

## **INVITATION FOR EXPRESSION OF INTEREST (EoI) FOR MULTI PURPOSE FORK LIFT TRUCK**

**References** : Defence Acquisition Procedure 2020.

**Appendices:**

- Appendix A** : Preliminary Service Qualitative Requirements for Multi Purpose Fork Lift Truck.
- Appendix B** : Vendor Evaluation Criteria.
- Appendix C** : Technical Evaluation Criteria.
- Appendix D** : Information Performa.
- Appendix E** : Confidentiality Agreement.
- Appendix F** : Correctness Certificate.
- Appendix G** : EoI Compliance Certificate.

1. **Introduction.** Efficient & optimised logistic management & store handling during operations emerge as critical factors for the success. Therefore, the colossal quantum of stores required to be handled by the engineers in operations in every theatre & terrain has always mandated their easy mechanical handling, so as to optimize effort, time, manpower & equipment. With Indian industry presently capable of equipment to address this void with latest technology, the same is proposed to be exploited to evolve a workable alternative for material handling in field.

2. **Objective.** The objective of this invitation of Expression of Interest (EoI) is to seek willingness of Indian Vendors to participate in the Make II Project listed below, in accordance with provision of DAP 2020 (reference Chapter III). Indian Vendors meeting the Technical, Commercial and Project Requirements laid out in the EoI as the next Step, will be issued a 'Project Sanction Order' to develop a prototype as per provisions of Chapter III of DAP – 2020.

3. **Layout.** The EoI has been covered under following parts.

- (a) Part I : General Information.
- (b) Part II : Scope of the Project.
- (c) Part III: Evaluation Criteria.
- (d) Part IV: Procedure for submission of response to the EoI
- (e) Part V : Miscellaneous.

## **PART I : GENERAL INFORMATION**

4. **Nomenclature.** Multi Purpose Fork Lift Truck.
5. The nodal officer for this project for all queries/ clarifications/ coordination will be Colonel PK Seetaram, Colonel Combat Engineers-5(B). Address and contact details are given at Para 32 of EoI.
6. **Make-II Procedure.** Make-II Procedure duly is available at Chapter III of DAP-2020, will be referred to hereinafter in the case and a copy of the same is available at on MoD website. The Project Facilitation Team (PFT) of Indian Army/ MoD constituted will act as interface between Indian Army and Industry during the Design and Development stage of the project. **No re-imbursement of development cost is permissible under Make-II scheme.**

## **PART II : SCOPE OF THE PROJECT**

7. **Scope.** The quantum of stores is required to be handled by soldiers as daily basis in engineer/ logistic units. Presently same is being done manually which puts undue stress on service personnel and leads to fatigue. Therefore, Multi Purpose Fork Lift Truck with its proposed attachments is envisaged to overcome the aspect of manual loading/ unloading and thereby facilitate better efficiency and output of the units of Indian Army. Other envisaged attachments would also facilitate saving of enormous manpower.
8. **Categorisation.** In accordance with **Para 5 (b) (i) of Chapter III, DAP-2020 the design and development of the system must be indigenous.** The project is further categorised as under:-
  - (a) **Prototype Development Phase.** “Make-II (Industry Funded)’ in accordance with Para 5 (b) (i) of Chapter III of DAP-2020.
  - (b) **Procurement Phase.** ‘Buy (Indian-IDDM)’ in accordance with Para 18 of Chapter III of DAP-2020.
9. **Indigenous Content.** The product indigenously designed, developed and manufactured should have minimum of 50% Indigenous content (IC) on cost basis of the total contract value.
10. **Quantities.** The quantities sought for the project are:-
  - (a) **Prototype Development Phase** - Quantity one with all attachments.
  - (b) **Procurement Phase.** - 133 Nos.
11. **Preliminary Service Qualitative Requirements (PSQR) of the Proposed System.** PSQR of the Multi Purpose Fork Lift Truck is attached as **Appendix A.**

## **Time Line and Milestones**

### 12. **Time Line.**

- (a) Prototype development - 30 weeks from the date of issue of Project Sanction Order.
- (b) Production of 133 Nos of Multi Purpose Fork Lift Truck in procurement phase - 18 Months from the date of issue of Supply Order.

### 13. **Milestones.** Major activities in the procurement are given below :-

<b><u>Ser No</u></b>	<b><u>Activity</u></b>	<b><u>Remarks</u></b>	<b><u>Timelines</u></b>
(a)	Issue of Eol	By PFT	T <sub>o</sub>
(b)	Pre Eol Response Meeting	By PFT with Eol respondents	T <sub>o</sub> + 3 weeks
(c)	Eol Responses Submission	By Eol respondents (Indian Vendors)	T <sub>o</sub> + 8 weeks
(d)	Eol Responses Evaluation	By PFT	T <sub>o</sub> + 14 weeks
(e)	Issue of Project Sanction Order for Development of Prototype	To selected Development Agencies (DAs), those meeting evaluation criteria	T <sub>o</sub> + 16 weeks
(f)	Design and Development of Prototype and User Trial Readiness Review (UTRR)	Selected DAs will develop the prototype and UTRR will be conducted for following:-  (i) To confirm completion of design & development of prototypes as per PSQR prior to commencement of User Trials.  (ii) More than one review may be conducted, as required. Dates will be promulgated by the PFT as per progress of the project.	T <sub>o</sub> + 46 weeks
(g)	1-2 Intermediate meetings to check the progress and direction of the project to be planned.	-	Between T <sub>o</sub> +16 to T <sub>o</sub> + 46 weeks
(h)	Conversion of PSQRs to SQRs	-	T <sub>o</sub> + 50 weeks

