भौतिक अनुसंधान प्रयोगशाला (पीआरएल)
PHYSICAL RESEARCH LABORATORY (PRL)
(अंतरिक्ष विभाग, भारत सरकार की यूनिट
A UNIT OF DEPT OF SPACE, GOVERNMENT OF INDIA)
अहमदाबाद AHMEDABAD – 380 009

Advt. Ref No: PRL/PUR/EOI/05-2026 **दिनांक: 15-03-2026**

नोबल गैस मास स्पेक्ट्रोमीटर एवं सहायक उपकरणों की खरीद के लिए रुचि की अभिव्यक्ति (ईओआई) के लिए निमंत्रण

Invitation for Expression of Interest (EoI) for Procurement of a Noble Gas Mass Spectrometer and Peripherals

पीआरएल संभावित बोलीदाताओं से एक नोबल गैस मास स्पेक्ट्रोमीटर (NGMS) की खरीद हेतु अभिरुचि की अभिव्यक्ति (EoI) आमंत्रित करता है, जिसे विशेष रूप से उच्च-सटीकता 40Ar-39Ar जियोक्रोनोलॉजी तथा व्यापक नोबल गैस समस्थानिक विश्लेषण (He, Ne, Ar, Kr, Xe) के लिए कॉन्फ़िगर किया गया हो।

PRL invites EoI from prospective bidders for the procurement of a Noble Gas Mass Spectrometer (NGMS) specifically configured for high-precision ^{40}Ar-^{39}Ar geochronology and broader noble gas isotopic analyses (He, Ne, Ar, Kr, Xe).

इस EoI का उद्देश्य ऐसे संभावित आपूर्तिकर्ताओं की पहचान करना और उन्हें शॉर्टलिस्ट करना है जो एक अत्याधुनिक नोबल गैस मास स्पेक्ट्रोमीटर की आपूर्ति, स्थापना, परीक्षण और कमीशनिंग कर सकें, जो उच्च-सटीकता 40Ar/39Ar जियोक्रोनोलॉजी (स्टेप हीटिंग/लेज़र फ्यूज़न), He, Ne, Ar, Kr, Xe समस्थानिक प्रणालियों का मात्रात्मक विश्लेषण (खनिज, चट्टान, द्रव, वायुमंडल), तथा सैंपल एक्सट्रैक्शन सिस्टम (UV/IR/CO2 लेज़र, भट्टियां, रेसिस्टिव हीटिंग, क्रशिंग) के साथ एकीकरण में सक्षम हो। इस प्रणाली में सभी हार्डवेयर, सॉफ्टवेयर, कैलिब्रेशन मानक, स्थापना, प्रशिक्षण और दीर्घकालिक समर्थन शामिल होना चाहिए।

The goal of this EoI is to identify and shortlist potential suppliers who can supply, install, test, and commission a cutting-edge noble gas mass spectrometer capable of high-precision $^{40}Ar/^{39}Ar$ geochronology (step heating/laser fusion), quantitative noble gas analysis of He, Ne, Ar, Kr, Xe isotopic systems (mineral, rock, fluid, atmosphere), and integration with sample extraction systems (UV/IR/CO_2 lasers, furnaces, resistive heating, crushing). The system must include all hardware, software, calibration standards, installation, training, and long-term support.

EoI के आधार पर शॉर्टलिस्ट किए गए पक्षों द्वारा तकनीकी एवं वाणिज्यिक (दो-भाग) निविदाएं प्रस्तुत करने के लिए एक वैश्विक/सार्वजनिक/सीमित निविदा के अंतर्गत विस्तृत प्रस्ताव अनुरोध (RFP) जारी किया जाएगा।

A Global/Public/Limited tender will be released with a detailed Request for Proposal (RFP) for submission of two-part bids (technical and commercial) by the parties shortlisted based on the EoI.

EoI दस्तावेज़ हमारी वेबसाइट https://www.isro.gov.in/Tenders.html, https://www.prl.res.in/prl-eng/tender, या https://eprocure.gov.in/cppp/ (सेंट्रल पब्लिक प्रोक्योरमेंट पोर्टल) पर उपलब्ध हैं। इच्छुक पक्ष आवश्यक जानकारी भरकर निर्धारित तिथि एवं समय तक इसे प्रस्तुत करें। इच्छुक पक्ष अपनी EoI प्रतिक्रिया एक सीलबंद लिफाफे में, हमारे संदर्भ PRL/PUR/EOI/05-2026 का उल्लेख करते हुए, 15/04/2026 [17:00 बजे] तक निम्नलिखित पते पर भेज सकते हैं:

The EoI documents are available at our website https://www.isro.gov.in/Tenders.html, https://www.prl.res.in/prl-eng/tender, or https://eprocure.gov.in/cppp/ (Central Public Procurement Portal). The same should be submitted by the due date and time, after all necessary information has been filled in. Interested parties may furnish their response to EoI in a sealed envelope quoting our reference *PRL/PUR/EOI/05-2026* **on or before 15/04/2026 [17:00hrs]** to the following address

वरिष्ठ क्रय एवं भंडार अधिकारी Senior Purchase and Stores Officer,
कमरा सं. 114, क्रय अनुभाग Room No 115, Purchase Section
भौतिक अनुसंधान प्रयोगशाला Physical Research Laboratory
गुजरात यूनिवर्सिटी के पास Near Gujarat University
नवरंगपुरा – अहमदाबाद Navrangpura – Ahmedabad
गुजरात Gujarat-380 009

ईओआई विवरण प्रस्तुत करने की तिथियां Schedule for Submission of EoI Details	
ईओआई के उत्तर प्रस्तुत करने की अंतिम तिथि Last date for submission of response to EoI	15 अप्रैल 2026 1900 बजे IST 15 April 2026 1900 Hrs IST
ईओआई खोलने की तिथि Opening date of EoI	16 अप्रैल 2026 1000 बजे IST 16 April 2026 1000 Hrs IST

पीआरएल के पास, प्राप्त सभी या किसी भी ईओआई को स्वीकार या अस्वीकार करने का अधिकार सुरक्षित है। PRL reserves the right to accept or reject all or any of the EoIs received.

