भारत सरकार/**GOVERNMENT OF INDIA**
अंतरिक्ष विभाग/**DEPARTMENT OF SPACE**
विक्रम साराभाई अंतरिक्ष केंद्र/VIKRAM SARABHAI SPACE CENTRE
तिरुवनंतपुरम/**THIRUVANANTHAPURAM – 695 547**

विज्ञापन संदर्भ सं/.**Advt Ref No:VSSC/MVIT PUR/EOI/01-2025** दिनांक/**Date : 13.02.2025**

इसरो के प्रमोचन यान अनुप्रयोगार्थ क्यूयूएडी एसबीयू-क्यूबी तथा एसबीयू-क्यूबी एविओनिक पैकेजों के आद्योपांत संविरचन तथा आपूर्ति के लिए “अभिरुचि की अभिव्यक्ति”) ईओआइ(हेतु आमंत्रण

Invitation for “Expression of Interest” [EoI] for end-to-end fabrication and supply of QUAD SBU-QB and SBU-QB avionic packages for launch vehicle application of ISRO

इसरो के प्रमोचन यान अनुप्रयोगार्थ क्यूयूएडी एसबीयू-क्यूबी तथा एसबीयू-क्यूबी एविओनिक पैकेजों के आद्योपांत संविरचन तथा आपूर्ति के लिए प्रत्याशित बोली लगानेवालों से वीएसएससी ईओआइ आमंत्रित करता है। इच्छुक पार्टियां ,हमारे संदर्भ **706J 2024004508 01** का उद्धरण करते हुए, अपना ईओआइ ,मोहरबंद लिफाफे)हार्ड कॉपी (में निम्नलिखित पते पर दिनांक 25.03.2025 को 14:00 बजे या उससे पहले प्रस्तुत करें।

VSSC invites EoI from prospective bidders for end-to-end fabrication and supply of QUAD SBU-QB and SBU-QB avionic packages for launch vehicle application of ISRO. Interested parties may furnish their EoI in sealed envelope (hard copy) quoting our reference no. **706J 2024004508 01** on or before 25.03.2025 [14:00hrs] to the following address

वरिष्ठ क्रय एवं भंडार अधिकारी/Senior Purchase and Stores Officer,
क्रय यूनिट/Purchase Unit IV
एमवीआइटी ,वीएसएससी/MVIT, VSSC
वलियमला/Valiamala
तिरुवनंतपुरम/Thiruvananthapuram-695547

नियत तिथि एवं समय के बाद देर से आनेवाले प्रस्तावों पर किसी भी परिस्थिति में विचार नहीं किया जाएगा।
Late offers after due date and time, and request for due date extension will not be considered under any circumstances.

ईओआइ दस्तावेज़ हमारे वेबसाइट ,www.isro.gov.in तथा www.vssc.gov.in पर उपलब्ध हैं।
EoI documents are available at our website www.isro.gov.in and www.vssc.gov.in.

ईमेल/फैक्स द्वारा प्रस्तुत प्रस्ताव स्वीकार नहीं किया जाएगा। OFFER SUBMITTED BY EMAIL / FAX WILL NOT BE ACCEPTED.

हस्ताक्षरित/Sd/
वरिक्रयएवं.भंडार अधिकारी/Sr. Purchase & Stores Officer

Invitation for Expression of Interest

Vikram Sarabhai Space Centre (VSSC) propose to invite Expression of Interest (EoI) for “end to end fabrication and supply of QUAD STRAIN GAUGE BALANCING UNIT - QB (QUAD SBU-QB) and STRAIN GAUGE BALANCING UNIT - QB (SBU-QB) avionic packages for launch vehicle application of ISRO”

The objective of this EoI is to shortlist Aerospace On-Board avionic package fabricators[hereafter referred as fabricator] who are technically suitable for the “end to end fabrication and supply of QUAD SBU-QB& SBU-QB avionic packages for launch vehicle application of ISRO”. The period of contract will be for 2 (two) years from the effective date of contract (EDC), which can be extended for further one more year based on mutual agreement.Approximately 200nos of packages (100 nosof each type)will be required during the period of 2 years.

