



भारत सरकार/GOVERNMENT OF INDIA  
अंतरिक्ष विभाग/DEPARTMENT OF SPACE  
द्रव नोदन प्रणाली केंद्र/LIQUID PROPULSION SYSTEMS CENTRE  
तिरुवनंतपुरम/THIRUVANANTHAPURAM - 695 547



**अभिरुचि प्रकटन (ई ओ आई) EXPRESSION OF INTEREST (EOI)**

भारत के राष्ट्रपति के लिए तथा उनकी ओर से प्रधान, क्रय व भंडार, द्रव नोदन प्रणाली केंद्र (एलपीएससी), तिरुवनंतपुरम एतद् द्वारा लॉक्स मीथेन इंजन के उत्पादन के लिए ईओआई सं: टीएम64 2025 040600 01 के तहत अभिरुचि प्रकटन (ई ओ आई) आमंत्रित करते हैं।

For and on behalf of the President of India, the Head Purchase & Stores, Liquid Propulsion Systems Centre (LPSC), Thiruvananthapuram hereby calls for Expression of Interest (EOI) vide EOI.No. TM64 2025 040600 01 for Production of LOX Methane Engine

उपर्युक्त ईओआई का विवरण अनुलग्नक के रूप में संलग्न किया है।

Details of EOI as mentioned above are enclosed as Annexure

इच्छुक विक्रेता अपनी अभिरुचि प्रकटन 26.05.2025 को 14.30 बजे या उससे पहले अपनी ई ओ आई प्रस्तुत कर सकते हैं।

Interested vendors may submit their response to EOI on or before **26.05.2025 at 14.30 hrs.**

09.05.2025

(हस्ताक्षरित/Sd)

प्रधान, क्रय व भंडार  
Head, Purchase & Stores

## **Section 1:**

### **Request for Expression of Interest (REoI)**

#### **Production of integrated LOX-Methane Engine (LME) for Next Generation Launch vehicle (NGLV)**

##### **1. Preamble**

The space industry across the globe is currently passing through a wave of changes characterized by private funding and commercialization. With the successful emergence of profit-motivated private launch vehicle companies, the development of commercially viable launch vehicles is being explored with high vigour. Next Generation Launch Vehicle (NGLV) is being configured by ISRO to meet the space launch requirements of the nation cost-effectively. The configuration is conceived around the concepts of standardization and industry friendliness to enable cost and lead-time-effective processes.

Development and mass production of the LOX Methane (LM) Engines act as the standardized propulsion system for two stages of NGLV. Liquid Propulsion Systems Centre (LPSC), Valiamala, Thiruvananthapuram, India is entrusted with the development and production of above mentioned LM-Engine.

The current capacity of rocket engine realisation available in the nation is to be improved multifold to meet the projected launch demands in future. Towards this, the capability to realise 20 engines per annum has to be accomplished in the targeted timeframe of 5 years, during which, a requirement of realizing 47 LM Engines is to be met. LPSC proposes to entrust this project to an Indian industry/ consortium, which could be identified as the source of supply for future demands also with a final production requirement of 25 Engines per annum.

##### **2. Objective**

This project envisages the realisation of 47 Nos. of LOX-Methane Engines for NGLV over five (5) Years and while doing that, the industry partner shall establish the capability for the end-to-end production of LM Engines with a production rate of 20 engines per annum. LPSC is looking for experienced Indian industry partners, who have handled multi-disciplinary turnkey aerospace projects and are capable of taking up end-to-end production of rocket engines.

### 3. Brief scope

3.1. Scope envisages **end-to-end production** of LM Engines, which includes procurement of raw materials, development of fabrication processes & technology, manufacturing of the parts & sub-assemblies, inspection, testing, integration and supply of LOX-Methane Engines.