इस ईओआई के लिए यदि कोई परिशिष्ट होगा तो उसे हमारी वेबसाइट पर उपरोक्तानुसार प्रदर्शित किया जाएगा। Addendum, if any, to this EoI shall be hosted on our website as mentioned above.

निर्धारित तिथि और समय के बाद प्राप्त प्रस्तावों को विलंबित उत्तर माना जाएगा तथा आगे की प्रक्रिया के लिए उन पर विचार नहीं किया जाएगा।
Proposals received after the due date and time will be treated as late response and will not be considered for further procedure.

यह सुनिश्चित करना बोलीदाता की जिम्मेदारी है कि प्रस्ताव नियत तिथि और समय पर या उससे पहले गंतव्य तक पहुंच जाए। किसी भी परिस्थिति में नियत तिथि विस्तार के अनुरोध पर विचार नहीं किया जाएगा।
It is the sole responsibility of the bidder, to make sure that the offer reaches the destination on or before the due date and time. Requests for due date extension will not be considered at any circumstances.

अस्वीकरण: ईओआई के इस आमंत्रण को किसी भी प्रतिभागी विक्रेता के साथ पीआरएल की ओर से दृढ़ प्रतिबद्धता या अनुबंध **नहीं** माना जाएगा।

Disclaimer This call for EoI shall **NOT** be treated as a firm commitment or contract from PRL with any of the participating vendors.

Invitation for Expression of Interest for the procurement of a Noble Gas Mass Spectrometer and peripherals

Introduction:

The Physical Research Laboratory (PRL) in Ahmedabad is one of India's leading scientific research institutes, playing a crucial role in the country's space program and scientific studies. Established in 1947, PRL has conducted fundamental research in physics, astronomy, and Earth and planetary sciences. It is funded by the Department of Space, Government of India. Founded by Dr. Vikram A. Sarabhai, PRL was the birthplace of the Indian Space Program and has made significant contributions to the development of space sciences in India. PRL operates several world-class observatories and experimental facilities, such as the Gurushikhar Infrared Observatory at Mount Abu, the Solar Observatory at Udaipur, and the Accelerator Mass Spectrometry Facility at Thaltej. India's first lunar mission, Chandrayaan-1, was conceptualized at PRL, and since then, PRL has actively participated in all the country's planetary missions.

PRL has a rich legacy and an exemplary track record of many groundbreaking contributions to Earth and Planetary sciences, supported by precise, highly complex isotope and geochemical analyses of terrestrial and extra-terrestrial samples. PRL's contributions to Indian geosciences in areas such as geochronology, radiogenic and stable isotope geochemistry, noble gas isotope studies, and cosmogenic isotope research have been unmatched. Currently, PRL hosts the largest number of mass spectrometers in India dedicated to research in planetary/geo/ocean sciences.

To expand its presence in Indian Geochronology and Cosmochronology, PRL plans to develop a state-of-the-art ^{40}Ar-^{39}Ar dating and noble gas isotope ratio analytical facility at its Navrangpura, Ahmedabad campus.

Indicative specifications of a Noble Gas Mass Spectrometer:

PRL proposes to procure a noble gas mass spectrometer for high-precision isotopic analyses (e.g., ^{40}Ar-^{39}Ar geochronology and noble gas geochemistry), which should be a high-sensitivity, ultra-high-vacuum magnetic sector mass spectrometer equipped with a multicollection detection system. The instrument should have a mass resolving power of ~600–2000 (sufficient to resolve hydrocarbon interferences), a stable electromagnet with precise peak-jumping capability, and a mass range covering at least 2–150 amu to measure He, Ne, Ar, Kr, and Xe isotopes. It should include multiple detectors (Faraday cups with 10^{11}–10^{13} Ω amplifiers and one or more ion-counting multipliers) for simultaneous measurement of isotopic ratios, enabling high precision (e.g., <0.1–0.2% for $^{40}Ar/^{39}Ar$). The system should operate under ultra-high-vacuum conditions (~10^{-9}–10^{-10} mbar) with low background and memory effects. A high-efficiency ion source optimized for noble gases, an automated inlet system with purification line (SAES getters, cryogenic traps), and compatibility with laser and resistance furnaces for gas extraction should be included. The instrument should also provide automated data acquisition and isotope-ratio calculation software, long-term magnet stability, and high sensitivity (on the order of 10^{-15}–10^{-16} mol detection limits), suitable for precise geochronology, cosmogenic noble gas studies, and planetary sample analysis.

The performance of the equipment should comply with the following minimum indicative specifications:

S. No.	Parameter	Minimum Specification
1.	Instrument Type	Magnetic sector noble gas mass spectrometer suitable for isotopic analysis of He, Ne, Ar, Kr, and Xe
2.	Mass Range	2-150 amu
3.	Mass Resolving Power	≥ 1000
4.	Detection System	Multi-collection with at least 6 Faraday cups and multiple ion counters
5.	Sensitivity	Detection limit ≤10^{-15} mol
6.	Vacuum System	Ultra-high vacuum ≤10^{-9} mbar
7.	Ion Source	Electron impact ion source optimized for noble gases
8.	Sample Heating Method	Resistance furnace and Laser heating
9.	Gas extraction system	Modular automated SS extraction line with programmable pneumatic valves
10.	Warranty & Service	5 years of CMC with strong after-sales service