भारत सरकार/ Government of India
अंतरिक्ष विभाग/ Department of Space
इसरो जड़त्वीय प्रणाली यूनिट (आईआईएसयू)/ ISRO INERTIAL SYSTEMS UNIT (IISU)
तिरुवनंतपुरम/ Thiruvananthapuram - 695 013

अभिरुचि की अभिव्यक्ति के लिए सूचना का आवेदन / NOTICE FOR INVITING EXPRESSION OF INTEREST

लघुरूपीकृत तथा सुदृढ़ीकृत 780 संकीर्ण रेखा विस्तार लेसर प्रणाली की अभिकल्पना, विकास और सुपुर्दगी / Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System

विज्ञा.सं./ सा.नि/विज्ञा/ईओआई-01/2026 दिनांक 25 जून, 2026
ADVT.NO. IISU /PT/ADVT/EOI-01/2026 dated June 25, 2026

भारत के राष्ट्रपति के लिए और उनकी ओर से, वरिष्ठ क्रय एवं भंडार अधिकारी, इसरो जड़त्वीय प्रणाली यूनिट (आईआईएसयू), वट्टियूरकावु, तिरुवनंतपुरम, प्रस्ताव हेतु अनुरोध (आरएफपी) जारी करने के लिए लघुसूचीबद्ध किए जाने हेतु प्रतिष्ठित एवं विश्वसनीय विक्रेताओं से **लघुरूपीकृत तथा सुदृढ़ीकृत 780 संकीर्ण रेखा विस्तार लेसर प्रणाली की अभिकल्पना, विकास और सुपुर्दगी** के लिए अभिरुचि की अभिव्यक्ति (ईओआई) आमंत्रित करते हैं।

For and on behalf of the President of India, Senior Purchase and Stores Officer, ISRO INERTIAL SYSTEMS UNIT (IISU), Vattiyoorkavu, Thiruvananthapuram invites Expression of Interest (EoI) from reputed and reliable vendors, to be shortlisted to issue Request for Proposal (RFP) for the **Design, Development and Delivery of Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System.**

संभावित एवं विश्वसनीय विक्रेताओं से अनुरोध है कि वे अपनी ईओआई मोहरबंद लिफाफे में, जो वरिष्ठ क्रय एवं भंडार अधिकारी, आईआईएसयू क्रय, वट्टियूरकावु पी.ओ. तिरुवनंतपुरम - 695 013 का संबोधन करता है, ऊपर "**ईओआई - लघुरूपीकृत तथा सुदृढ़ीकृत 780 संकीर्ण रेखा विस्तार लेसर प्रणाली की अभिकल्पना, विकास और सुपुर्दगी**" लिखकर, उपर्युप्त जैसे प्रस्तुत करें।

Potential and reliable vendors are requested to submit their EoI in a sealed cover superscribing " **EOI- For Design, Development and Delivery of Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System**" addressed to Senior Purchase and Stores Officer, IISU Purchase, Vattiyoorkavu P.O, Thiruvananthapuram-695 013, as per below schedule:-

स्पष्टीकरण नियत तिथि / EoI Clarification Due Date	**06/07/2026 को/ upto 12.00 बजे/ hrs. तक**
पूर्व- ईओआई चर्चा पर / Pre-EoI Discussion on	**09/07/2026 at 10.00 hrs.**
ईओआई प्रस्तुतीकरण की नियत तारीख / EoI Submission due date	**10/08/2026 को/ upto 14.00 बजे/ hrs तक**

विस्तृत निबंधन एवं शर्तें, लघुसूचीबद्ध करने के पात्रता मानदंड, लघुसूचीबद्ध करने हेतु दिशा-निर्देश हमारे **ईओआई दस्तावेज़** पर उपलब्ध हैं। इच्छुक संभावित विक्रेता हमारे संदर्भ संख्या आईआईएसयू/पीटी/एडीवीटी/ईओआई-01/2026 का उद्धरण करते हुए **10 अगस्त, 2026 को 14.00 बजे या उससे पहले** वरिष्ठ क्रय एवं भंडार अधिकारी, आईआईएसयू क्रय, वट्टियूरकावु पी.ओ. तिरुवनंतपुरम 695 013 को अपनी अभिरुचि की अभिव्यक्ति प्रस्तुत कर सकते हैं।

Contd.....