Fabricator shall be a reputed agency with adequate experience in the field offabrication and testing of aerospace on-board avionic packages and conversant with essential processing/manufacturingpractices, which are vital in the fabrication process. The vendor shall be an Indian company, registered inIndia.

For those parties whoseEoI is qualified, a pre-bid meeting (for submitting the two part bids) will be arranged after RFP is floated. The time and venue will be intimated to the parties well in advance.Participation in pre-bid meeting is mandatory in online mode.

EoI document can be downloaded from website www.isro.gov.in and the same shall be submitted after filling all the necessary information within the due date and time.EoI with all essential information shall reach the Senior Purchase and Stores Officer, Purchase Unit IV, Vikram Sarabhai Space, Centre, Valiamala Post, Thiruvananthapuram on or before 25.03.2025 [14:00HRS]. 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.

Senior Purchase and Stores Officer,
Purchase Unit IV,
Vikram Sarabhai Space Centre,
Valiamala P.O.,Thiruvananthapuram - 695547

Invitation for "Expression of Interest"

Expression-of-Interest is hereby invited from reputed Indian firms, for “end to end fabrication and supply (from component and material procurement to fabrication, testing and delivery)of QUAD SBU-QB and SBU-QB avionic packages for launch vehicle application of ISRO”.

1. Introduction

Strain gauge Balancing Unit (SBU) is a launch vehicle on-board avionic package which helps in monitoring the strain measurements. SBU package works on the wheatstone bridge balancing principle for strain measurement. SBUis 3-wire configuration package consisting of three precision resistors and one strain gauge which is the active arm bonded at the measurement location thus completing the bridge.

There are two configuration of SBU packages which are as follows

1. QUAD SBU-QB
   In QUAD SBU-QB package,4 strain measurement can be monitored. There are four similar circuits for monitoring the strains.

2. SBU-QB
   In SBU-QB package, 2 strain measurement can be monitored. There are two similar circuits for monitoring the strains.

QUAD SBU-QB and SBU-QB packages contains single PCB with single connector with components on single side. The unit contains MIL grade electronic components.Approximately 100 no of solder joints and 20 no of electronic components are there in QUAD SBU package. Approximately50 no of solder joints and 10 electronic components are there in SBU-QB package. A dedicated test setup is required for testing of the package. Manual electronic fabrication process is involved.

Mechanical chassis of both packages are different. The overall package dimensions are 75mm x 75mm x 20mm.

2. Scope of work

2.1 Procurement of electronic components, PCBs, Chassis raw material, Fasteners and Helicoil inserts by the party from VSSC approved suppliers as per the parts list.

2.2 Inspection and acceptance testing of PCBs by the party from VSSC approved vendors.

2.3 Screening of electronic components as per VSSC standards by the party or by VSSC approved vendors. If the party is carrying out the screening, the screening facility must be accredited by VSSC.

2.4 Fabrication, inspection and clearance of chassis by the party or from VSSC approved vendors.

2.5 Development, Fabrication and qualification of the test setup for testing the cards and assembled package. The setup require power supply, digital multi meter, precision resistor, resistor and ammeter.The test setup must be certified by VSSC prior to employing

2.6 Fabrication, Card Level Testing and conformal coating of SBU-QB and QUAD-SBU cards.

2.7 Inspection and assembly

2.8 Package level functional testing of the package at SRC.

2.9 Preparation of production file and delivery to VSSC. Production records can be filled at the time of fabrication activity in real time which may be scanned and send to VSSC in write protected pdf. If party is having necessary ERP system for online logging that also is acceptable if it meets VSSC requirement.

2.10 Before conformal coating, clear photographs of both sides of PCB is to be taken and attached in the production file.

2.11 Each and every step of production is to be inspected and cleared by online QC inspectors according to the VSSC QC plans. Documentary proof of each and every step must be produced along with the package.

2.12 The workmanship standards and handling of components and packages shall be according to the reference documents provided by VSSC.

