

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
VIKRAM SARABHAI SPACE CENTRE (VSSC)
THIRUVANANTHAPURAM**

Tender for LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT)

Bids to be submitted online

Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202100334201 dated 31-08-2021

A. Tender Details

Tender No : **VSSC/PURCHASE UNIT III (SPRE)/VS202100334201**

Tender Date : **31-08-2021**

Tender Classification: **GOODS**

Purchase Entity : **PURCHASE UNIT III (SPRE)**

Centre : **VIKRAM SARABHAI SPACE CENTRE (VSSC)**

Procurement of LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT)

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A.1 Tender Schedule

Bid Submission Start Date : **31-08-2021 18:00**

Bid Clarification Due Date : **21-09-2021 14:00**

Bid Submission Due Date : **24-09-2021 14:00**

Bid Opening Date : **24-09-2021 14:01**

Price Bid Opening Date : **22-10-2021 14:00**

B. Tender Attachments

Technical Write-up/Drawings

Document : specs for LVDT

Instructions To Vendors

2. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER where the indent value is Rs. 2.00 lakhs & above for indigenous stores items

1. Preference will be given to those tenders offering supplies from ready stocks and on the basis of FOR destination/delivery at site.

2. REJECTED STORES:

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

3. The term 'Stores' shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

4. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

5. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

6. TERMS & CONDITIONS OF TENDER

7. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.
8. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.
9. The authority of the person signing the tender, if called for, should be produced.
10. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.
11. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.
12. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.
13. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.
14. The term Purchaser shall mean the President of India or his successors or assigns.
15. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of

nonacceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

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16. ACCEPTANCE OF STORES:

(a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.

(b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.

(c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor.

(d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

17. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

18. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

19. GUARANTEE & REPLACEMENT:

(a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.

(b) For a period of twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty.

(c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.

(d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

(e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of 12 months or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser)

20. PACKING FORWARDING & INSURANCE: The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

21. PRICES: Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

22. a) Your offer should be valid for 90 days from the date of opening of the tender.

b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

23. d) The term 'Purchase Order' shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

3. PPP Make in India(Divisible Items-All Classes of Suppliers)

1. 14. The Public Procurement (Preference to Make in India), Order 2017 issued by Govt. of India indicates that if there are any general or specific restrictive clauses to restrict participation of Indian companies in those countries procurement tenders, reciprocity clause need to be invoked as per the order. Hence, if ISRO or Govt. of India come across that Indian suppliers of an item are not allowed to participate and / or compete in procurement by your government, the bid submitted by you will be not be considered and excluded from eligibility for procurement. Please note this point.
2. 13. False declarations will be in breach of code of the integrity for which a bidder or its successor's will not be eligible/debarred for purchase preference from further tenders / pending tenders for two years along with other actions as may be applicable.
3. 12. In case of a complaint received from any local supplier indicating a need for review / verification of Local content of successful vendor / awarded vendor, for accepting a complaint from such complainant (w.r.t the false declaration given by the successful vendor on the local content), a complaint fee of Rs.2Lakhs or 1% of the locally manufactured items being procured (subject to a maximum Rs. 5Lakhs), whichever was higher, to be paid by demand draft by the complainant. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.
4. 11. The ink-signed certificate shall be provided on vendors letter head along with the offer (in case of online tender, copy of ink-signed certificate shall be uploaded along with your offer under concerned tab. Original in Hard copy shall be produced on request). In case of non-submission of certificate, the purchase preference shall not apply.
5. 10. A committee (with an external expert from a practicing cost accountant or practicing chartered accountant, if required) constituted for independent verification shall verify the self-declarations & auditor's / accountant's certificates on random basis, as per the requirements.
6. 9. In cases the quoted price is in excess of Rs.1000 Lakhs (including duties, taxes and freight & Insurance) the 'Class-I & II local supplier shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in case of suppliers other than companies) giving the percentage of local content.
7. 8. The 'Class-I & II local supplier' should provide a "Self Certification" along with technical offer indicating that the item offered meets the minimum local content [as per Sl. No.(3)] as called for in the tender and provide the percentage of local content along with details of the location(s) at which the local value addition is made. In case of two bid tenders, it is mandatory to indicate compliance to

MLC(minimum Local Content) in technical bid zone.