<u>Ser No</u>	<u>Activity</u>	<u>Remarks</u>	<u>Timelines</u>
(j)	Solicitation of Commercial offer	Commercial Request for Proposal (RFP) for “Buy (Indian-IDDm)” phase will be issued to all DAs for submission of commercial offer prior to commencement of User Trials.	T <sub>0</sub> + 54 weeks
(k)	Field Evaluation Trial and Staff Evaluation	To validate the performance of the system against the specifications of approved GSQRs after the development of prototype.	As per Chapter II of DAP 2020

### **Development of Prototype and Trials**

14. All possible and reasonable assistance and any clarification related to functional or operational aspect of development as sought by DAs will be provided by Project Facilitation Team.

15. After the prototype has been developed as per PSQR given at Appendix ‘A’ the PFT would carry out User Trials Readiness Review of the Prototype(s) and freeze the Technical Specifications before conduct of User Trials on NCNC basis. Evaluation of the equipment will be carried out during the User Trials (Field Evaluation Trials) to validate the performance of the equipment against the Final Technical Specifications. Service HQ will formulate the ‘Trial Directive’ which will incorporate the parameters for validating the ‘Essential Parameters’. Necessary technical literature pertaining to the design and material will be provided by the DAs for the User Trial Readiness Review and conduct of User Trials on the prototype as per policy in vogue.

### **Solicitation of Commercial Offer**

16. A commercial Request for Proposal (RFP) for ‘Buy (Indian-IDDm)’ phase would be issued to DA(s) prior to commencement of User Trials for soliciting their commercial offers. **Additional technical information/ documentation, as may be necessary including those related to indigenous Content would also be required to be provided by the vendor prior to the issue of Commercial RFP.**

### **Deliverables**

17. The project is envisaged to have the following deliverables:-

- (a) **Prototype Development Stage.** Quantity one Multi Purpose Fork Lift Truck alongwith attachments.
- (b) **Procurement Stage.** 133 Nos of Multi Purpose Fork Lift Truck to include all the attachments mentioned in Paragraph 17 of qualitative requirement.

(c) An appropriate Engineering Support Package (ESP) will be required for repair & maintenance of the equipment to include spares, special test equipment/ special maintenance tool, training and technical literature to include user handbook, preservation instructions, complete equipment schedule, repair manual and technical manuals. These will be provided with the equipment during the procurement phase. Detail will be further amplified in the Request for Proposal (RFP).

### **Details of Trials**

18. **Trials**. The trials will be conducted in two stages:-

(a) **Stage-I: User Trials Readiness Review (UTRR)**. Development of prototype to bring the Multi Purpose Fork Lift Truck (MPFLT) to user trial level. PFT will carry out User Trial Readiness Review (UTRR) of prototype and freezing of Technical Specification as per policy in vogue.

(b) **Stage-II: User Trials (Field Evaluation Trials)**. To evaluate the performance and assess the suitability of Multi Purpose Fork Lift Truck to meet operational, technical and safety aspects, **Field Evaluation Trials, DGQA Trials, and Maintainability Evaluation Trials (MET)** on **NCNC basis** will be conducted. Details of the same will be included in the RFP.

### **Multiple Technology solutions**

19. Multiple technology solutions are not accepted.

### **Intellectual Property Rights (IPRs)**

20. As per provisions of **Para 59, Chapter III of DAP-2020**, DA shall retain title or ownership and all other rights in intellectual property generated during the development of project. However, the government shall have 'March-in rights' under which the government can ask the contractor to grant or may itself grant license for, inter alia, the following reasons:-

- (a) Where health and safety requirements so require the Government to act in public interest;
- (b) For National Security Reasons;
- (c) To meet requirements for public use not reasonably satisfied by the contractor;
- (d) For failure of the contractor to substantially manufacture the products embodying the subject invention in India; or
- (e) For failure of the contractor to comply with any of the requirements laid down under these guidelines.

### **PART III : EVALUATION CRITERIA**

#### **Eligibility Criteria**

21. The eligibility criteria will be as under:-

- (a) Eligible for Indian vendor defined at Paragraph 20 including additional conditions at Paragraph 20 (a) and Paragraph 20 (b) of Chapter-I of DAP-2020.
- (b) **Reservation for MSMEs.** The projects is reserved for MSMEs as per Para 12 of DAP 2020. However, if at least two MSMEs do not express interest for make programme earmarked for them, the same shall be opened up for all.
- (c) Start-ups recognized by the DIPP are also eligible for the project.