Detailed Terms and Conditions, eligibility norms for short-listing, guidelines for short-listing are available in our EoI document. Interested prospective vendors can furnish their Expression of Interest quoting our reference No. IISU/PT/ADVT/EOI-01/2026 **on or before 06 August, 2026 [14:00 Hrs.]** to Senior Purchase and Stores Officer, IISU Purchase, Vattiyoorkavu P.O, Thiruvananthapuram 695 013.

शुद्धिपत्र, यदि कोई हो तो, केवल हमारे वेबसाइट www.isro.gov.in पर प्रकाशित किया जाएगा।
Corrigendum, if any will be published in our website www.isro.gov.in only.

हस्ताक्षरित / Sd/-
वरिष्ठ क्रय एवं भंडार अधिकारी/ Senior Purchase & Stores Officer
दूरभाष सं./ Phone No.0471-2569317/2569547
ई- मेल/ Email: spso_iisu_pur@vssc.gov.in

EXPRESSION OF INTEREST (EoI)

Design, Development and Delivery of "Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System"

ISRO Inertial Systems Unit
Indian Space Research Organization
Government of India

Table of Contents

List of abbreviations

APC	Angled Physical Contact
BoM	Bill of Materials
CDR	Critical Design Review
CW	Continuous Wave
DBR	Distributed Bragg Reflector
DFB	Distributed Feedback laser
DSP	Digital Signal Processing
ECDL	External Cavity Diode Laser
EM	Engineering Model (EM)
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EoI	Expression of Interest
FC	Ferrule Connector
FM	Flight Model
FMS	Frequency Modulated Spectroscopy
FPGA	Field Programmable Gate Array
GUI	Graphical User Interface
IISU	ISRO Inertial Systems Unit
IP	Intellectual Property
ISRO	Indian Space Research Organization
MFTR	Mode-hop-free tuning range
MTS	Modulation Transfer Spectroscopy
nm	Nanometer
PDR	Preliminary Design Review
PER	Polarization Extinction Ratio
QM	Qualification Model (QM)
RFP	Request for Proposal
RMS	Root Mean Square
SAS	Saturated Absorption Spectroscopy
SMPM	Single Mode Polarization Maintaining
TEC	Technical Expert Committee
TEM	Transverse electromagnetic

1.0 Introduction

1.1 Goals of this Expression of Interest (EoI)

The objective of this Expression of Interest (EoI) is to identify and pre-qualify competent Indian industries and research-oriented institutions with demonstrated or proven capability in the design, development, integration and realization of compact laser sources and its associated control electronics suitable for high precision quantum metrology application in space systems.

This EoI aims to:

- Assess indigenous capability for realization of narrow linewidth, frequency-stabilized laser systems with integrated control electronics and software interfaces.
- Enable indigenization, miniaturization, ruggedization and future space qualification of laser systems critical to sensing application in space systems.
- Create a pool of qualified vendors for subsequent detailed technical and commercial evaluation through formal tendering.

1.2 EoI Issuing Authority

This Expression of Interest is issued by ISRO Inertial Systems Unit (IISU), Thiruvananthapuram, for short-listing potential parties. IISU's decision regarding short-listing after the technical evaluation of the parties will be final and only the shortlisted vendors will be called for subsequent bidding.

The details of EoI and contact details are given below.

Sl. No.	Item	Description
1	Project Title	Design, Development and Delivery of "Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System"
2	Project Initiator Details	ISRO Inertial Systems Unit
3	Address	The Senior Purchase & Stores Officer, IISU, Vattiyoorkavu P O, Thiruvananthapuram – 695 013, Kerala
4	Contact Details	E-mail: spso_iisu_pur@vssc.gov.in Tel: 0471-2569317

1.3 Pre-EoI discussion

It is planned to conduct a pre-EoI meeting, in which any queries related to the EOI will be resolved. Participation in the pre-EoI meeting is optional and intended for

parties seeking clarification on any aspect of the EoI. Interested parties who wish to participate in the meeting are requested to submit their request for participation within 10 days from the date of release of the EoI to the Email address mentioned in Section 1.2. The pre-EoI meeting shall be conducted in hybrid mode, enabling prospective parties to participate either physically or through online mode, as per their preference. The offline meeting will be held at IISU. Parties intending to attend the meeting physically are required to provide prior intimation to IISU sufficiently in advance to facilitate authorization and entry arrangements. Details for online participation will be communicated separately.

1.4 Venue & the Deadline for submission of response to EoI

For the interested parties, the deadline for submission of response to EoI is on or before 30 days from the pre-EoI discussion (in total 10+30 days from the date of release of EoI). Responses shall be submitted to IISU at the address specified in the EoI notice, within the stipulated deadline. IISU reserves the right to extend the submission deadline through suitable notification.