2.13 The safe delivery of packages within identified damage free containers to VSSC.

2.14 Realization of initial 2 packages will be done in handholding mode including the QC support and guidance. Later, the party only should execute the entire set of activities.

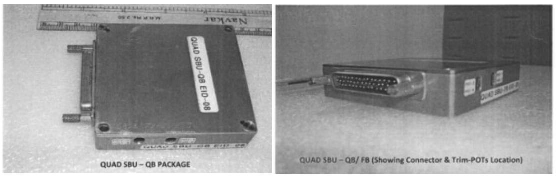
3. Inputs provided by VSSC

3.1 All the production details, inspection and log format samplesrequired for fabrication will be provided as soft copy

3.2 Sample photographs of the cards and package

3.3 Package user manual, Test plan document and checklists required for testing as soft copy

3.4 All the necessary consultation and clarifications during fabrication, if any required



Sample photograph – QUAD SBU package

Typical Test Matrix

- Passive parameter checks
  - Continuity checks
  - Chassis isolation checks
  - Resistance measurement
- Functional parameter checks
  - Power ON checks
  - Drift measurement
  - Strain simulation & output polarity checks

4. Essential Eligibility criteria

4.1 The party shall be able to start supply of packages within 10 months from the date of effective date of contract (EDC).

4.2 All the consumables like flux, solder, isopropyl alcohol etc. required for production is to be sourced by the party from the VSSC approved Preferred Material List (PML) and to be tested at NABL accredited labs prior to using. VSSC approved Preferred Material List (PML) will be shared with selected parties.

4.3 All manual soldering and package assembly operations are to be carried out by personneltrained and certified for fabrication of onboard avionic packages for aerospace application. QC personnel also must be trained and certified for inspection and quality control of onboard avionic packages for aerospace application.

4.4 The party should have ISO9001:2015 certification.

4.5 The party also should have ISRO/ NADCAP / AS9100 certification.

4.6 Electronic operators and inspectors shouldbeIPC-A-610 / ISRO certified.

4.7 Parties who are having minimum 3 years of experience in the field of fabrication (soldering, assembly, testing, conformal coating etc.) of avionic packages for aerospace on board applications only will be considered.

4.8 The party must have adequate facilities needed for soldering area, handling, transportation & storage of avionic packages and components at their own.The following facilities are must

- a) A class 100000 or better, ESD protected clean room with areagreater than 185 square meter.
- b) Clean room temperature shall be maintained at 22±3 degC and RH should be maintained 55±5% at room temperature.
- c) Separate storage facility for screened / unscreened/ semi-finished and finished products.
- d) Storage facilities with 55±5% RH for storing finished / semi-finished products and components
- e) Separate area for tinning, conformal coating and package assembly is to be ensured
- f) Soldering activities and stations compatible with IPC-A-610 and IPC-J-STD-001.

4.9 A technical team with Electronics and Mechanical engineers and technicians with adequate experience in the field is required.

4.10 The party will be responsible for the quality of the finished product. Deviation / violations, if any found during production or after supply of the product, legal actions suitable will be initiated against the party.

4.11 A warranty of minimum one year from date of receipt of packages at our stores is to be provided by the party. The package will be tested and evaluated by VSSC / authorized parties. Failures / deviations noticed if any (fabrication, material related) is to be rectified by the party free of cost.

4.12 Payments will be made within 30 days from the date ofreceiptand acceptance of package. **No advance payment will be paid for the procurement of components and development of checkouts**. Payment will be made only at the time of delivery of packages. Parties who can financially manage this only need to submit the EoI.

4.13 The full ordered quantity need not be delivered all together. The fabricated and tested packages can be delivered in batches. The minimum number of package in a batch can be five. Batch size will be communicated by VSSC for each delivery.

4.14 The vendor shall be an Indian company, registered in India.

4.15 All the operations of fabrication are to be carried out in India. Materials for chassis and PCBs are to be sourced from VSSC approved Indian sources. Electronic components can be of any make approved by VSSC. These details will be shared later.