3.2. The CONTRACTOR shall ultimately be responsible for;

- Setting up of all requisite facilities for machining, forming, welding, assembly, inspection, NDT, integration of Engines and its testing. These facilities shall include advanced CNC machines including VTLs, VMCs, multi-axis machines, straight channel milling machines, hydraulic presses, expanders, rolling machines, tube bending machines, Robotic TIG/ MIG welding, EB welding, Additive manufacturing facilities, Rotary & static vacuum brazing facilities, vacuum leak check facilities, advanced inspection facilities, high energy CT, dynamic balancing facility, cold flow facility, spin test facility, components cleaning facility, vacuum drying facility, 100000 class clean room for integration, etc.
- Procurement of raw materials as per LPSC specifications (various grades of stainless steel, copper, Inconel & Aluminum alloys in the form of rods, forging, rigs, sheets, etc.) from the approved supply chain of LPSC. For the initial 2 Engines, LPSC will supply the raw material as a free issue.
- Procurement of standard parts from the approved supply chain of LPSC (for the initial 2 Engines, LPSC will supply the same as a free issue)
- All Engine control components and sensors will be supplied as free issue by LPSC
- Machining, forming, TIG/MIG/EB welding, assembly and inspection of parts
- Additive manufacturing of parts (LPBF & DED)
- Rotary vacuum & static brazing of assemblies
- Hardware acceptance leak testing such as Hydro, Pneumatic, Mass Spectrometer Helium Leak Detection (MSHLD), etc. at part & sub-assembly levels
- Integration LOX-Methane Engine conforming to the specification with all relevant documentation in 100000 class clean room and its acceptance testing.

3.3. **No funding will be provided by LPSC for the aforementioned facility establishment.**

#### **4. Overall Realization Plan**

The project realisation is split into the following two phases which comprise a Developmental Phase (DP) spanning over the first two (2) years and a production Phase (PP) for the remaining period of three (3) years.

##### **4.1. Phase-1 (Development)**

Period: 2 years

Deliverables: 2 Nos. of LOX-Methane Engines

##### **4.2. Phase-2 (Production)**

Period: 3 years

Deliverables: 45 Nos. of LOX-Methane Engines as follows

3<sup>rd</sup> year: 10 Nos.

4<sup>th</sup> year: 15 Nos.

5<sup>th</sup> year: 20 Nos.

#### **5. Brief Description of the Overall Bidding Process:**

The proposal is to select an Indian industry partner/consortium for this programme through a two-stage process viz. (i) Assessment of Pre-Qualification Criteria (PQC) through this EoI (ii) Request for Proposal (RFP) to the technically qualified bidders of PQC. Following the completion of the RFP process, a Single Indian industry partner either as a Sole Bidder or a Consortium would then be selected to execute the envisaged production programme.

- The scope of PQC is to evaluate and shortlist the technically qualified bidders.
- The scope of the RFP would be to select a “bidder” among the short-listed bidders based on their competitive financial bid.

##### **5.1. Assessment of PQC:**

- Interested parties who meet the minimum eligibility criteria as per Section 6 can obtain the PQC document from LPSC.
- Bidders shall be required to pay non-refundable tender document fees, along with any applicable taxes thereon, for obtaining the PQC document.

- Bidders shall sign a Non-Disclosure Agreement (NDA) document in Rs. 200/- Non-Judicial Stamp Paper, as per the attached format.
- Parties can submit queries/ clarifications to the PQC within four weeks.
- Based on the response, an expert team from ISRO will visit the vendor's site for capability assessment.
- On successful completion of the pre-qualification process, the technically qualified bidders would be shortlisted, based on the 'Evaluation and Selection Criteria' notified.

## 5.2. RFP Process:

- LPSC would issue the Request for Proposal (RFP) to the technically qualified bidders shortlisted as per Section 5.1.
- RFP would be a limited tender document (two part) that would outline:
  - Scope of work with detailed terms and conditions
  - Organization of work
  - Envisaged manufacturing processes
  - List of facilities/ infrastructure required
  - Manufacturing drawings
  - Bill of Materials (BOM) and applicable documentation for realization
- LPSC will organize a pre-bid meeting with the interested bidders to facilitate proper understanding of the requirements.
- Bid shall be submitted in the 2 parts viz. (i) Techno commercial (non-priced) bid and (ii) Price bid. Upon evaluation of Techno-commercial bid and post-bid techno-commercial meeting, if necessary, LPSC will shortlist the 'Suitable Bidders' and place them on equal footing. LPSC will open the price bids of the Suitable Bidders, for further evaluation.
- The contract will be signed by LPSC with the Selected Bidder for undertaking the end-to-end production of the integrated LOX-Methane Engine starting from Input materials procurement to final Engine assembly / Integration & testing and final delivery to LPSC designated site.
- Following shall be applicable for the contract awarded