2.0 Purpose of the Expression of Interest

To enable field-deployable and space-ready quantum sensing systems, IISU seeks to foster indigenous capability in the design and development of a compact and miniaturized laser system. The system includes laser head, optical amplifier, autonomous frequency locking module, embedded control electronics, telemetry interfaces, data acquisition electronics and software interfaces. The sub-systems are to be integrated into a single mechanically robust and vibration-tolerant package. This system will be evaluated against the specifications mentioned in Table I and under various thermal, vibration, vacuum and environmental conditions to validate the reliability and readiness for future space deployment.

This EoI is intended to identify capable Indian vendors who have handled multi-disciplinary turn-key projects with expertise in laser systems, opto-electronics, control electronics and system integration and to encourage development of end-to-end laser system solutions aligned with IISU's future qualification and deployment requirements.

Targeted indigenous content is ≥50% of project cost (Class I Suppliers). Mechanical, Optical, Opto-Mechanical and Electronic design shall be shared for design review and compliance to meet the intended specifications.

2.1 Scope of Work

The scope envisaged under this EoI includes:

2.1.1 Design of a miniaturized and ruggedized 780 nm narrow-linewidth CW laser system with fiber-pigtailed outputs as specified in Table I. The overall system design shall include:

a. a narrow-linewidth laser head with optical amplifier,
b. frequency stabilization module with autonomous lock acquisition and re-lock electronics,
c. control electronics (for head and amplifier)
d. embedded control, data acquisition and telemetry processing subsystem,
e. low-noise analog and mixed-signal electronics,
f. health monitoring and fault management system,
g. GUI-based monitoring and control software with provision for configuring the mode of operation (scan, lock or free-running mode),
h. external communication interfaces for remote telemetry and telecommand, and
i. environmental protection and packaging subsystems.

2.1.2 Review and approval of the submitted proposal by IISU.

2.1.3 Procurement of all components (automotive grade/industrial grade preferred), equipment and material as per the design specifications.

2.1.4 Realization through incremental maturity models, starting with an Engineering Model (EM), subsequently a Qualification Model (QM). ISRO standards and guidelines applicable to QM development shall be followed and will be shared by IISU with the party. Realization of Flight Model (FM) is outside the scope of this EoI. However, design enhancements for FM, if any, shall be proposed by the party. The detailed test methodology for each incremental model will be mutually discussed and finalized.

2.1.5 Clearance from IISU after detailed testing and characterization in terms of the required specifications listed in Table I and all functionality as mentioned in the EoI.

2.1.6 Integration and testing of the complete miniaturized system at IISU as per the plan that will be provided by IISU.

2.1.7 Delivery of all the items listed in Section 4.0 within the given period.

2.1.8 Generation of design documents, test, calibration and performance characterization reports, software lifecycle document, technology transfer

document, bill of materials (BoM), user manual for the integrated system, timely reports after every review meetings, etc.

2.1.9 Service and long term support, preferably for 5 years after the acceptance of the system.

The functional architecture of the proposed integrated laser system is shown in Figure 1.