4.16 The vendor shall be a reputed agency with adequate experience in the field ofprocessing/manufacturing/quality control practices of avionic packages for aerospace on board applicationswhich are vital in the fabrication process.

4.17 Shall possess knowledge and awareness of the related quality practices

4.18 Shall possess human resource with adequate knowledge, skill and experience in theareas of manufacturing and testing of avionic packages.

4.19 Vendor shall satisfy all mandatory clauses including GST registration, registrationwith labor department, etc., for running industrial facilities in India.

4.20 The development of checkout system, procurement of electronic components which include MIL devices and other materials including consumables is the responsibility of the vendor.

4.21 The offers for execution of job in part will not be accepted. Vendor shall be readyto undertake end to end production as explained already.

4.22 Parties black listed by ISRO or by any Government of India organization will not be considered.

4.23 **No mention of price shall be given in the EoI**. If any mentioning about the cost /price is made in the EoI, the same will be summarily rejected

4.24 All fabrication activities including parts screening and mechanical fabrication are to be carried out only at VSSC accredited facilities.

4.25 The vendor must go through the annexure-1 Part-A checklist for compliance and fill agree or disagree for particulars.

5. Documentary proofs to be submitted along with EoI

5.1 Company profile, manpower strength, financial standing and line of business including the area of experience and expertise. Overall manpower and nature of works carried out, company brochure etc.

5.2 Certified copies of annual financial turnover by chartered accountant, audited balance sheets showing profit/loss, income tax statement and annual report for the last 3years. Companies which are in loss continuously for last three years will not be considered.

5.3 MSMEs will be given preferences as per Govt.of India norms

5.4 Details of major customers of the company. Copy of at least three purchase orders released to the party by reputed aerospace industries in the related field (onboard avionic package fabrication and testing including soldering, assembly, testing, conformal coating etc.) during the last 3 years and executed by them is to be submitted along with EoI.

5.5 The vendor must ensure themselves that they fulfill the eligibility criteria mentioned at para 5 above before submitting the offer.

5.6 The vendor must go through the annexure-1 Part-B for attaching the documentary proof.

6. Submission and evaluation of EoI

Mode of submission of EoI: Vendor shall furnish their interest in participating in this bid in their own letterhead with details of Contact person(s). **No mention of price shall be given in the EoI**. EoI with any price details will be summarily rejected. Vendor shall furnish theEoI in the following format.

Part A: A covering note, expressing the interest to participate in the bid. This is to be prepared on company's letter head and signed by the authorized signatory.

Part B: Declaration on the understanding by the vendor about the work as per the details given including, plan of procurement of materials and components, assembly and testing

Part C: Documentary evidences towards fulfilling the eligibility criteria as given in above sections

Part D: Filling up the check-list given as Annexure-1 Part-A, Part-B & Part-C.

7. Evaluation of EoI and further proceedings

Based on the EoIs received, vendors will be shortlisted by VSSC, by assessing their competence and ability to meet the specified criteria and experience submitted. VSSC may also choose to visit the vendors' office/project sites/facilities, if deemed necessary. ISRO / VSSC reserves the right to accept or reject any EoI. A detailed RFP (Request for Proposal) will be issued to the short-listed parties for submitting detailed offer in two-part bid mode. In the two part bid, price bids will be opened only for the technically qualified vendors who are meeting all conditions in RFP.

8. Vendors for subcontract / material procurement

The party can subcontract work / procure materials from VSSC accredited vendors only. The party should consult with VSSC as and when required for the status of accreditation of vendors for various operations / materials. At any instant of time subcontract of work / material procurement should be done with VSSC accredited vendors only. If the party is going to subcontract any activity, the same is to be informed VSSC well in advance.

