while working with BEML on the design and development of walking dragline.

- a) Assist BEML in sourcing the critical aggregates, Technical support / consultancy etc. as required
- b) Agree for manufacturing of mutually agreed Assemblies / components at the manufacturing facilities of BEML in India so that cost advantage can be leveraged. The selected partner should offer the required technical support by providing detailed drawings, quality plan, vendors for sourcing of critical components etc. as required.
- c) Associate in assembly of equipment at BEML facilities and installation, commissioning and operation / supervision of operation cum maintenance at end customer site as required,
- d) Finalizing the spares & consumables necessary for operation of the equipment during its life time,
- e) Training of BEML engineers for installation, supervision & maintenance of the equipment.

The design / service deliverables provided by consultant / agency to BEML is the sole property of BEML and all its intellectual property (IP rights) shall remain with BEML. The design consultant / agency shall not, under any circumstances, use the information provided for this project to perform or provide engineering consultancy or services to any other companies or individuals that are not employed or owned by BEML.

BEML acknowledges that the development of a complex new product requires prototype testing, design, procurement, manufacturing and assembly modifications to reach a production ready state. Furthermore, any product will require maintenance (support) engineering during the product life cycle including but not limited to: cost and weight optimization, improvement of manufacturability and reliability, and

technology updates. BEML agrees these functions are not included in design consultant / agency scope of services.

In the event of a prototype or production of walking dragline - failure or performance issue (in the lab or at field), BEML agrees that any involvement of design consultant / agency regarding failure analysis, trouble shooting, and resolution of said failure or issue is not included in their scope of services. Within BEML's discretion, charges will be addressed through additional quotations by design consultant or agency to travel and service fee schedule.

If a walking dragline failure or performance issue is deemed to be due to the service provided by design consultant /agency, they must provide engineering and design services and resolve the issue at no additional cost to BEML and forego any applicable charges from additional quotations or the travel and service fee schedule. Design consultant / agency financial responsibility in the issue of resolution shall be limited to their engineering, time and output.

The DGMS Approval for the equipment has to be obtained by the original equipment manufacturer (OEM) (Selected Partner) and BEML with required assistance from the customer. After entering into Agreement / Understanding, BEML and selected agency will work towards obtaining DGMS approval for deploying the equipment in Underground Coal Mines in India.

**Qualification criteria of EOI.**

1. The firm should be in the business of supply and installation of Walking dragline or its major aggregates for the last 10 calendar years. Document proof shall be submitted for the same.

OR

The firm should have expertise and executed design consultancy project for heavy engineering / Mining machineries such as Walking dragline, Rope Shovel, Hydraulic excavator, Mining trucks Bulldozers etc., for at least 10 calendar years. Document proof shall be submitted for the same.

2. The firm should have the cumulative turnover of minimum 25 million US dollar for the past 10 years. Supporting document/self declaration to be submitted.
3. Willingness to transfer relevant technology / design calculations / design methodology etc., involved during joint execution of BEML project.
4. The company should be interested to associate with BEML in any of the following mode or co-operation

- a. Technology licensing
  - b. Contract manufacturing
  - c. Know-how transfer arrangement
5. Willingness to share with BEML any up-gradations / improvements envisaged during the period under which the joint working arrangement is effective.
  6. Preference / higher weightage will be given for design consultant / agency where they can be able to supply major scope.
  7. Mean while, BWD 24 Walking Dragline is high value product, the probable design consultant / agency with limited scope also will be entertained.
  8. BEML reserves the rights to split the scope of supply depending on firms capability / expertise and responses received.
  9. Willingness to train a strong core technology team of Engineers from BEML Limited.
  10. Submission of undertaking regarding that the company has not been debarred / blacklisted by Government of India / any State Government in India/Central or State Government undertaking.
  11. Submission of undertaking regarding number of arbitration cases pending and details regarding the same.

The bidder should furnish information on qualification criteria as per the enclosed **Format A** and the information required for evaluation of responses as per **Format B** which are enclosed.

**Shortlisted bidder should consider following also while submitting the response**

1. Prospective partner may also be required to enter into a long-term Supply Agreement for equipment; spares etc. and meet the expected delivery requirements and other Terms & Conditions of RFP / Tender to be issued by BEML on cost basis.
2. Prospective partner would be required to support BEML during interactions with the various agencies in India for initial screening, participation in the customer RFP / Tender and subsequent qualification process by way of deputing their experts to India and providing the required information, qualification documents and clarifications as required/sought by customer.
3. Prospective partner shall provide firm and irrevocable commitment to provide product support in terms of maintenance, materials and spares etc. for a minimum period of 15 years from the date of last supply to BEML.