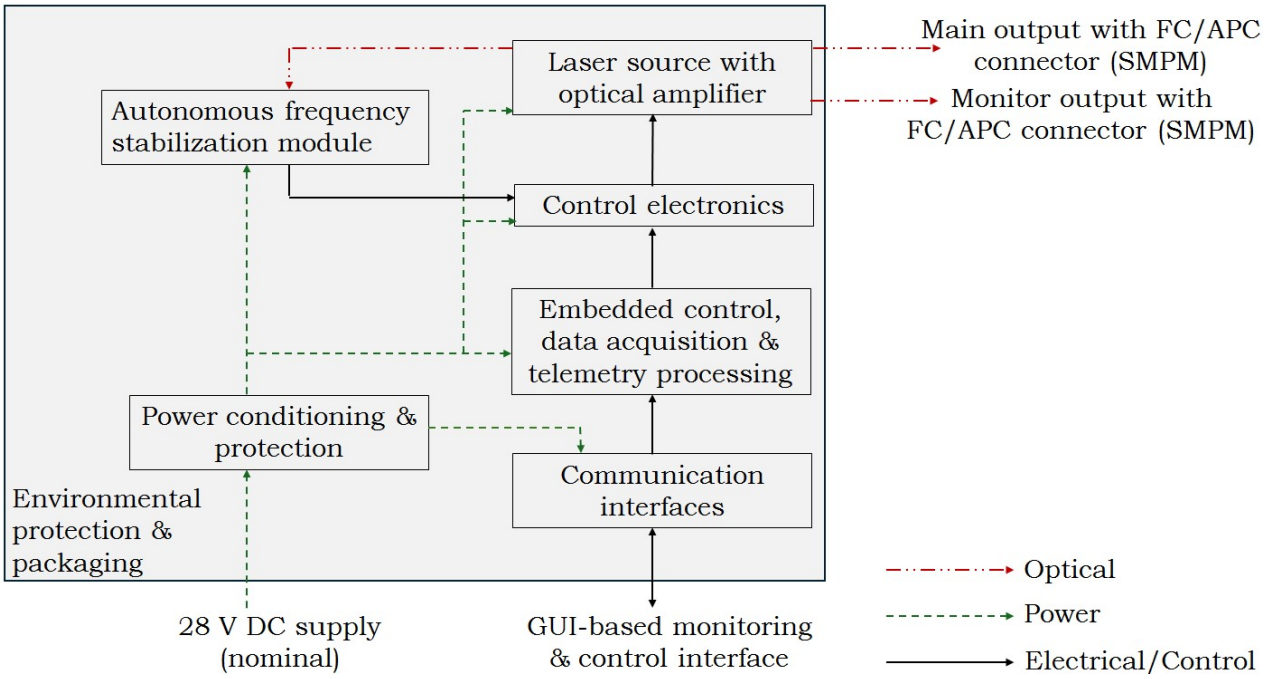

Figure 1. Functional block diagram of the integrated laser system

Detailed specifications are listed in Table I.

Table I. Major requirements and Party capability

Sl. No	Parameter	Requirements/ Range of expected values	Party capability**
Laser head and amplifier specifications			
1	Laser Head Configuration	ECDL/Fiber Laser /DBR/DFB/others	

2	Center wavelength	780.246 nm	
3	Wavelength tunability range (~ MFTR)	± 0.002 nm or better	
4	Mode of operation	CW and frequency locked	
5	Minimum Optical power at output of fiber at maximum gain (after fiber coupling): **Output 1**	2 to 5 W	
6	Monitoring beam power at fiber end from amplifier output for diagnostics: **Output 2**	10 mW (min)	
7	Temporal stability of optical output power for 8 hours	0.05% of total output power (RMS)	
8	Locked line-width	50-100 kHz or lower	
9	Mode hop free tuning range (MFTR)	≥ 2 GHz	
10	Polarization state at output of SMPM fiber	Linear	
11	Beam profile	TEM_{00}	
12	Polarization extinction ratio (PER)	≥1:100	
13	Optical isolator (one to protect laser diode and another one at the amplifier output before fiber coupling)	Attenuation of 60 dB (or better) with transmission efficiency of 80% (or better) at full power	
14	Amplitude spontaneous emission suppression	< -45 dB or better	
Spectroscopy and Frequency locking			
15	Locking scheme	Any spectroscopy technique (SAS, FMS, MTS, etc.)	
16	Servo bandwidth (Typical)	30-300 kHz or better	
17	Reference medium	Rubidium vapor	
18	Auto re-lock feature	Self-locking	

19	Lock acquisition time (from scan mode to lock mode)	< 1 s	
Fiber coupling			
20	Fiber type	SM-PM	
21	Fiber input interface	Pigtailed without any adjustment provision	
22	Connector type (fiber output)	FC/APC (high power capable)	
Electrical and Control System			
23	Laser Current controller requirements (Typical)	1. Resolution: <0.1 mA 2. Stability error: ≤ ± 10 µA for 8 hours 3. Output current noise: <10 µArms	
24	Laser Temperature controller requirements (Typical)	1. Resolution: 0.01 ˚C 2. Stability: ±0.01˚C for 8 hours	
25	Piezo/Scan controller requirements (Typical)	1. Tuning range: >1 GHz 2. Rate: 4-50 Hz 3. Linearity deviation: ≤ 0.1 % over full scan 4. Max. hysteresis: < 1 % 5. Repeatability error: < 2 MHz RMS over full scan	
26	Operating supply voltage	Nominal 28 V_{DC} (Range: 26-32 V_{DC})	
27	Operating supply current (for Supply voltage)	Preferably less than 2 A	
28	Communication Interface	Ethernet + RS485 + Analog Output (for probing)	
Mechanical and Environmental Specifications			
29	Operating temperature range (Preferred)	▪ Laser Head: 15 to 35 ºC (further controls required for necessary qualifications as mentioned in section 3.7) ▪ Electronics: As per	

		Automotive/Industrial Standards	
30	Storage temperature range	Laser Head: -40 to 70 ° C Electronics: As per Automotive/Industrial Standards	
31	Operating humidity range	Non-condensing (70% RH)	
32	Total system dimension	<300 mm x 300 mm x 150 mm (Typical)	
33	Total weight	5 kg (Typical)	
Reliability and Qualifications			
34	Expected Operational life time of system	50,000 hours or more	

** Party should give detailed compliance against each specification listed in this table, supported by relevant documents. Mere "Yes/No" responses are not acceptable.

