

भारत सरकार / GOVERNMENT OF INDIA  
अंतरिक्ष विभाग / DEPARTMENT OF SPACE  
क्रय यूनिट-III / PURCHASE UNIT-III  
विक्रम साराभाई अंतरिक्ष केंद्र / VIKRAM SARABHAI SPACE CENTRE  
तिरुवनंतपुरम / THIRUVANANTHAPURAM – 695 022  
Tel: (0471) 2563676/3775/3609  
email: spso\_prso\_pur@vssc.gov.in, pso2\_prso\_pur@vssc.gov.in

**EXPRESSION OF INTEREST**

No. VSSC/SPRE-PUR/EOI/RID-NDT/GOCO/22-01

Date: 09/11/2022

सरकार स्वायत्त कंपनी प्रचालित (गोको) विधा का उपयोग करते हुए वीएसएससी में स्थापित सुविधाओं में से विक्रम साराभाई अंतरिक्ष केंद्र (वीएसएससी), वेली, तिरुवनंतपुरम के एसओई के अंतरिक्ष ऑर्डनेंस प्रणाली में अविनाशी परीक्षण (एनडीटी) के लिए अभिरुचि की अभिव्यक्ति।

**EXPRESSION-OF-INTEREST FOR NON-DESTRUCTIVE TESTING (NDT) OF SPACE ORDNANCE SYSTEMS AT ASOE, VIKRAM SARABHAI SPACE CENTRE (VSSC), VELI, THIRUVANANTHAPURAM USING VSSC ESTABLISHED FACILITIES ON GOVERNMENT OWNED COMPANY OPERATED (GOCO) MODE**

इच्छुक प्रत्याशित निर्माता हमारे संदर्भ सं. VSSC/SPRE-PUR/EOI/RID-NDT/GOCO/22-01 का उद्धरण करते हुए 01/12/2022 [16:00 Hrs.] को या उससे पहले निम्नलिखित पते पर अपनी अभिरुचि की अभिव्यक्ति दे सकते हैं।

Interested parties may furnish their Expression of Interest in Sealed Envelope quoting our Reference No. VSSC/SPRE-PUR/EOI/RID-NDT/GOCO/22-01 on or before 08/12/2022 [16:00 Hrs] to the following address:

नोट:- मेक इन इंडिया नीति के अनुसार केवल श्रेणी-I और श्रेणी-II के स्थानीय आपूर्तिकार इस बोली में भाग लेने के पात्र हैं।

**Note:- Only Class-I and Class-II Local suppliers as per Make in India policy are only eligible to participate in the bid**

वरि. क्रय एवं भंडार अधिकारी / Sr. Purchase & Stores Officer,  
क्रय यूनिट III /Purchase Unit- III,  
आरएफएफ क्षेत्र, इसरो पीओ/ RFF Area, ISRO. PO,  
तिरुवनंतपुरम/Thiruvananthapuram- 695022.  
फोन/Ph: 0471-256 3775/3609

EOI documents are available at our website [www.isro.gov.in](http://www.isro.gov.in) and [www.vssc.gov.in](http://www.vssc.gov.in).

हस्ताक्षरित/Sd/-

वरि.प्रधान, क्रय एवं भंडार/ Sr.Head, Purchase & Stores



Government of India  
Department of Space  
**Vikram Sarabhai Space Centre**  
Indian Space Research Organisation  
Thiruvananthapuram-695022, Kerala

No. **VSSC/SPRE-PUR/EOI/RID-NDT/GOCO/22-01**

Date: 09/11/2022

### **INVITATION FOR EXPRESSION-OF-INTEREST**

**Vikram Sarabhai Space Centre (VSSC)** proposes to invite **Expression-Of-Interest (EOI)** for Non-destructive testing (NDT) of Space Ordnance systems at VSSC, Thiruvananthapuram using VSSC established facilities on "**Government Owned Company Operated (GOCO) mode**". It is proposed to entrust the scope of carrying out NDT of Space Ordnance systems to VENDORS on Government Owned Company Operated mode at an **annual rate of about 5000 Nos.** approximately.