22. This EoI is being published on MoD/ DDP website inviting companies to participate in the Make-II project and also issued to the potential vendors who have indicated willingness during the Feasibility Study to participate in the development of Multi Purpose Fork Lift Truck.

23. EoI respondents will furnish their responses to the Vendor Evaluation Criteria as per **Appendix B** enclosed.

#### **Technical Evaluation Criteria**

24. **Technical Specifications.** The respondents to this EoI are required to furnish information about their Technical Capability as per **Appendix C**. Compliance/ information as per Annexure to Appendix C is also required to be submitted as per the proposed solution offered by the DA against PSQR of the equipment.

25. **Indigenous Content.** The product indigenously designed, developed and manufactured should have minimum of 50% Indigenous content (IC) on cost basis of the total contract value.

26. **Foreign Collaboration.** If the DA is collaborating / plans to collaborate with a foreign technology provider, the nature of such collaboration and the technology areas being transferred must be stated in the response (please refer paragraphs 13 & 14 of Appendix D. All relevant delivery made under contract shall accompanied by a "Certificate of IC" issued by the Chief Financial Officer (CFO) of the Prime / Main Contractor.

27. **Rejection Criteria for Selection as DAs.** The following may lead to rejection of EoI response:-

- (a) Failure to meet Vendor Evaluation Criteria given at Appendix 'B'.
- (b) Failure to offer/ meet / comply with the Technical Evaluation Criteria given at Appendix C.
- (c) Failure to submit certificate as mentioned at Appendix D to G of the EoI.
- (d) Failure to offer compliance to any of the terms and conditions given in the EoI.

(e) Any other parameter of the response considered inadequate by the MoD, Government of India.

28. **Additional Information.** Additional information required to be furnished as part of the Eol response is given at **Appendix D.**

#### **PART IV : PROCEDURE FOR SUBMISSION OF RESPONSE TO THE Eol**

29. The response to the Eol shall be submitted as per formats given at **Appendix 'B'** to **Appendix 'G'.**

30. **Guidelines for Submitting Eol Responses.**

(a) The response should be submitted strictly as per the formats given in respective Appendices. Should a vendor need to mention any other information, as separate column/ row may be added.

(b) All responses and Appendices should be submitted in a single file/ folder. Supporting documents/ additional references should be submitted in a separate folder with proper reference mentioned against each parameter/ sub parameter in respective appendices.

(c) Any supporting document/ evidence without any reference to specific parameter of criteria will not form part of the assessment.

31. The Eol respondent shall submit three (03) copies of response to the Eol, clearly marking one copy as '**Original Copy**' and second & third as '**Duplicate Copy and Triplicate Copy**'. In the event of any discrepancy between them, the original copy shall govern/ prevail. Each page of the response will bear the signatures of the authorized signatory of the company. The DA shall also submit a soft copy of the response to this Eol in a CD/ DVD.

32. **The envelopes shall be addressed as under :-**

Col PK Seetaram, Col, Comb Engrs - 5(B),  
Secy PFT 'Multi Purpose Fork Lift Truck'  
Combat Engrs Directorate,  
Engineer-in-Chief's Branch,  
Room No 91, Kashmir House, Integrated HQ of MoD (Army),  
Rajaji Marg, New Delhi-110011,  
Tele - 011 2301 9604, Fax - 011 2301 9675, Email - [ce5-einc-army@nic.in](mailto:ce5-einc-army@nic.in)

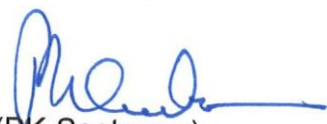
33. The responses to this Eol must be submitted by **1700 Hour on 07 February 2022** at the above mentioned address.

34. The company will be required to sign and honour the 'Confidentiality Agreement' with MoD Govt of India. The 'Confidentiality Agreement' will be furnished by each Eol respondent at the time of submission of Eol responses as per format given at **Appendix E.**

**PART V : MISCELLANEOUS**

35. **Pre Eol Responses Meeting**. A pre-response meeting will be held on **10 January 2022** at **1100hrs** in **Combat Engrs Directorate, Engineer-in-Chief's Branch, New Delhi-110011**. Vendors are required to submit their queries / clarifications / amplifications in writing to this office by **03 January 2022**.
36. Guidelines for penalties in business dealings with entities as promulgated by Government from time to time, will be applicable on procurement process & bidders.
37. The Pre-contract Integrity Pact (PCIP), listed as detailed in paragraph 119 of Chapter II of DAP 2020, shall apply mutatis mutandis to the 'Buy (Indian-IDDM)' phase of 'Make' Project.
38. Respondent would be subject to disqualifications if they make false, incorrect, or misleading claims in their response to this Eol. A 'Correctness Certificate' as per the format at **Appendix F** will be furnished as part of the response.
39. An Eol Compliance Certificate will be submitted as per **Appendix G**.
40. Please acknowledge the receipt of this invitation for Eol.