3.0 System Requirements

The proposed system is intended to serve as a laser source for quantum sensing application in space systems. The requirements at the system level are as follows:

3.1 Laser source with optical amplifier

The laser system should include a single-mode, continuous-wave (CW) laser source with an integrated optical amplifier capable of delivering a stabilized narrow linewidth optical power output. Two SMPM fiber coupled FC/APC optical outputs shall be provided, comprising a main optical output for application use and a monitor optical output for diagnostics and characterization. The required specifications are tabulated in Section 2.2, Table I.

3.2 Autonomous frequency stabilization module

A compact, robust and low-power laser frequency stabilization module is required, capable of maintaining frequency stability under varying environmental conditions while meeting the stringent constraints of space deployment.

Frequency locking electronics to be developed as self-locking so that it will lock automatically to the pre-defined set point and hold the lock during the

operations. Necessary alert mechanism to be provided to detect the error or deviations in frequency lock and take safe action to unlock and relock the laser to the reference value.

3.3 Control electronics

To provide precision current, temperature and piezo/scan control for laser operation and frequency stabilization and current and temperature control for the optical amplifier. Digital control is preferred.

3.4 Embedded Control, Data Acquisition & Telemetry Processing Subsystem

This subsystem provides supervisory control, autonomous operation, data acquisition, health monitoring, fault management and system level decision making. It also acquires system telemetry, processes operational data and manages communication with external interfaces.

3.5 Communication Interfaces

These provide external connectivity for remote telemetry, telecommand, configuration, diagnostics and software updates through standard interfaces as mentioned in Table I.

3.6 Power Conditioning and Protection

This subsystem converts the input supply into the regulated voltage rails required by the various subsystems and distributes power throughout the system. It also provides protection against reverse polarity, over-voltage, over-current, short-circuit and other power-related faults.

3.7 Environmental Protection and Packaging

This provides mechanical housing, thermal management and environmental protection for reliable operation under specified operating conditions. The system shall maintain full performance under external environmental stresses, including acoustic noise, mechanical vibration, thermo vacuum, thermal cycling, etc. Movable parts shall be avoided to minimize mechanical instability: monolithic design of laser source and rigid optical mounts are preferred to ensure maximum mechanical robustness and long-term reliability. Additional protection system like vibration isolator, hermetic sealing, etc. should be considered to pass these tests.

The proposed system shall ensure the following functionalities:

- Digital Signal Processing (DSP)-based error detection and control implemented on an FPGA or microcontroller-based platform and necessary low-noise analog and mixed signal electronics.
- Provision should be given to configure the system in manual mode (for detailed characterization and diagnostics during initial testing), auto-lock mode and free running mode (when frequency lock is disabled). Suitable indications to be made available to confirm the mode.
- In autonomous operation, laser must automatically re-lock to the chosen spectral feature and should maintain that lock until it is unlocked.
- Data acquisition system should be compatible for remote and space telemetric applications. Telemetry requirements should include health of laser head, mode of operation, error messages, major laser output parameters, etc.

4.0 Deliverables

The Engineering Model (EM) shall be realized and delivered first for demonstrating the complete design functionality and performance assessment. Upon successful demonstration and clearance of the EM, the Qualification Model (QM) shall be realized for validation under various environmental test conditions.

Indicative deliverables are:

i. Complete laser systems: Integrated module with fiber pigtailed outputs (Laser head with amplifier, spectroscopy module and control electronics).

ii. Embedded control, data acquisition and telemetry processing sub-system with standard communication interfaces.

iii. Windows operating system based GUI software for monitoring and control tuning/selection. Software lifecycle and maintenance documentation shall also be provided.

iv. Documentation: Design documents, analysis reports, test and evaluation reports, technology transfer documents, manuals of bought-out units, user manual of the complete system including all sub-systems, Bill of Materials (BoM), calibration records, characterization data and all other related documentation.

In the event of any observations during testing necessitating design modifications, the Engineering Model (EM) shall be suitably updated and re-submitted for completion of the required tests and characterization activities.