8. 7. Purchase Preference Policy:- Goods/Works which are divisible in nature (required quantity is greater than 1 or not a package basis):

- i.If L1 is 'Class-1 local supplier', the order/contract for full quantity shall be awarded to L1 bidder.
- ii.If L1 bid is not from a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance).
- iii.In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In cases where none of the 'Class-I local supplier' within the margin of purchase agree to match L1 price, in such cases 100% quantity shall be ordered on original L1 bidder.
- iv.In case no offers are received from 'Class-I local supplier' or none of the 'Class-I local supplier' falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor.
- v.In case L1 bidder (not a 'Class-I local supplier') is not accepting splitting of order on 50:50 basis, in that case the order/contract shall be awarded to such 'Class-I local supplier' for full quantity subject to matching the L1 price.
- vi.Regarding MSEs (Indian vendors):
 - a) The following additional aspect as indicated below would be applicable for procurement which are falls under divisible category (i.e., not applicable for indivisible category), in case of participation of MSEs in the tendering who are also complying to the Minimum Local Content (MLC) stipulated in the tender.
 - b) If any Indian vendor satisfies the requirement of MSEs stipulation and also falls within the purchase preference margin as called for in MSME policy (in case of matching L1 price) will be considered for ordering 25% of tendered quantity, the balance quantity / works will be considered for distribution amongst all bidders (including MSEs) as per the purchase preference policy.
 - c) In case no MSEs qualifies for purchase preference or do not match with L1 price then the total tendered quantity will be distributed amongst all bidders as per the purchase preference policy.

9. 6. Works means all works as per Rule 130 of GFR- 2017, and will also include 'turnkey works'. Works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

10. 5. 'L1' means the lowest technically accepted tender / bid / quotation (i.e. lowest landed cost including duties, taxes and freight & Insurance).

11. 4. 'Margin of purchase preference' means the maximum extent to which the price quoted by the "Class-I local supplier" above the L1 (landed cost).

12. 3. The margin of Purchase Preference shall be up to 20%.

13. 2. 'Local content' means the amount of value added in India (i.e. indigenous items/services added in the offered products/ services/ works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent.

14. 1. Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: i. Equal to or more than 50%: Class-I local supplier. ii. More than 20% but less than 50%: Class-II local supplier. iii. Less than or equal to 20%: Non-local supplier.

15. a) The subject item falls under divisible category. b) The offers are sought from all classes of suppliers.

16. In line with Public Procurement (Preference to Make in India), Order 2017 & its amendments issued by Govt. of India from time to time with a view to support the Indian industries, ISRO has implemented "Purchase Preference Policy". The "Purchase Preference" is applicable for the "Class-I Local Supplier" for the goods/ services/ works covered in this tender, subject to the following terms & conditions:-

C. Bid Templates

C.1 Technical Bid - LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT)

1. LINEAR VARIABLE DIFFERENTIAL TRANSDUCER (LVDT) -displacement range +/- 1 mm

Item specifications for LINEAR VARIABLE DIFFERENTIAL TRANSDUCER (LVDT)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Specification of LVDT	LVDT	Yes / No / Explain		
2	Measuring range	plus/ minus 1 mm (or near to same range)	Yes / No / Explain		
3	Linearity	lesser than equal plus/ minus 3 μ m or better than that	Yes / No / Explain		
4	Repeatability	lesser than equal to 0.15 μ m or better than that	Yes / No / Explain		
5	Temperature stability	lesser than equal to 70 ppm FSO/K, lesser than equal to 150 ppm FSO/K or better than that	Yes / No / Explain		
6	Sensitivity	~133 mV / mm/V or better than that	Yes / No / Explain		
7	Excitation frequency	~5 kHz	Yes / No / Explain		
8	Excitation voltage	~550 mV	Yes / No / Explain		
9	Connection	Party has to provide suitable connections like 5 pin connector /military connector/ suitable one	Yes / No / Explain		
10	Cable length	5 mtr extra cable length for connecting to data acquisition system	Yes / No / Explain		
11	Temperature range	minus 40 ... plus 80 deg C	Yes / No / Explain		
12	Pressure resistance	Pressure resistant up to 100 bars	Yes / No / Explain		
13	Shock	~40 g / 6 ms in 3 axes, 1000 shocks each	Yes / No / Explain		

14	Vibration	Plus/ minus ~1.5 mm(or lesser than that) / 10 to 58 Hz in 2 axes	Yes / No / Explain		
15	Protection class	IP67 (plugged)	Yes / No / Explain		
16	Material	stainless steel	Yes / No / Explain		
17	Diameter	Not more than 25 mm	Yes / No / Explain		
18	Compatibility	Compatible with the data acquisition system (analogue measurement)	Yes / No / Explain		
19	Software	Suitable software for data acquisition, real time display, and storage in laptop	Yes / No / Explain		
20	Warranty	1 year minimum for LVDT and controller	Yes / No / Explain		
21	Calibration chart	Calibration chart(voltage vs displacement) to be provided	Yes / No / Explain		
22	Terms and conditions	Installation and demonstration at VSSC site by supplier	Yes / No / Explain		
23	Software display	Software shall be able to display four or more channel data in a single window.	Yes / No / Explain		

2. Sensor Assembly-sensor cable-5 mtr

Item specifications for Sensor Assembly

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	sensor cable	5 mtr	Yes / No / Explain		

3. DATA ACQUISITION SYS- four channel data acquisition system and software

Common Specifications (Applicable for all items)