  
 (PK Seetaram)  
 Colonel  
 Colonel Comb Engrs-5(B)

**Enclosures : Appendices A to G**



## **OPERATIONAL CHARACTERISTICS**

### **Operational Parameters**

#### 5. **Environment Conditions.**

(a) **Terrain.** The MPFLT is intended to be operated in plains/ desert/ mountainous (including high altitude areas) terrain.

(b) **Temperature.**

(i) Minimum range : (-)15<sup>0</sup>C to (-)5<sup>0</sup>C.

(ii) Maximum range : 40<sup>0</sup>C to 45<sup>0</sup>C.

(c) **Altitude.** Upto 4500M above Mean Sea Level (MSL).

6. **Prime Mover.** 4x4 with all wheels steer and turbo-charged engine.

7. **Controls & Display.** All controls based on joy stick should be provided in the cabin. Display panel should be provided for the driver to observe comfortably while driving the vehicle/ load handling.

8. **Capability.** The load lifting capability of the MPFLT shall be as under (Load Centre shall be not less than 500 mm from the forward edge of the MPFLT):-

(a) Fully Boom Retracted and free on wheels - four tons.

(b) At a forward reach of six metres or more from the forward edge of front wheels and with stabilisers in place - 2.5 ton.

(c) A minimum lift height of 3.7 metres should be achievable in both the above positions.

9. **Mobility.** The MPFLT should have mobility as under:-

(a) **Terrain.** Mobility over all types of roads/ tracks in terrain as at Para 5(a) above.

(b) **Speed.** Achieve top speeds of not less than 20 Km/hr and 25 Km/hr in laden (fully retracted with four ton load) and unladen conditions respectively (on black top road at MSL).

10. **Carrying Distance and Gradeability.**

(a) Should be able to carry a load of 4 tons in fully retracted mode for a minimum distance of 1000 metres on level road.

(b) Should be able to negotiate a gradient of 20<sup>0</sup> with 4 ton load at MSL for atleast 500 metres.

11. **Ground Clearance.** Not less than 350 mm.
12. **Wading Depth.** Not less than 350 mm without preparation in un-laden condition.
13. **Self-Recovery.** Self recovery capability with hydraulic operated winch of minimum one ton direct pull capability (at outer most layer) with minimum cable length of 50 metres.
14. **Endurance.** The MPFLT should be able to sustain at least two hours of continuous lift and telescoping of 2.5 ton load from close and upto the maximum reach & height.
15. **Fuel Tank Capacity and Endurance.** Fuel tank capacity should be adequate for sustaining 12 hours of continuous lift operations.
16. **Dimensions and Weight**

<b><u>Ser No</u></b>	<b><u>Parameter</u></b>	<b><u>Desirable</u></b>	<b><u>Essential</u></b>
(a)	Length	5.0 metres	6.0 metres
(b)	Width	2.2 metres	3.0 metres
(c)	Height	2.9 metres	3.38 metres
(d)	Weight (GVW) without attachments	9.5 tons	10.5 tons

17. **Attachments.** The following attachments shall be provided with each MPFLT:-
  - (a) **Forks.** Twin Forks of capacity four tons and length not less than 900 mm.
  - (b) **Sleeve Fork Extension.** Of length not less than 1.8 metres for handling of longer loads.
  - (c) Attachment for operations as akin to a crane to lift loads, with capacity akin to the main equipment. The lift capability with and without stabilisers shall not be less than 4 tons and 3 tons respectively at heights & distances as per vendor's load chart.
  - (d) Barrel lifting attachment for lifting one 200 litre barrel.
  - (e) Bucket attachment with grabber for limited earth work of capacity 0.75 to 0.99 m<sup>3</sup>.
  - (f) **Man Platform.** Enclosed platform with a reach of not less than 3.7 metres and load capacity of 450 Kgs.
  - (g) **Quick Coupler.** Universal quick coupler for ease of attaching/ detaching attachments of capacity four tons.
18. **Driver / Operator's Cabin.** The ROPS & FOPS operator's cabin shall be duly insulated and panelled with unrestricted view of the lifted load to the operator. It should afford adequate visibility to the operator. The cabin shall have the following:-
  - (a) The driver/ operator's seat should be adjustable type with safety belts.
  - (b) Bracket for placement of driver/ operator's personal weapon (5.56 mm INSAS).
  - (c) HVAC arrangements to maintain a cabin temperature of 23°C in operating conditions as at Para 1 above.

- (d) Wipers electric motor operated.
- (e) Internal lights.
- (f) Sun visor.
- (g) Rear view mirror - 02 Nos.
- (h) Digital spirit level display inside the cabin for levelling of MPFLT when on stabilisers.
- (j) Exhaust pipe should be positioned such that the exhaust fumes of the engine do not impact the driver or his visibility.