- **Liquidated Damages:** The delivery schedule is deemed to be the essence of this contract. You should complete the supply within the delivery schedule. If you fail to do so Liquidated Damages (LD) will be levied at the rate of 0.5% of the order value per week for the undelivered portion of the stores / services subject to a maximum of 5% of the order value from your bill. However, in case of inordinate delay i.e., delays of more than one-fourth (25%) of the total completion period, LD shall be applicable subject to a maximum of 10% of the total contract value (Phase-1 being development, LD will be exempted)
- **Security Deposit:** The contractor shall submit a Security Deposit (SD) for a sum equal to 3% of the total Contract price while commencing the work.
- **Warranty:** The items shall be warranted for satisfactory performance for a period of 12 months from the date of final acceptance of the system. The contractor shall submit a Performance Bank Guarantee (PBG) for a sum equal to 3% of the total contract price.

#### **6. Criteria for obtaining PQC document**

The respondents to this EoI have to meet the minimum eligibility criteria as described below to be able to participate in this bidding process.

<b>Minimum Eligibility Criteria for PQC Respondents</b>		
<b>S No.</b>	<b>Description</b>	<b>Compliance by</b>
1.	The Bidder shall have been operational for more than 5 (five) years up to the date of Response submission. A Certificate in this regard shall be issued by a practicing Chartered Accountant/Cost Accountant.	Sole Bidder/ Lead Member of Consortium
2.	The Bidder shall have experience of more than 5 (five) years (up to the date of Response submission) in Aerospace domain. A Certificate in this regard shall be issued by a practicing Chartered Accountant/Cost Accountant.	Sole Bidder / All Members of Consortium

3.	The Bidder shall have a valid Copy of the PAN certificate and a valid GST registration certificate.	Sole Bidder / Lead Member of Consortium
4.	<p>The Bidder shall have a sound financial track record as prescribed herein below:</p> <ul style="list-style-type: none"> <li>i. Minimum annual average Turnover of INR 320 Crores per year for the past 3 (three) financial years (i.e., the financial year 2023-24, 2022-23, and 2021-22)</li> <li>ii. Positive net worth for two years in the past 3 (three) financial years (i.e., financial year 2023-24, 2022-23, 2021-22). i.e. as per audited statements of accounts, the bidder should not have incurred financial loss during above said period.</li> <li>iii. A Certificate in this regard shall be issued by a practicing Chartered Accountant/Cost Accountant.</li> </ul>	Sole Bidder / Lead Member of Consortium
5.	<p>The Bidder shall be an Indian Entity under Indian Management and Control.</p> <ul style="list-style-type: none"> <li>• Legal Entity: The Bidder shall be: (i) a company incorporated under the Companies Act, 2013 or (ii) a partnership firm established under the Limited Liability Partnership Act, 2008, (iii) a trust under the Indian Trusts Act, 1882, (iv) an association of persons or body of individuals incorporated under relevant statutes in India.</li> <li>• Foreign Investment: Any foreign investment into the bidding entity shall be as guided by the Foreign Exchange Management (Non-Debt Instrument) Rules 2019 and subject to the Bidder remaining an Indian Entity under Indian Management and Control.</li> <li>• A Certificate in this regard shall be issued by a practicing Chartered Accountant/Cost Accountant.</li> </ul>	Sole Bidder / Lead Member of Consortium
6.	The Bidder shall not have been blacklisted by any	Sole Bidder / All

	Central/State Government Department/Public Sector Undertakings/Central Government-funded organizations/ State Government-funded organizations/World Bank, or other World Bank organizations or should not be under any illegal expression by the Government of India.	Consortium members
7.	There shall be no outstanding bankruptcy, judgment or pending legal action that could impair the operations of the Bidder as a going concern. Also, the Bidder / Consortium Members must be solvent. A Certificate in this regard shall be issued by a practicing Chartered Accountant/Cost Accountant.	Sole Bidder / All Consortium members
8.	In the case of a Consortium, the Bidder must submit a Joint Bidding Agreement signed by all the members of the participating organizations stating the name of the industry/member. The document shall also contain the envisaged responsibilities to be undertaken by each member of the consortium to the best of the knowledge available from the EOI/PQC. Bidder shall ensure that Consortium shall retain the same Members, unless otherwise permitted by LPSC and shall remain in existence during the Term.	All Consortium members
9.	The Bidder shall have valid AS 9100 Rev D & ISO 9001:2015 certification	All Consortium members
10.	A Bidder shall not submit multiple bids through other Affiliates.	Sole Bidder / Lead Member of Consortium

If any of the bidder/ consortium is not meeting the aforesaid minimum eligibility criteria the bidder/ consortium will not be considered for Bid Evaluation.