Sl No	Specification	Value	Compliance	Offered Specification	Remark
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1	Specification of LVDT	LVDT	Yes / No / Explain		
2	Measuring range	plus/ minus 1 mm (or near to same range)	Yes / No / Explain		
3	Linearity	lesser than equal plus/ minus 3 μ m or better than that	Yes / No / Explain		
4	Repeatability	lesser than equal to 0.15 μ m or better than that	Yes / No / Explain		
5	Temperature stability	lesser than equal to 70 ppm FSO/K, lesser than equal to 150 ppm FSO/K or better than that	Yes / No / Explain		
6	Sensitivity	~133 mV / mm/V or better than that	Yes / No / Explain		
7	Excitation frequency	~5 kHz	Yes / No / Explain		
8	Excitation voltage	~550 mV	Yes / No / Explain		
9	Connection	Party has to provide suitable connections like 5 pin connector /military connector/ suitable one	Yes / No / Explain		
10	Cable length	5 mtr extra cable length for connecting to data acquisition system	Yes / No / Explain		
11	Temperature range	minus 40 ... plus 80 deg C	Yes / No / Explain		
12	Pressure resistance	Pressure resistant up to 100 bars	Yes / No / Explain		
13	Shock	~40 g / 6 ms in 3 axes, 1000 shocks each	Yes / No / Explain		
14	Vibration	Plus/ minus ~1.5 mm(or lesser than that) / 10 to 58 Hz in 2 axes	Yes / No / Explain		
15	Protection class	IP67 (plugged)	Yes / No / Explain		
16	Material	stainless steel	Yes / No / Explain		
17	Diameter	Not more than 25 mm	Yes / No / Explain		
18	Compatibility	Compatible with the data acquisition system (analogue measurement)	Yes / No / Explain		

19	Software	Suitable software for data acquisition, real time display, and storage in laptop	Yes / No / Explain		
20	Warranty	1 year minimum for LVDT and controller	Yes / No / Explain		
21	Calibration chart	Calibration chart(voltage vs displacement) to be provided	Yes / No / Explain		
22	Terms and conditions	Installation and demonstration at VSSC site by supplier	Yes / No / Explain		
23	Software display	Software shall be able to display four or more channel data in a single window.	Yes / No / Explain		

Supporting Documents required from Vendor

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	SUPPLY AT VSSC	Yes / No / Explain	
2	Any Other Terms	-	
3	Taxes and other costs, if any . [Note: VSSC is a Public Funded Research Institution under the administrative control of Department of Space and is eligible for partial exemption of IGST @5% vide Notfn No. 45/2017, 47/2017 dt 14.11.2017 respectively. Necessary IGST EXEMPTION CERTIFICATE shall be issued.]	Yes / No / Explain	
4	Security Deposit (Applicable if Offer Value is Rs. 5 Lakhs or above. MSME/NSIC Units are NOT EXEMPTED from the payment of SD. Bank Guarantee @ 3% of Order Value valid till 60 days from the date of supply to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
5	Delivery Terms.	Yes / No / Explain	
6	Warranty	Yes / No / Explain	
7	Performance Bank Guarantee (PBG) Bank Guarantee @ 3% of Order Value valid till the completion of warranty period plus 2 months claim period to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of warranty obligations, PBG will be forfeited).	Yes / No / Explain	

8	Payment Term: (Our Default payment term: For indigenous orders: 100% within 30 days after receipt and acceptance of item at our site. For import cases: 100% by Sight Draft with Bank Charges to respective accounts. NOTE: CONSEQUENT TO COVID 19 PANDEMIC AND AS PER EXTANT GUIDELINES FROM DEPARTMENT OF SPACE, NO ADVANCE PAYMENT IS PAYABLE TO THIS TENDER).	Yes / No / Explain	
9	Delivery Period	Yes / No / Explain	
10	Liquidated Damages (Applicable beyond the delivery period mentioned in this tender @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value. Mandatory compliance required).	Yes / No / Explain	
11	PO Ordering Address with Name and Contact Details of Sales Person concerned (e-mail and phone number).	Yes / No / Explain	
12	Foreign vendors are not permitted to quote.	-	
13	Only Class-I and Class-II Local suppliers as per Make in India Policy are eligible to participate in the bid.	-	
14	a. The percentage of local content should be specifically mentioned in the offer, without which it will be summarily rejected. b. Preference will be given to Class-I Local Supplier and in their absence, Class-II Local Supplier will be considered	-	
15	Last minute clarification on tenders will not be entertained.	-	
16	This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted.	-	
17	Any Other Terms	-	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Documentation & Handling charges	Remark
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1	LINEAR VARIABLE DIFFERENTIAL TRANSDUCER (LVDT) - displacement range +/- 1 mm	4.00 Nos.		-			
2	Sensor Assembly-sensor cable-5 mtr	4.00 Nos.		-			
3	DATA ACQUISITION SYS-four channel data acquisition system and software	1.00 Nos.		-			