19. **Accessories/ Provisions.**

- (a) Tow hook of adequate capacity in the front as to be able to be towed by another prime mover, and a tow hook of similar capacity in the rear.
- (b) Stowage arrangements on the MPFLT for the following accessories:-
  - (i) At least one jerrycan of capacity 20 litre with stowage arrangement on the vehicle.
  - (ii) Tools and accessories as provided.
  - (iii) First Aid Box inside cabin.
  - (iv) Spare wheel.
  - (v) One No of Fire Extinguisher of capacities 2 Kgs inside the cabin.

**Part III: Technical Parameters**

- 20. **Type of Engine.** Turbo charged diesel engine with capacity not less than 75 HP at the rated rpm. It has to have cold starting aid.
- 21. **Average Engine Life.** Not less than 5000 hours before overhaul.
- 22. **Emission Norms.** BS-IV.
- 23. **Steering.** Power assisted steering with all wheel steer.
- 24. **Electrical System.** 12V/ 24V electrical system with commercially available battery. Battery isolating switch be provided.
- 25. **Transmission.** Manual.
- 26. **Axle.** Oscillating axle with 150 to 200 mm oscillation with auto locking mechanism.
- 27. **Boom.** The boom shall be telescopic type with its extension and retraction hydraulically operated. Boom should have a marking indicating the effective length of the boom when in operation.
- 28. **Brakes.** Service brakes with fail safe braking system and parking brakes.

29. **Wheels and Tyres.**

- (a) The tyres should be cross country type.
- (b) Tyre locks should be provided to prevent the tyre from sliding off the rim in the event of a puncture.

30. **Display Panel.** Following devices be incorporated in display panel/ suitable place in driver's cabin:-

- (a) Odometer and speedometer.
- (b) Hour meter.
- (c) Audio Visual alarm on over load condition with auto-cut on overload condition and over-ride' feature.
- (d) Fuel level gauge.
- (e) Engine Oil/ Coolant temperature gauge.
- (f) Low engine oil pressure indicator.
- (g) Alternator / Battery charging indicator.
- (h) Reverse display screen.

31. **Stabilisers.** The MPFLT shall have two independent stabilisers fully powered, hydraulically operated, for both horizontally "In/Out" as well as vertically "Up & Down" operations respectively. These should be operated from the cabin of Driver-cum-Operator. These shall be self adjusting and lockable automatically or from the cabin of operator to ensure safety. The stabilisers when folded shall be accommodated within the width of the vehicle.

32. **Safety Provisions.** The MPFLT should be provided with the under mentioned safety devices:-

(a) **Locking Arrangements.**

- (i) Locking arrangements under all conditions to hold load, to cater for safety against load getting detached or failing down.
- (ii) In the event of failure of power system, the load should get automatically locked in its position.

(b) Manual Safe Load Indicator.

(c) **Safety Charts/ Indicators.** An anodized chart showing various positions of the boom and the load which can be safely lifted at different reaches should be provided.

(d) **Lighting Arrangements.** In addition to standard lights, one flood light on cabin shall be provided.

33. **Metrication**. All assemblies / sub assemblies and components shall be designed and dimensioned for measurements in SI units.
34. **Service Life**. Not less than 9 years.

#### **Part IV: Maintenance & Ergonomic Parameters**

35. **Lubricants**.
- (a) All oils and lubricants used on the equipments shall be of the standard range which are easily available in Indian market.
  - (b) Lubricants chart showing recommended lubricants on an Aluminium Anodized / Engraved Plate shall be provided in a prominent place in the cabin.
36. **Maintenance and Periodicity**. A maintenance periodicity chart indicating maintenance points and maintenance instructions shall be provided by the side of the lubrication chart. It shall be on Aluminium Anodized / Engraved Plate.  
Vendor in that sequence.

**VENDOR EVALUATION CRITERIA**

1. Name of the Vendor.
2. Evaluation Criteria

<b><u>Ser No</u></b>	<b><u>Criteria</u></b>	<b><u>Vendor Submission</u></b>	<b><u>Remarks (if Any)</u> <u>(Supporting documents to be attached to verify details)</u></b>
(a)	Nature of Company (refer Para 6 (b) of Chapter III of DAP-2020)	Indian/ Joint Venture	
(b)	Ownership status (refer Para 6(b) of Chapter III of DAP-2020)	Complaint / non-compliant	
(c)	Category of Industry	Large / Medium / Small / Micro / OFB / Start Up	
(d)	Registration Details (MSMEs to provide Udyam Registration Certificate)	Yes / No/ Applied	

Station :

Signature

Company Seal

Date :

**Note :**

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.
3. Conditional responses will not be accepted.