NDT includes Radiography testing, Film processing & Interpretation, Report preparation, Ultrasonic testing of Space Ordnance systems. Safety and quality are of utmost importance while working in this environment. It is required to operate equipment like 450 kV X-ray machine, 3.5/6MeV LINAC, Automatic Film Processor and Manual film processing. Overall management of the testing, radiation safety also needs to be taken care and all issues and concerns must be addressed on a timely manner adhering to the stipulated production schedule.

Interested VENDORS having adequate know-how about X-Ray radiography testing and Ultrasonic testing, ISO certification, BARC/ISNT/ASNT qualified and skilled technical personnel, experience in NDT and having sound financial background, commitment and desirous of long-term partnership with ISRO are invited to participate in the Expression-Of-Interest. On receipt of EOI, VSSC shall evaluate and assess the suitability prior to short-listing of Vendors. This call for EOI does not carry with it any guarantee for allotment of contract.

EOI document can be downloaded from website [www.isro.gov.in](http://www.isro.gov.in) and the same also shall be submitted within the due date and time. "**Expression of Interest**" with all essential information shall reach the Senior Purchase and Stores Officer, Purchase Unit III, Vikram Sarabhai Space Centre, ISRO Post, Thiruvananthapuram 695022, Kerala, on or **before 16:00 Hrs 08/12/2022**. This EOI is issued as a "Pre-Bid Qualification". Inadequate or incomplete information will result in rejection of the offer. VSSC reserves the right to accept or reject all or any of the EOI. Mere compliance to the EOI terms does not guarantee further consideration for qualification.

Addendum, if any, to this EOI shall be hosted in our website [www.isro.gov.in](http://www.isro.gov.in).

Senior Purchase and Stores Officer,  
Purchase Unit III,  
Vikram Sarabhai Space Centre,  
ISRO P.O.,  
Thiruvananthapuram - 695022  
Kerala State



No: **VSSC/SPRE-PUR/EOI/RID-NDT/GOCO/22-01**

Date: 01/11/2022

**INVITATION FOR EXPRESSION-OF-INTEREST**

**"Expression-Of-Interest for Non-destructive testing (NDT) of Space Ordnance systems at Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram using VSSC established facilities on Government Owned Company Operated (GOCO) mode".**

**A: Attention to bidders:**

1. The EOI document shall be carefully read and all points shall be duly addressed.
2. EOI responses with incomplete/insufficient supporting data shall not be considered further. No further correspondence shall be entertained with respect to this.
3. Bidders can contact/visit VSSC/ISRO with prior appointment from Sr. Purchase & Stores Officer, Purchase Unit-III, SPRE Purchase, RFF Area, VSSC, ISRO.PO, Thumba, Thiruvananthapuram - 695022 for any clarifications/discussions.  
Contact Phone No: 0471-2563775/3609.  
Email id: spso\_prso\_pur@vssc.gov.in, pso2\_prso\_pur@vssc.gov.in

**1.0 Preamble**

Vikram Sarabhai Space Centre (VSSC) is the lead Center of Indian Space Research Organization (ISRO) that specializes in the design and realization of satellite launch vehicles. To meet the increasing demand of launches, ISRO has decided to look forward to participation of private industries for the production and supply of launch vehicle systems and sub-systems. Among other technologies, Non Destructive Testing (NDT) is one of the key areas in which VSSC has been working since its inception and in this area also, Non-destructive testing through external parties/industries (VENDORS) is being explored. Non Destructive Testing is one of the Testing method being offered for testing under the Government Owned Company Operated (GOCO) mode.