4. Prospective partner is required to confirm that in case of getting shortlisted as a result of this EoI process, following support shall necessarily be provided to BEML in order to enable BEML to prepare and submit a competitive techno-commercial bid to customer as per the terms of the customer RFP / Tender (& other requirements as applicable) and also to successfully execute the contract in case of BEML emerging as L1 bidder:
  - a. To provide costing elements required for preparation of BEML offer against customer RFP.
  - b. To provide a price list with long term validity with Price Variation Clause for assemblies / subassemblies / components / spares / Manufacturer's Recommended List of Spares etc. for items to be sourced from prospective partner.
  - c. Any other requirement felt necessary as per customer.
  - d. Above mentioned requirements are only indicative in nature, however any other document/information/input required by BEML for cost estimation and for preparation & submission of techno-commercial bid to customer shall have to be provided by the prospective partner.
5. If the firm is design consultant firm, they need to engage with BEML and provide technical support for a period of 10 years.

## **6.0 Benefits of partnering with BEML**

BEML Ltd has an extensive Marketing network and service centers. BEML has a strong R&D in all business verticals which have developed high end Mining and Construction equipment such as 150 and 200 Ton Dumpers and 180 Ton Excavators etc. BEML have delivered more than 1600 Metro Cars and have a dominant market share in the Indian Market.

BEML is having extensive Land bank at Bangalore, Mysore, Kolar Gold Fields and Palakkad to partner for a Make in India Park for self-reliance through indigenization in line with "Make in India" vision of Honorable Prime Minister of India. The products manufactured through collaboration/partnership may also be exported to other countries.

With extensive manufacturing facilities spread across India, a highly skilled and experienced manpower, presence and reach through its wide network of offices and divisions in India and a successful model of collaborating with other reputed OEMs, BEML is ideally placed to be the partner of choice in India for cooperation.

## 7.0 Contact Person

Interested parties may forward their interest by providing the details of their organization with credentials and areas of interest by e mail to [bemleoi@beml.co.in](mailto:bemleoi@beml.co.in) please mention Eol reference **EOI/KGF/R&D/DC/24 CuM-WD** in subject) **on or before 02.05.2022 Time: 17 :00 Hrs**

Shri. SUNIL KHARAD General Manager,  
Corporate Materials BEML Ltd,  
BEML Soudha Room No. 223  
No 23/1, Sampangiram Nagar  
Bangalore - 560 027  
Karnataka State,  
INDIA  
Phone: +91 80 22963 253

Detailed information sought for Qualification:

Sl. No.	Parameter	Unit	Details
1	The firm should be in the business of supply and installation of Walking dragline or its major aggregates for the last 10 calendar years. Document proof shall be submitted for the same. OR The firm should have expertise and executed design consultancy project for heavy engineering / Mining machineries such as Walking dragline, Rope Shovel, Hydraulic excavator, Mining trucks , Bulldozers etc., for at least 10 calendar years. Document proof shall be submitted for the same.	No.	_____ Years
2	The firm should have the cumulative turnover of minimum 25 million US dollar for the past 10 years. Supporting document/self declaration to be submitted.	USD	-----Million USD
3	Willingness to transfer relevant technology / design calculations / design methodology etc., involved during joint execution of BEML project.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
4	The company should be interested to associate with BEML in any of the following mode or co-operation a) Technology licensing b) Contract manufacturing c) Know-how transfer arrangement.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
5	Willingness to share with BEML any up-gradations / improvements envisaged during the period under which the joint working arrangement is effective.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
6	Preference / higher weightage will be given for design consultant / agency where they can be able to supply major scope	Supply of Major Aggregates Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
7	Mean while, BWD 24 Walking Dragline is high value product, the probable design consultant / agency with limited scope also will be entertained	Limited scope Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
8	BEML reserves the rights to split the scope of supply depending on firm's capability / expertise and responses received.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
9	Willingness to train a strong core technology team of Engineers from BEML Limited.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>

10	Submission of undertaking regarding that the company has not been debarred / blacklisted by Government of India / any State Government in India/Central or State Government undertaking	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
11	Submission of undertaking regarding number of arbitration cases pending and details regarding the same.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/> List of cases, if any: (i) <input type="checkbox"/> (ii) <input type="checkbox"/> (iii) <input type="checkbox"/> (iv) <input type="checkbox"/>

Note: Please tick the relevant boxes and provide the information.

EEO

**INFORMATION SOUGHT FOR EVALUATION OF RESPONSE SUBMITTED:**

Sl. No.	Parameter	Unit	Details
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3	Willingness to transfer relevant technology / design calculations / design methodology etc., involved during joint execution of BEML project.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
4	The company should be interested to associate with BEML in any of the following mode or co-operation d) Technology licensing e) Contract manufacturing f) Know-how transfer arrangement.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
5	Willingness to share with BEML any up-gradations / improvements envisaged during the period under which the joint working arrangement is effective.	Yes/No	Yes <input type="checkbox"/> No <input type="checkbox"/>
6	Preference / higher weightage will be given for design consultant / agency where they can be able to supply major scope	Supply of Major Aggregates	Yes <input type="checkbox"/> No <input type="checkbox"/>
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			No <input type="checkbox"/>
			List of cases, if any: (i) <input type="checkbox"/>
			(ii) <input type="checkbox"/>
			(iii) <input type="checkbox"/>
			(iv) <input type="checkbox"/>

Note: Please tick the relevant boxes and provide the information. Documents required to authenticate the above information/details may be enclosed.