**TECHNICAL EVALUATION CRITERIA**

1. Name of the Vendor,\_\_\_\_\_
2. Evaluation Criteria

<b><u>Ser No</u></b>	<b><u>Criteria and Sub Criteria</u></b>	<b><u>Vendor Response</u></b>	<b><u>Remarks (if Any)</u></b>
(a)	Indigenous content will be minimum 50% as per DAP 2020	Compliant/ Non Compliant	
(b)	Indigenous design as per provision of DAP 2020	Compliant/ Non Compliant	
(c)	<b><u>Timelines.</u></b>	Compliant/ Non Compliant	
	(i) Development of prototype - 30 weeks	Compliant/ Non Compliant	
	(ii) Delivery of items as per delivery schedule - 18 months	Compliant/ Non Compliant	
(d)	Confirmation of capability to develop and provide equipment to meet user requirements specified in <b>Appendix A</b> (PSQR).	Compliant/ Non Compliant	
(e)	Proposed system configuration (broad design details).	Compliant/ Non Compliant	
(f)	Should have an operational (for atleast three years) manufacturing facility for Fork Lifts or equipment of similar domain.	Compliant/ Non Compliant	Details to be provided for scrutinising of claim.
(g)	Acceptance to all terms and conditions given in the Eol	Compliant/ Non Compliant	
	<b><u>PSQR Requirements</u></b>		
(h)	<b><u>Operational Parameters.</u></b>		
	(i) <b><u>Environment Conditions.</u></b>		
	(aa) <b><u>Terrain.</u></b> The MPFLT is intended to be operated in plains/ desert/ mountainous (including high altitude areas) terrain.	Compliant/ Non Compliant	
	(ab) <b><u>Temperature.</u></b>	Compliant/ Non Compliant	
	(A) Minimum range : (-)15 <sup>0</sup> C to (-)5 <sup>0</sup> C.		
	(B) Maximum range : 40 <sup>0</sup> C to 45 <sup>0</sup> C.		
	(ac) <b><u>Altitude.</u></b> Upto 4500M above Mean Sea Level (MSL).		
	(ii) <b><u>Prime Mover.</u></b> 4x4 with all wheels steer and turbo-charged engine.	Compliant/ Non Compliant	
	(iii) <b><u>Controls &amp; Display.</u></b> All controls based on joy stick should be provided in the cabin. Display panel should be provided for the driver to observe comfortably while driving the vehicle/ load handling.	Compliant/ Non Compliant	

<u>Ser No</u>	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(iv) <b>Capability.</b> The load lifting capability of the MPFLT shall be as under (Load Centre shall be not less than 500 mm from the forward edge of the MPFLT):-		
	(aa) Fully Boom Retracted and free on wheels - four tons.	Compliant/ Non Compliant	
	(ab) At a forward reach of six metres or more from the forward edge of front wheels and with stabilisers in place - 2.5 ton.	Compliant/ Non Compliant	
	(ac) A minimum lift height of 3.7 metres should be achievable in both the above positions.	Compliant/ Non Compliant	
	(v) <b>Mobility.</b> The MPFLT should have mobility as under:-		
	(aa) <b>Terrain.</b> Mobility over all types of roads/ tracks in terrain as at Para 5(a) above.	Compliant/ Non Compliant	
	(ab) <b>Speed.</b> Achieve top speeds of not less than 20 Km/hr and 25 Km/hr in laden (fully retracted with four ton load) and unladen conditions respectively (on black top road at MSL).	Compliant/ Non Compliant	
	(vi) <b>Carrying Distance and Gradeability.</b>		
	(aa) Should be able to carry a load of 4 tons in fully retracted mode for a minimum distance of 1000 metres on level road.	Compliant/ Non Compliant	
	(ab) Should be able to negotiate a gradient of 20° with 4 ton load at MSL for atleast 500 metres.	Compliant/ Non Compliant	
	(vii) <b>Ground Clearance.</b> Not less than 350 mm.	Compliant/ Non Compliant	
	(viii) <b>Wading Depth.</b> Not less than 350 mm without preparation in un-laden condition.	Compliant/ Non Compliant	
	(ix) <b>Self-Recovery.</b> Self recovery capability with hydraulic operated winch of minimum one ton direct pull capability (at outer most layer) with minimum cable length of 50 metres.	Compliant/ Non Compliant	
	(x) <b>Endurance.</b> The MPFLT should be able to sustain at least two hours of continuous lift and telescoping of 2.5 ton load from close and upto the maximum reach & height.	Compliant/ Non Compliant	
	(xi) <b>Fuel Tank Capacity and Endurance.</b> Fuel tank capacity should be adequate for sustaining 12 hours of continuous lift operations.	Compliant/ Non Compliant	