## 7. Procedure for obtaining PQC Document

The interested parties are requested to sign the Non-Disclosure Agreement ("NDA") in Rs. 200/- Non-Judicial Stamp Paper, using the provided format and pay "INR1,000 (Rupees One Thousand only) plus 18% GST" against the document fee (Non-Refundable) in the form of a Demand Draft issued by any of the Nationalized / Scheduled Commercial banks in India in favour of "Accounts Officer -LPSC" payable at LPSC-Valiamala, within two weeks from date of EoI (Government Departments, Public Sector Undertakings (both Central & State), Small Scale Industries Units included in the list of National Small Industries Corporation, Vendors registered as MSEs and registered with KVIC are eligible for free tender documents. Such vendors shall provide necessary documentary proof). Upon receipt of the payment and signed NDA, the PQC document for bidder pre-qualification, will be shared.

Contact details	
Address	Head Purchase & Stores Liquid Propulsion Systems Centre Indian Space Research organisation Valiamala-Thiruvananthapuram-695 547
Contact	0471-2567540
e-mail	<a href="mailto:head_ps@lpesc.gov.in">head_ps@lpesc.gov.in</a>
website	<a href="http://www.lpesc.gov.in">www.lpesc.gov.in</a>

## 8. Response to EoI (after issue of PQC document)

- 8.1. Respondents are advised to study all the instructions, Terms and Conditions, Forms, Requirements and other information provided in the EoI/PQC documents carefully. The submission of response to EoI/PQC shall be deemed to have been done after a careful study and examination of the EoI/PQC documents with full understanding of its implications.
- 8.2. DEPARTMENT reserves the right to request for any additional information and also reserves the right to reject the EoI/PQC response of any vendor, if in the opinion of DEPARTMENT, data is incomplete or if the vendor is found not qualified to satisfactorily execute the work.

- 8.3. Respondent shall bear all costs and expenses associated with preparation and submission of response to EoI/PQC document including post EoI/PQC clarification, discussion, technical and other presentations and LPSC shall in no case be responsible or liable for such costs regardless of the outcome of the EoI/PQC process. Also, the vendor shall not be entitled to claim any costs, charges and expenses incidental to or incurred by them in connection with the submission of the EoI/PQC response.
- 8.4. The response to this EoI/PQC should be full and completed in all respects. Failure to furnish all the information required by the EoI/PQC documents or submission of proposal not substantially responsive to the EoI/PQC documents to every respect will be at the risk of the respondent and may result in rejection of the document.
- 8.5. The response should be submitted as a proposal, as a collation of the following table of contents, in the enclosed format, clearly providing the details with documentary proof/supporting documents as Annexures. Kindly provide the contents sheet of your response as given below.
- 8.6. The respondents shall complete the following forms in their entirety, adhering to the specified formats, and submit their Responses. Any submissions received with incomplete or partially filled forms shall be deemed unfit for consideration for this Evaluation.

Sl. No	Name of the form	Page No.
1	Covering Letter / Letter of Submission (Form-I)	
2	General details of the bidder (Form-II)	
3	General requirements (Form-III)	
4	Financial Strength (Form-IV)	
5	Experience in Aerospace Projects (Form-V)	
6	Availability of Essential Infrastructure (Form-VI)	
7	Area of Expertise possessed (Form-VII)	

8	Vendor Management (demonstration of software tools for vendor management (ERP, Supply Chain Management – SCM, Vendor Management))	
9	Documentation Management (demonstration of software tools for Product Data Management (PDM))	NA
10	Detailed Project Plan (Provide detailed presentation)	NA
11	Declaration of Non-Blacklisting (Form-VIII)	NA