#	Activity	Subcontracting Allowed
1.	Procurement of electronic components, PCB, Chassis raw material, fasteners and helicoil inserts	**No.** To be done by party. Procured from OEM / Authorized dealer /VSSC accredited suppliers
2.	Chassis fabrication	**Yes.** From VSSC accredited vendors
3.	Chassis surface protection (dichromation)	**Yes.** From VSSC accredited vendors
4.	Screening of electronic components and connectors	**Yes.** From VSSC accredited vendors
5.	DPA of electronic component samples	**Yes**
6.	Inspection and acceptance testing of PCBs (micro section, BBT)	**Yes.** From VSSC accredited vendors only
7.	Acceptance inspection of mechanical chassis and fasteners	**No.** To be done by party
8.	Storing of components, PCB, chassis, fasteners, semi-finished and finished products	**No.** To be stored at party's storage facilities
9.	Development and Fabrication of the test setup	**Yes**
10.	Manual soldering of PCBs	**No.** To be done by party
11.	Card Level Testing and conformal coating	**No.** To be done by party
12.	Assembly of package	**No.** To be done by party
13.	Package level testing	**No.** To be done by party
14.	Preparation of production files	**No.** To be done by party
15.	Delivery of package to VSSC	**No.** To be done by party
Activity 2, 3, 4, 5, 6 and 9can be taken up by the party themselves also. In such cases prior permission from VSSC to be obtained.		

9. Non-Disclosure Agreement

9.1 The vendor shall ensure appropriate protection of Intellectual Property Rights involved in the work, consistent with VSSC policy.**Non-Disclosure Agreement (NDA)** shall be executed in Rs 200/- Non Judicial stamp paper in this regard which will be as follows.

9.1.1 Details of any document, whatsoever, submitted to vendor by VSSC shall not be disclosed to any third party, without prior written consent from competent authority in VSSC.

9.1.2 All information and documents to be exchanged pursuant to the contract shall be kept confidential by the vendor. The vendor will not use the information for purposes other than that specified without prior written consent of VSSC.

9.1.3 All confidential information provided by VSSC shall remain as exclusive property of VSSC. The vendor shall agree that this contract and the disclosure of the confidential information do not grant or imply any license, interest or right to the vendor in respect to any intellectual property.

9.1.4 The vendor shall not sub-license, assign or sub-assign partly or fully the activities, rights, obligations, permissions, etc. received from VSSC in the contract to third parties, under any circumstances without prior consent from VSSC.

9.1.5 If any violation happens in the above conditions, legal actions found to be suitable will be initiated against the party.

9.1.6 **Secrecy:** The vendor and all their personnel shall abide by INDIAN OFFICAL SECRETS ACT 1923invogue and shall provide information of awareness of the above in writing.

9.1.7 **Production and Marketing:**The product realized under the EoI will be the exclusive property of VSSC.

10. Pre-Bid Discussion

Pre-bid meeting (for submitting 2 part technical and commercial bid) either online or offline will be conducted after the publishing of Two Part Tender, for those parties whose EoI is qualified. The time of meeting will be informed well in advance.

11. Disclaimer

This call for EoI shall not be treated as a firm commitment or contract from VSSC/ISRO with any of the participating vendors.

Annexure - 1 Part-A

Checklist for the compliance by vendor (Filled checklist to be submitted by the Vendor along with the Expression of Interest)

Sl No	**Compliance**	**Agree/Disagree**	**Remarks**
1.	The party shall be able to start supply of packages within 10 months from the date of effective date of contract (EDC). (Refer 4.1 of EoI)		
2.	All the consumables like flux, solder, isopropyl alcohol etc. required for production is to be sourced by the party from the VSSC approved Preferred Material List (PML) and to be tested at NABL accredited labs prior to using. (Refer 4.2 of EoI)		
3.	All manual soldering and package assembly operations are to be carried out by personnel trained and certified for fabrication of onboard avionic packages for aerospace application. QC personnel also must be trained and certified for inspection and quality control of onboard avionic packages for aerospace application. (Refer 4.3 of EoI)		
4.	Electronic operators and inspectors should be IPC-A-610 / ISRO certified. (Refer 4.6 of EoI)		
5.	A class 100000 or better, ESD protected clean room with area greater than 185 square meter (Refer 4.8a of EoI)		
6.	Clean room temperature shall be maintained at 22±3 degC and RH should be maintained 55±5% at room temperature(Refer 4.8b of EoI)		
7.	Separate storage facility for screened / unscreened/ semi-finished and finished products(Refer 4.8c of EoI)		
8.	Storage facilities with 55±5% RH for storing finished / semi-finished products and components (Refer 4.8d of EoI)		
9.	Separate area for tinning, conformal coating and package assembly is to be ensured (Refer 4.8e of EoI)		