<u>Ser No</u>	<u>Criteria and Sub Criteria</u>				<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(x) <b><u>Dimensions and Weight.</u></b>					
	Ser No	Parameter	Desirable	Essential	Compliant/ Non Compliant	
	(a)	Length	5.0 metres	6.0 metres		
	(b)	Width	2.2 metres	3.0 metres		
	(c)	Height	2.9 metres	3.38 metres		
	(d)	Weight (GVW) without attachments	9.5 tons	10.5 tons		
	(xi) <b><u>Attachments.</u></b> The following attachments shall be provided with each MPFLT:-					
	(aa) <b><u>Forks.</u></b> Twin Forks of capacity four tons and length not less than 900 mm.				Compliant/ Non Compliant	
	(ab) <b><u>Sleeve Fork Extension.</u></b> Of length not less than 1.8 metres for handling of longer loads.				Compliant/ Non Compliant	
	(ac) Attachment for operations as akin to a crane to lift loads, with capacity akin to the main equipment. The lift capability with and without stabilisers shall not be less than 4 tons and 3 tons respectively at heights & distances as per vendor's load chart.					
	(ad) Barrel lifting attachment for lifting one 200 litre barrel.					
	(ae) Bucket attachment with grabber for limited earth work of capacity 0.75 to 0.99 m <sup>3</sup> .					
	(af) <b><u>Man Platform.</u></b> Enclosed platform with a reach of not less than 3.7 metres and load capacity of 450 Kgs.					
	(ag) <b><u>Quick Coupler.</u></b> Universal quick coupler for ease of attaching/ detaching attachments of capacity four tons.					
	(xii) <b><u>Driver / Operator's Cabin.</u></b> The ROPS & FOPS operator's cabin shall be duly insulated and panelled with unrestricted view of the lifted load to the operator. It should afford adequate visibility to the operator. The cabin shall have the following:-					
	(aa) The driver/ operator's seat should be adjustable type with safety belts.					

<u>Ser No</u>	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(ab) Bracket for placement of driver/ operator's personal weapon (5.56 mm INSAS).		
	(ac) HVAC arrangements to maintain a cabin temperature of 23°C in operating conditions as at Para 1 above.		
	(ad) Wipers electric motor operated.		
	(ae) Internal lights.		
	(af) Sun visor.		
	(ag) Rear view mirror - 02 Nos.		
	(ah) Digital spirit level display inside the cabin for levelling of MPFLT when on stabilisers.		
	(aj) Exhaust pipe should be positioned such that the exhaust fumes of the engine do not impact the driver or his visibility.		
	(xiii) <b><u>Accessories/ Provisions.</u></b>		
	(aa) Tow hook of adequate capacity in the front as to be able to be towed by another prime mover, and a tow hook of similar capacity in the rear.		
	(ab) Stowage arrangements on the MPFLT for the following accessories:-		
	(A) At least one jerrycan of capacity 20 litre with stowage arrangement on the vehicle.		
	(B) Tools and accessories as provided.		
	(C) First Aid Box inside cabin.		
	(D) Spare wheel.		
	(E) One No of Fire Extinguisher of capacities 2 Kgs inside the cabin.		
	<b><u>Technical Parameters</u></b>		
	(xiv) <b><u>Type of Engine.</u></b> Turbo charged diesel engine with capacity not less than 75 HP at the rated rpm. It has to have cold starting aid.		
	(xv) <b><u>Average Engine Life.</u></b> Not less than 5000 hours before overhaul.		
	(xvi) <b><u>Emission Norms.</u></b> BS-IV.		
	(xvii) <b><u>Steering.</u></b> Power assisted steering with all wheel steer.		

<u>Ser No</u>	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(xviii) <b>Electrical System.</b> 12V/ 24V electrical system with commercially available battery. Battery isolating switch be provided.		
	(xix) <b>Transmission.</b> Manual.		
	(xx) <b>Axle.</b> Oscillating axle with 150 to 200 mm oscillation with auto locking mechanism.		
	(xxi) <b>Boom.</b> The boom shall be telescopic type with its extension and retraction hydraulically operated. Boom should have a marking indicating the effective length of the boom when in operation.		
	(xxii) <b>Brakes.</b> Service brakes with fail safe braking system and parking brakes.		
	(xxiii) <b>Wheels and Tyres.</b>		
	(aa) The tyres should be cross country type.		
	(ab) Tyre locks should be provided to prevent the tyre from sliding off the rim in the event of a puncture.		
	(xxiv) <b>Display Panel.</b> Following devices be incorporated in display panel/ suitable place in driver's cabin:-		
	(aa) Odometer and speedometer.		
	(ab) Hour meter.		
	(ac) Audio Visual alarm on over load condition with auto-cut on overload condition and over-ride' feature.		
	(ad) Fuel level gauge.		
	(ae) Engine Oil/ Coolant temperature gauge.		
	(af) Low engine oil pressure indicator.		
	(ag) Alternator / Battery charging indicator.		
	(ah) Reverse display screen.		
	(xxv) <b>Stabilisers.</b> The MPFLT shall have two independent stabilisers fully powered, hydraulically operated, for both horizontally "In/Out" as well as vertically "Up & Down" operations respectively. These should be operated from the cabin of Driver-cum-Operator. These shall be self adjusting and lockable automatically or from the cabin of operator to ensure safety. The stabilisers when folded shall be accommodated within the width of the vehicle.		
	(xxvi) <b>Safety Provisions.</b> The MPFLT should be provided with the under mentioned safety devices:-		