Objective is to carry out NDT including X-Radiography testing (Film & Digital Radiography), film/Image processing, Neutron radiography, Ultrasonic testing, Interpretation and preparation of inspection reports of Space ordnance systems at VSSC and submit the inspection report by the VENDOR as per the schedule finalized by VSSC. All the necessary facilities, equipment, fixtures and raw materials shall be provided by VSSC.

**2.0 Scope of work**

NDT is one of the mandatory testing method to verify and ensure the quality of the Space Ordnance systems before supply to the Launch vehicles. There are different types NDT methods based on the requirements. The major activities include X-radiography testing, film/image processing, Neutron radiography testing, Ultrasonic testing, interpretation and preparation of inspection reports. The maintenance of process facility and upkeep of process logs, facility logs adhering to safety and quality norms also form part of the testing activity. Since the NDT is to be carried out in explosive and radiation area, the VENDOR should be conversant with safety

practices including radiation safety and carry out all the activities with utmost safety. VSSC will conduct overall safety surveillance for all the process activities.

It is envisaged that the GOCO CONTRACT shall be operated for an initial period of **2 years**. The first batch of each Space Ordnance systems of the CONTRACT will be a trial phase wherein VSSC will provide all the necessary training to the VENDOR in the testing, film/image processing and interpretation.

### **3.0 Facilities and Process Equipment provided by VSSC**

The facilities for carrying out NDT of Space Ordnance systems available at VSSC, Thiruvananthapuram will be provided to the VENDOR. Sharing of facility/equipment with VSSC, if required, will be done by proper scheduling jointly by VSSC & VENDOR. The major equipment required for testing are 450kV X-ray machine, 3.5/6 MeV LINAC, Ultrasonic testing equipment, film processing unit and consumables like X-ray film, film processing chemicals, Intensifying screen etc.

VSSC will provide logistic support like canteen facility, internal transportation etc for the VENDOR as per existing norms.

### **4.0 Major operations during NDT**

	<b>Operation</b>	<b>Activities involved</b>
4.1.	Identification of X-ray machine	Based on the drawing and material thickness, the type of X-ray machine has to be selected for carrying out the testing.
4.2.	Assembly/dis-assembly	Assembly of the pyro devices with proper fixture for carrying out NDT. After exposure, disassemble the items from the fixture.
4.3.	Film loading	Loading of suitable film in cassettes for carrying out radiography with proper converter screen at dark room.
4.4.	Radiography/Neutron radiography/Ultrasonic testing	Proper identification of items, keeping identification numbers in the cassettes and positioning of the film with items. Operation of the X-ray machine as per NDT plan.
4.5.	Film/Image processing	After exposure, processing of X-ray film in the dark room by manual / automatic film processing based on the requirement and drying of the X-ray film. During digital radiography the images needs to be processed using available software to aid the interpretation.
4.6.	Interpretation	Interpretation of the film & digital images based on the drawing and objectives.
4.7	Preparation of Inspection report	After interpretation of film/Digital images, preparation of the inspection report based on the objectives of the testing.
4.8	Documentation	Proper logging of exposure parameter and NDT observation of each item.

- 4.9. Radiation Monitoring Periodically monitor all the parameters/radiation levels using radiation monitoring equipment such as survey meters.
- 4.10. Safety Surveillance of all the activities and testing as per VSSC safety norms. Periodic reporting of safety lapses and corrective actions.
- 4.11 Radiation safety All the activities related to radiation should be under the supervision of qualified RSO.
- 4.15. Other activities Routine maintenance of X-ray equipment and accessories of the facility. Disposal of chemical waste.