5.0 Development Phases and Responsibility Matrix

5.1 The overall development and realization of the system shall be carried out through defined technical phases and review milestones as follows:

Milestone I: System requirements & Preliminary design review (PDR)

- Complete system architecture (optical, mechanical, electronic and control).
- Design concepts and trade-off analysis.
- Proper definition of subsystems' requirements and interfaces.
- Preliminary selection of components and critical parts.
- Identification of long lead-time items and procurement planning.

Milestone II: Critical design review (CDR)

- Finalization of detailed schematics, top-level modules and interface definitions.
- Overall hardware and software design details, including FPGA/microcontroller/microprocessor architecture, embedded firmware, GUI software and control algorithms.
- Finalization and procurement of all components, materials and critical parts.
- Finalization of test, evaluation and validation procedures for subsystem and system-level realization.
- Detailed internal design information and implementation details will be discussed during review meetings, if required.

Milestone III: Engineering Model (EM) development

- Realization and integration of subsystems.
- Development and validation of Engineering Model.
- Demonstration of EM functionality against the performance metrics specified in Table I.

Milestone IV: Integration and system testing

- Integration with the experimental set-up at IISU.
- System-level functional tests and performance evaluation.

- Demonstration of cold atom cloud generation.
- Test report generation.

Milestone V: Qualification Model (QM) realization and environmental testing

- Realization of fully compliant QM system.
- Cold atom cloud generation.
- Environmental qualification testing and performance validation against all specified functional and environmental requirements.

Milestone VI: Final delivery and deployment

- Pre-shipment reviews and acceptance readiness.
- Final system delivery.
- Cold atom cloud generation
- Acceptance testing, technology transfer and submission of complete documentation.

Expected project completion time frame is 24-30 months from the date of PO release. Detailed breakup proposal to be given by the party.

The party may outsource/sub-contract some of the activity to 3rd party like other institute/organization/academia/industry with prior approval by IISU. These details along with the specifications shall be provided as part of the EoI. However, the vendor should possess end to end knowledge of the same and shall submit these technical aspects during review process.

The party is solely responsible for end-to-end realization of this technology development with a firm commitment.

5.2 The broad responsibilities of IISU and the party during various phases of project are outlined below.

Responsibility of IISU:

a) Finalization of the system specifications.
b) Periodic review on the progress of the activity.
c) Audit/clearance of consumables & materials procured by Party for realization of the system.
d) Review and clearance of PDR, CDR and test reports generated during various phases of development and testing.
e) Audit visits to the Party's site for participation in testing activities.

f) Providing facilities at IISU for carrying out environmental tests of the system.
g) Disposal for all non-conformances arising at various stages of system realization.
h) Pre-dispatch clearance.

Responsibility of party:

a) Carry out design studies and finalize the system configuration.
b) Complete all steps as mentioned in section 5.1 and adhere to the delivery period.
c) Procurement of components, consumables and other materials required for the realization of the system.
d) Establish the necessary test and diagnostic facilities at the party site for subsystem and system-level testing.
e) Realize suitable packaging with necessary interfaces. The packaging shall meet the requirements of the planned environmental and stress testing at IISU.
f) Prepare and submit documents for approval as and when required during different phases of the project.
g) Transportation of the system to and from IISU/other test facilities, as required.

6.0 Conditions under which this EOI is issued

6.1 This EoI is not an offer and is issued with no commitment. IISU reserves the right to withdraw the EoI and change or vary any part thereof at any stage. IISU also reserves the right to disqualify any party, should it be so necessary at any stage.

6.2 IISU reserves the right to withdraw this EoI if IISU determines that such action is in the best interest of the Government of India.

6.3 Short-listed vendors would be issued with formal tender enquiry / Request for proposal inviting their technical and commercial bids. IISU team may visit the facility of the respective parties, before to the short-listing.

6.4 Timing and sequence of events resulting from this EoI shall ultimately be determined by IISU.

6.5 The progress of milestones will be critically evaluated by IISU. In case of non-satisfactory progress, IISU reserves right to terminate the complete PO.

6.6 Only formally issued written communications from IISU shall be considered valid and binding during the EoI process.

6.7 Neither the party nor any of the party's representatives shall have any claims whatsoever against IISU or any of their respective officials, agents, or employees arising out of, or relating to this EoI or these procedures (other than those arising under a definitive service agreement with the party in accordance with the terms thereof).