<u>Ser No</u>	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(aa) <b><u>Locking Arrangements.</u></b>		
	(A) Locking arrangements under all conditions to hold load, to cater for safety against load getting detached or failing down.		
	(B) In the event of failure of power system, the load should get automatically locked in its position.		
	(ab) Manual Safe Load Indicator.		
	(ac) <b><u>Safety Charts/ Indicators.</u></b> An anodized chart showing various positions of the boom and the load which can be safely lifted at different reaches should be provided.		
	(ad) <b><u>Lighting Arrangements.</u></b> In addition to standard lights, one flood light on cabin shall be provided.		
	(xxvii) <b><u>Metrication.</u></b> All assemblies / sub assemblies and components shall be designed and dimensioned for measurements in SI units.		
	(xxviii) <b><u>Service Life.</u></b> Not less than 9 years.		
	(xxix) <b><u>Lubricants.</u></b>		
	(aa) All oils and lubricants used on the equipments shall be of the standard range which are easily available in Indian market.		
	(ab) Lubricants chart showing recommended lubricants on an Aluminium Anodized / Engraved Plate shall be provided in a prominent place in the cabin.		
	(xxx) <b><u>Maintenance and Periodicity.</u></b> A maintenance periodicity chart indicating maintenance points and maintenance instructions shall be provided by the side of the lubrication chart. It shall be on Aluminium Anodized / Engraved Plate.		

3. Compliance Certificates:-

- |     |  |                            |
|-----|--|----------------------------|
| (a) | Confidentiality Agreement (As per Appendix E)  | : Compliant/ Non-compliant |
| (b) | Correctness Certificate (As per Appendix F)    | : Compliant/ Non-compliant |
| (c) | Eol Compliance Certificate (As per Appendix G) | : Compliant/ Non-compliant |

Station :

Signature

Company Seal

Date :

**Note** :

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.
3. Conditional responses will not be accepted.

**INFORMATION PERFORMA**

1. Name of the Company.
2. Name of CEO with Designation.
3. Address of the Registered Office including Fax and email.
4. Address of the Factory / Factories.
5. Company Website(s).
6. Date of Incorporation.
7. Brief History of the Company.
8. Category of Industry (Large / Medium / Small / Micro). Necessary documents in support to be submitted.
9. Nature of Company (Public Limited/ Private Limited).
10. **Credit Rating.**
11. Nature of Business (Manufacture / Trader / Sole selling or Authorised Agent/ Dealer / Assembler / Processor / Re packer/ Service Provider). Please give broad product range as applicable.
12. Details of Current Products:-
  - (a) Type / Description.
  - (b) Licensed / Installed Capacity.
  - (c) Annual Production for Preceding 3 Years.
13. Details of Foreign Collaborations if any planned for execution of project.
14. Technology Received from abroad and assimilated / planned for execution of project.
15. Products Already Supplied:-
  - (a) To Indian Army / Air Force / Navy.
  - (b) PSUs.
  - (c) DRDO and its Laboratories.

- (d) Ordnance Factories.
- (e) Any other Defence Organisation.
- (f) To other Principal Customers.

16. Details of Developmental Facilities :-

- (a) R&D Facilities Available.
- (b) Number of Technical Manpower.
- (c) Percentage of Total Turn-Over Spent on R&D during the Last Three Years.

17. Turn-Over during the last three financial years.

18. Any other relevant information.

19. Contact Details of the Executive nominated to co-ordinate with the Project Facilitation Team (Please provide telephone, mobile and e-mail address).

**Appendix 'E'**  
(Refer Para 34 of Eol)

**CONFIDENTIALITY AGREEMENT**

1. It is certified that Expression of Interest document for the project of Portable Helipad will not be shared with any agency in part or full any other agency. Only relevant details, as applicable, will be shared with technology partners including foreign technology partners. However, the Eol document itself will not be shared with any technology partners.

2. The company understands the security sensitivity of such an operational systems and any information pertaining to deployment and usage of the system including system scaling will not be discussed with third party without a written permission from the Project Facilitation Team. The company understands that failure to observe this agreement will lead to disqualification from the project.

Signature with Company Seal

**Note :**

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.

2. Any input with incorrect or missing reference will not assessed.



**Appendix 'F'**  
(Refer Para 38 of EoI)

**CORRECTNESS CERTIFICATE**

It is certified that information submitted in the documents as part of the response to Expression of Interest for the project of Portable Helipad is correct and complete in all respects. It is acknowledged that the company will be disqualified from further participation if any information provided is found to be incorrect.

Signature with Company Seal

**Note :**

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.

**EoI COMPLIANCE CERTIFICATE**

It is certified that all the aspects mentioned in the Expression of Interest for the procurement of Portable Helipad project are being complied to. It is acknowledged that the company will be disqualified from further participation if any aspect mentioned in Expression of Interest is not complied with.

Signature with Company Seal

**Note :**

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.