## **5.0 Human Resource and HR policy**

- 5.1 The VENDOR shall provide the testing team (technical and skilled) for carrying out NDT of Space Ordnance Systems in VSSC. The screening of the proposed testing Team of VENDOR for their technical capability will be done by VSSC.
- 5.2 The Testing Team should be qualified and experienced and should possess requisite skill-sets for carrying out NDT.
- 5.3 Minimum two years' experience in NDT testing is required.
- 5.4 Team should have the certifications for NDT by BARC/ISNT/ASNT.
- 5.5 Personal monitoring system for the team working in the NDT has to be taken care of the VENDOR as per AERB/BARC regulatory procedure.
- 5.6 Minimum Production Team of about 8 personnel, comprising of Engineer (Mechanical Engineer – 2), Radiological Safety Officer -1 (BARC Level -2 in Radiography testing), Technical Assistant (Diploma - Mechanical) – 2 person and Technicians (ITI - Fitter)– 3 persons may be required to be deployed by the VENDOR for the NDT of Space Ordnance system in the GOCO mode in VSSC.
- 5.7 The VENDOR shall have an HR policy for retaining trained personnel. This is very essential since attrition would lead to derailment of production activities, affect safety, quality and delivery schedule.

## **6.0 Training of VENDOR personnel**

VSSC will impart necessary on-site training for the testing team deployed by the VENDOR during the first batch of each Space Ordnance systems in the testing, film processing and interpretation.

## **7.0 Other requirements**

- 7.1 **Security** : Testing Team shall comply with the security regulation of VSSC.
- 7.2 **Safety** : Testing Team shall follow all safety stipulations.
- 7.3 **Secrecy**: The VENDOR and their testing team shall abide by the INDIAN OFFICIAL SECRETS ACT in vogue and shall provide information of awareness of the above in writing.

## **8. Criteria for scrutiny of EOI proposals**

## **8.1 General**

The EOI shall contain complete information of the VENDOR, its human resources, infrastructure, assets, financial standing, line of business and credentials.

## **8.2 Essential criteria for evaluation of EOI**

8.2.1 VENDORS registered in India need only participate.

8.2.2 VENDORS Should have adequate know-how, in-house facilities, ISO certification, BARC/ISNT/ASNT qualified and skilled technical personnel. Minimum 2 years of experience in NDT testing is essential and documents related to experience to be furnished.

8.2.3 The Vendor should be a profit making Company during the last 3 financial years (FY – 2019-20, 2020-21&2021-22) ending 31st March of the corresponding year.

8.2.4 Certified copies from Chartered Accountant for the annual financial turnover and balance sheet showing profit/loss to be furnished.

8.2.5 In event of response from VENDORS already executing ISRO contracts, past performance will be considered.

8.2.6 The VENDOR should have an established management structure and shall possess human resources with adequate knowledge, skill and experience in the areas of NDT.

### **Note:**

1. For Clause No.8, all information provided by the VENDOR shall be supported with documentary evidence. Brochure, if any detailing the VENDOR profile may be submitted. Copy of the previous similar purchase/work orders executed by the VENDOR also may be appended.
2. The final evaluation of the responses will be based on inputs furnished against our criteria, assessment based on facility visit, if required, feedback from customers and overall assessment.

VENDORS who are meeting the requirements as specified in clause 8 of the EOI and are interested in associating with ISRO for NDT of Space ordnance system at VSSC, Thiruvananthapuram may submit their interest in writing along with copies of supporting documents for verification/evaluation at VSSC. Qualified VENDORS will be shortlisted and detailed proposals from such VENDORS will be solicited through a RFP.

*A checklist (Annexure -1) for the supporting documents to be submitted by the VENDOR along with the EOI is enclosed.*

**Checklist** for the supporting documents*(Filled checklist to be submitted by the Vendor along with the Expression of Interest)*

Sl.No.	Document/ Proof	Attached or Not-attached with EOI	Remarks
1.	Company registration details		
2.	Certified copies from Chartered Accountant for balance sheet showing profit/loss for the last 3 years (FY – 2019-20, 2020-1 & 2021-22)		
3.	Copy of previous purchase orders executed with ISRO/ Defense/ Aerospace sectors, if any		
4.	Company profile, management structure and human resources and their experience		
5.	Company brochure		
6.	Copies of similar purchase/work orders executed by the Company, if any		