6.8 The party shall treat all information provided in connection with this EoI as confidential and shall not disclose such information to any third party without prior written approval from IISU. A Non-Disclosure Agreement (NDA) shall be executed, before the exchange of detailed technical information.

6.9 Intellectual Property Rights: All Intellectual Property Rights such as patents, copyrights, design rights etc. acquired during the design, development and realization of this technology/product/system shall be jointly owned by IISU and the Vendor concerned, regardless of funding support. At no point of time or in any format, party can claim the exclusive rights on this design or any of its subsystem as their own product. Any commercialization of such IP rights by the Party shall be done only with the consent / written permission from IISU, on mutually agreed specific terms and conditions, which shall be determined on a case-by-case basis by IISU. IISU reserves the right to induct the technology/product/system developed through this procurement of miniaturized and ruggedized 780nm narrow linewidth laser system, to its products/ R&D programs depending upon the requirements. Commercial off-the-shelf components, public domain information and publically available technologies are to be excluded from ownership claims arising from the project.

7.0 Rights to the Content of the EoI Response

All responses/proposals received within the prescribed deadline of EoI submission, together with the accompanying supporting documents, will become the property of IISU upon submission and will not be returned after the opening of the pre-qualification responses.

8.0 Pre-Qualification Criteria

This invitation for EoI is open to all entities registered in India who fulfill prequalification criteria as specified below.

Mandatory requirements:

- Technical expertise in the design and integration of narrow line-width laser systems for precision metrology applications.
- Engineering capability in opto-mechanics, opto-electronics, servo electronics and embedded/FPGA systems.
- Proven experience in the realization and delivery of similar laser systems, supported by relevant patents, published papers, product catalogues and/or records of delivered systems.
- Availability of competent technical manpower for design, realization, integration and testing activities.
- Established infrastructure and facilities with the required equipment, including model numbers, characterization setups and valid calibration certificates, which shall be physically auditable at any stage before to the short-listing.
- Capability for system customization and provision of long-term technical support.
- Company registered in India and control should be exercised by Indian citizens.

Desirable requirements:

- Proven experience in cold atom and/or quantum optics system integration, supported by relevant purchase orders/projects, if any.
- Experience in integration of laser system with modulation, detection and feedback control systems.
- Experience in remote operation, automation and health monitoring of laser systems.
- Experience in embedded software and GUI-based software development.

Experience and expertise in the development of similar laser system will be given due weightage during the evaluation process. The details pertaining to such experience and expertise shall be clearly brought out in the submission of EoI response, supported by relevant documentary evidence.

9.0 Expected Response of the EoI

9.1 Vendors are requested to submit their responses for the pre-qualification requirements in three (3) parts, clearly labeled according to the following categories.

Part I. Covering Letter and Board Resolution

- Covering Letter from the Party as per the format provided in Annexure – Form 1
- Board Resolution authorizing the party to sign/execute the proposal as a binding document and also to execute all relevant agreements forming part of EoI.
- Brief note highlighting the strengths of the party and motivating factors for participating in the EoI.

Part II. Details of the Organization

- This part shall include a general brief background of the respondent organization along with other organizational details as per the format provided in the EoI (Annexure – Form II). Brochures and other relevant supporting documents may also be enclosed, if available.
- The party shall provide the financial details of the organization as per format provided in the EoI (Annexure – Form III) along with the mandatory supporting documents specified therein.
- Company website details.
- The Party shall submit a certified copy, duly attested by the Statutory Auditor or Company Secretary, indicating the number of full-time professionals employed by the organization.

Part III. Supporting Documents

- The vendor shall submit Table I filled with detailed compliance against each specification, supported by relevant documents (Mere "Yes/No" responses are not acceptable).
- Compliance to the requirements specified in Sections 2 to 5 shall be clearly indicated. In cases where any requirement cannot be fully met, the maximum achievable capability or proposed alternative shall be clearly specified.
- The response to the EoI may include brief details of the proposed configuration, operating principle, design philosophy, merits and trade-offs corresponding to each subsystem. The response shall also include details of similar systems previously developed by the Party.

- The compliance of continued support after the acceptance of the system, preferably 5 years, shall be explicitly mentioned in response to EoI.
- Additional capabilities and/or improvements proposed by the vendor, if any, over the expected system specifications may also be included in the response.
- Detailed schedule for completion of all milestones.
- Declaration of the percentage of Indian content in the proposed system.
- All supporting documents necessary to establish compliance with the mandatory and desirable requirements specified in the pre-qualification criteria (refer Section 8) shall be enclosed.