- 8.7. Canvassing in any form in connection with EoI is strictly prohibited and submissions from such agencies are liable to be rejected.
- 8.8. This EoI document is not an offer and DEPARTMENT reserves the right to withdraw the invitation to EoI at any stage without assigning any reasons what so ever.
- 8.9. Addendum/Corrigendum, if any, to this EoI, will be hosted at our website, [www.lpsc.gov.in](http://www.lpsc.gov.in). Respondents shall regularly monitor our website for any updates.
- 8.10. Interaction meeting: An interaction meeting shall be arranged at LPSC in order to have a better understanding of the activities involved, clarify doubts, if any, and to visit site, if required. The interested respondents are hereby requested to take part in the interaction meeting.
- 8.11. Complete response to EoI must be received at LPSC to the address given below but not later than the date specified. Response to EoI in the prescribed format as per the terms & conditions mentioned in Attachment-1 shall be submitted in a sealed cover super scribed with our Ref. No. and Due date for EoI. All the pages of the EoI submitted must be numbered and signed by the authorised signatory.
- 8.12. Submission of EoI by email will not be accepted. LPSC shall not be responsible for non-receipt of EoI due to any type of delays and it shall be the sole responsibility of the Vendor to ensure delivery of the EoI to LPSC within the time fixed.

## 9. Tender milestones & timelines

Tender milestones & timelines for the whole bidding process & award of contract is as per table-1 below

<b>Sl. No.</b>	<b>Milestone</b>	<b>Time line</b>
1	Issue of PQC	T
2	Queries/ clarifications to the PQC by vendors	T + 4 weeks
3	Submission of clarifications, if any (assuming no major change)	T + 6 weeks
4	Submission of response to PQC	T + 8 weeks
5	Presentation on overall project plan by respondents	T + 9 weeks
6	Evaluation & Short listing of qualified bidders	T + 14 weeks

## **NON-DISCLOSURE AGREEMENT**

This Non-Disclosure Agreement (the "Agreement") is entered into as of [Date.....], by and between:

### **LPSC**

[Liquid Propulsion System Centre,ISRO/DOS]  
[Valiamala PO]  
[Thiruvananthapuram- 695547]

AND

**[Vendor Name]**

[Vendor Address]

[City, State, Postal Code]

**WHEREAS**, the LPSC intends to provide certain proprietary and confidential information related to the scope of work outlined in the EOI dated [EOI No. & Date.....], including, but not limited to, drawings, 3D models and other documents for the purpose of production of LOX Methane Engines;

**NOW, THEREFORE**, the parties agree as follows:

### **1. Confidential Information**

The Vendor acknowledges that it will receive certain confidential and proprietary information from the LPSC, including but not limited to any documents, drawings, designs, 3D models, specifications, or samples (collectively referred to as the "Confidential Information").

### **2. Obligation of Confidentiality**

The Vendor agrees to:

- 2.1 Keep the Confidential Information strictly confidential and take all necessary steps to prevent unauthorized disclosure.
- 2.2 Not disclose the Confidential Information to any third party, individual, firm, or company without the prior written authorization from the LPSC.
- 2.3 Not use the Confidential Information for any purpose other than the specific purpose outlined in the EoI/RFP.

### **3. Restricted Use**

The Vendor shall ensure that documents are only disclosed to persons who are employed or engaged by the Vendor solely for the purpose of performing the duties under the scope of EoI/RFP and shall not share the information with any other persons without written authorization from the LPSC.

#### **4. Permitted Disclosure**

Any disclosure of Confidential Information to authorized persons will be made in confidence and shall be limited to what is necessary for the EoI/RFP.

#### **5. Return or Destruction of Confidential Information**

Upon completion of the purpose for which the Confidential Information was disclosed, the Vendor shall either return or destroy all such Confidential Information upon the LPSC request.

#### **6. Exceptions to Confidentiality**

The obligations of confidentiality shall not apply to any information that:

6.1 Is or becomes publicly available through no fault of the Vendor.

6.2 Is disclosed with the prior written approval of the LPSC.

6.3 Is lawfully received from a third party without any breach of confidentiality.

#### **7. Governing Law**

This Agreement shall be governed by and construed in accordance with the laws of [Applicable Jurisdiction], without regard to its conflict of law principles.

#### **8. Signatures**

IN WITNESS WHEREOF, the parties hereto have executed this Non-Disclosure Agreement as of the date first written above.

##### **LPSC(LPSC)**

Signature: \_\_\_\_\_

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

Title: \_\_\_\_\_

Date: \_\_\_\_\_

##### **Vendor (Vendor)**

Signature: \_\_\_\_\_

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

Title: \_\_\_\_\_

Date: \_\_\_\_\_