Sl No	Compliance	Agree/Disagree	Remarks
10.	Soldering activities and stations compatible with IPC-A-610 and IPC-J-STD-001 (Refer 4.8f of EoI)		
11.	Skilled man power availability for fabrication and testing of package(Refer 4.9 of EoI)		
12.	The party will be responsible for the quality of the finished product. Deviation / violations, if any found during production or after supply of the product, legal actions suitable will be initiated against the party. (Refer 4.10 of EoI)		
13.	A warranty of minimum one year from date of receipt of packages at our stores is to be provided by the party. The package will be tested and evaluated by VSSC / authorized parties. Failures / deviations noticed if any (fabrication, material related) is to be rectified by the party free of cost. (Refer 4.11 of EoI)		
14.	Payments will be made within 30 days from the date of receipt and acceptance of package. No advance payment will be paid for the procurement of components and development of checkouts. Payment will be made only at the time of delivery of packages. (Refer 4.12 of EoI)		
15.	All the operations of fabrication are to be carried out in India. Materials for chassis and PCBs are to be sourced from VSSC approved Indian sources. Electronic components can be of any make approved by VSSC. (Refer 4.15 of EoI)		
16.	Shall possess knowledge and awareness of the related quality practices (Refer 4.17 of EoI)		
17.	The development of checkout system, procurement of electronic components which include MIL devices and other materials including consumables is the responsibility of the vendor. (Refer 4.20 of EoI)		

Sl No	Compliance	Agree/Disagree	Remarks
18.	The offers for execution of job in part will not be accepted. Vendor shall be ready to undertake end to end production as explained already. (Refer 4.21 of EoI)		
19.	**No mention of price shall be given in the EoI**(If any mentioning about the cost /price is made in the EoI, the same will be summarily rejected) (Refer 4.23 of EoI)		
20.	All fabrication activities including parts screening and mechanical fabrication are to be carried out only at VSSC accredited facilities. (Refer 4.24 of EoI)		

Annexure – 1 Part-B

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

Sl No	Document / Proof	Attached (Yes/ No)	Remarks
1.	The party should have ISO9001:2015 certification.(Refer 4.4 of EoI)		
2.	The party should have ISRO/ NADCAP / AS9100 certification.(Refer 4.5 of EoI)		
3.	Indian company, registered in India. Company registration details. (Refer 4.14 of EoI)		
4.	Vendor shall satisfy all mandatory clauses including GST registration, registration with labor department, etc., for running industrial facilities in India. (Refer 4.19 of EoI)		
5.	Company profile, manpower strength and line of business including the area of experience and expertise. Overall manpower and nature of works carried out. (Refer 5.1 of EoI)		
6.	Certified copies of annual financial turnover by chartered accountant, audited balance sheets showing profit/loss, income tax statement and		

Sl No	**Document / Proof**	**Attached (Yes/ No)**	**Remarks**
	annual report for the last 3 years. (Refer 5.2 of EoI)		
7.	Details of major customers of the company. Copy of at least three purchase orders released to the party by reputed aerospace industries in the related field (onboard avionic package fabrication and testing including soldering, assembly, testing, conformal coating etc.) during the last 3 years and executed. (Refer 5.4 of EoI)		

Annexure – 1 Part-C

Checklist for the additional information required from Vendor (Filled checklist to be submitted by the Vendor along with the Expression of Interest)

Sl No	**Information required**	**Answer**
1.	Whether party is black listed by ISRO or any other Government of India organization (Refer 4.22 of EoI)	
2.	Available controlled work Area for electronic package fabrication in square meter	