9.2 Proposals shall be direct, concise and complete. Information not directly relevant to this EoI should be omitted.

9.3 The pre-qualification proposal shall be sealed and superscribed "Response to pre-qualification requirements – Design, Development and Delivery of Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System" on the top right-hand corner, along with the EoI No reference number and addressed to IISU at the address specified in this document.

9.4 Response to the EoI (hardcopy) shall be sent to the mentioned postal address only. E-mail& Fax submissions will not be accepted. Proposals received after the due date & time will not be considered.

9.5 The pre-qualification proposal shall be submitted with two printed copies of the complete proposal, one marked "ORIGINAL" and the other marked "DUPLICATE" with all the contents of the pre-qualification proposal. All pages of the hard copy shall be signed by the authorized signatory before sealing the envelope.

9.6 The proposal shall include copies of references and all other supporting documents specified in the EoI.

9.7 IISU will not accept delivery of proposal in any manner other than that specified in this EoI. Proposals delivered through any other mode shall be treated as defective, invalid and liable for rejection.

9.8 Interested parties are expected to carefully examine all sections of this EoI. Failure to furnish complete information or submission of a non-responsive proposal may result in rejection.

10.0 Mode of tender

In the first stage parties have to respond to this expression of interest (EoI) in the prescribed format. No price is to be quoted.

The respondents along with their technology partners (if any), will be evaluated based on all the specified eligibility criteria listed in this EoI.

Detailed requirement specification in the form of 'Request for Proposal' (RFP) will be tendered only to the shortlisted eligible bidders.

In the second stage, techno – commercial and price bid will be invited from short listed bidders on two-part bid basis.

Final selection will be based on techno – commercial evaluation.

11.0 Payment terms

Payment terms will be finalized based on mutual discussion between the party and IISU.

ANNEXURE

FORM I: COVERING LETTER

(Company Letterhead)

(Date)

To

Sr. Purchase and Stores Officer
ISRO Inertial Systems Unit (IISU)
Vattiyoorkavu P O
Trivandrum 695 013

Ref: Expression of Interest Notice for Design, Development and Delivery of Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System

Sir

Having examined the Expression of Interest (EoI), the receipt of which is hereby acknowledged we the undersigned, intent to submit a prequalification requirements proposal in response to the Expression of Interest (EoI) for Design, Development and Delivery of Miniaturized and Ruggedized 780 nm Narrow Linewidth Laser System.

Attached here to the response as required by the EoI, which constitutes our proposal. Primary and Secondary contacts for our company are

	Primary Contact	Secondary Contact
Name		
Title		
Company Name		
Address		
Phone		
Mobile		
Fax		
E Mail		

We confirm that the information contained in this response or any part thereof, including its exhibits, and other documents and instruments delivered or to be delivered to IISU is 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 the department 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 during the project, if selected to do so.

We agree for unconditional acceptance of all the terms and conditions setout 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 Day of 2026

(Signature) (In the capacity of)

(Name)

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

(Name and Address of Company) Seal/Stamp of Party

Witness Signature:

Witness Name:

Witness Address:

CERTIFICATE AS TO AUTHORISED SIGNATORIES

I, ……. The company Secretary of …….. certify that …….. who signed the above Bid is authorized to do so and bind the company by authority of its board/governing body.

Date

Signature

(Company Seal) (Name)

FORM II: GENERAL DETAILS OF THE ORGANISATION

Details of Organization
Name of the Organization
Nature of the legal status in India
Legal Status Reference details
Nature of Business of India
Date of Incorporation
Date of Commencement of Business
Address of the Headquarters
Address of the Registered Office in India
Other Relevant Information
Mandatory Supporting Documents: a. Firm registration certificate or Certificate of Incorporation from Registrar of Companies (ROC) b. Relevant sections of Memorandum of Association of the company or filings to the stock exchanges to indicate the nature of business of the company.

FORM III: FINANCIAL DETAILS OF THE ORGANISATION

Financial Information					
Revenue (in INR Crores) Profit Before Tax (in INR Crores)	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26
Other Relevant Information					

Supporting Documents

a. Auditor Certificate financial statements for the last three financial years: 2025-2026, 2024-25, 2023-24 (Please include only the sections on P&L, revenue and the assets, not the entire balance sheet).
b. Unaudited financial statements certified by the company auditor for the latest year (2025-26) (in case the auditor certified statement for 2024-25 is not available)
c. Certification by the company auditors supporting the revenue break up for precision production and system integration services.
d. A copy of their valid GST registration Certificate shall be submitted to verify statutory compliance.