

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

**Tender for MULTI FREQUENCY MULTI CONSTELLATION GNSS  
RECEIVER**

**Bids to be submitted online**

**Tender No.: VSSC/PURCHASE UNIT II (AVN)/VS202300614401 dated 13-05-2024**

## A. Tender Details

Tender No : **VSSC/PURCHASE UNIT II (AVN)/VS202300614401**

Tender Date : **13-05-2024**

Tender Classification: **GOODS**

Purchase Entity : **PURCHASE UNIT II (AVN)**

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

## **MULTI FREQUENCY MULTI CONSTELLATION GNSS RECEIVER**

MULTI FREQUENCY MULTI CONSTELLATION GNSS RECEIVER

### A.1 Tender Schedule

Bid Submission Start Date : **13-05-2024 11:00**

Bid Clarification Due Date : **20-05-2024 11:00**

Bid Submission Due Date : **10-06-2024 14:00**

Bid Opening Date : **10-06-2024 15:00**

Price Bid Opening Date : **24-06-2024 15:00**

## **B. Tender Attachments**

NA

### **Instructions To Vendors**

#### **1. Conditions for BIDDER FROM A COUNTRY WHICH SHARES LAND BORDER WITH INDIA - Restrictions under Rule 144 (XI) in GFR, 2017.**

1. Any bidder from a country which shares a land border with India will be eligible to bid in this tender, only if the bidder is registered with the Competent Authority. Competent Authority for the purpose of registration shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).
2. Any false declaration and non-compliance of the above would be a ground for immediate rejection of offer or termination of the contract and further legal action in accordance with the laws.
3. Validity of Registration: Registration should be valid at the time of submission of bids and should be valid at the time of placement of order.

#### **2. PPP Make in India(Divisible Items-Class I & II Local Suppliers)**

1. 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.
2. a) The subject item falls under divisible category. b) The offers are sought from Class I & II Local Suppliers.
3. 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.
4. 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.
5. 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.

6. 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. 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:-

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

9. '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.

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

11. 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 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.

12. 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.

13. 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.

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

15. 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.

16. 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.

## C. Bid Templates

### C.1 Technical Bid - MULTI FREQUENCY MULTI CONSTELLATION GNSS RECEIVER

#### 1. Multi-frequency GNSS Receiver

##### Item specifications for Multi-frequency GNSS Receiver

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Specification description	Specification requirements	Yes / No / Explain		
2	Tracking of multi-constellation GNSS System	GPS, GLONASS, GALILEO, COMPASS, NAVIC, and SBAS	Yes / No / Explain		
3	Multi-frequency signal reception	L1 ,L2, L5, E1, E5a, E5b, E6, AltBoc	Yes / No / Explain		
4	Sufficient hardware channels for simultaneous tracking of all visible satellites	> 500	Yes / No / Explain		
5	Crystal Oscillators	Ultra low noise Oven Controlled crystal Oscillators	Yes / No / Explain		
6	Choke Ring Antenna	Should track L1, L2, L5, E1, E5a, E5b, and E6 signals, Minimum Gain : 39 dB, Maximum Noise : 2.6 dB, Operating Temp : -50 to +60 deg C	Yes / No / Explain		
7	Lossless cables	30 meters (Loss < 0.2 dB / m or better for L Band Signals)	Yes / No / Explain		
8	On-board data logging facility	10 GB or better	Yes / No / Explain		
9	Ethernet and USB interface ports	Capable to be used at USB 3.0, USB 2.0 ports, Ethernet and wireless ports	Yes / No / Explain		
10	Temperature range of operation	-50 and 60 degree centigrade	Yes / No / Explain		
11	Software for Position, TEC, and scintillation indices estimation	GUI based System control unit	Yes / No / Explain		

12	Deliverable :	TEC, S4 index, time series of signals' phase and amplitude at 100 Hz frequency	Yes / No / Explain		
13	TEC Accuracy	< 1 TECu	Yes / No / Explain		
14	S4 index accuracy	< 0.01	Yes / No / Explain		
15	Position accuracy	0.25 m (horizontal), and 0.5 m (vertical)	Yes / No / Explain		
16	Velocity accuracy	1 cm/s	Yes / No / Explain		
17	Time accuracy	< 10 nsec	Yes / No / Explain		
18	Auto health check monitoring system	1 min updates	Yes / No / Explain		
19	System control and data display unit	Rugged portable system compatible with pre-loaded receiver software (integrated with receiver system)	Yes / No / Explain		
20	Specification for system control Unit		-		
21	Processor	Intel core i7, 2.5 Ghz, 8th generation core or better	Yes / No / Explain		
22	RAM	16 DDR4 GB or better	Yes / No / Explain		
23	HDD	2 TB or more compatible	Yes / No / Explain		
24	Ports	USB 3.0, USB 2.0 ports, Ethernet and wireless ports	Yes / No / Explain		
25	Operating system	Windows 10 or better	Yes / No / Explain		
26	Additional data backup system	External 4 TB data storage unit or better	Yes / No / Explain		
27	Warranty	3 years	Yes / No / Explain		
28	Non comprehensive AMC	3 years	Yes / No / Explain		

### Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Specification description	Specification requirements	Yes / No / Explain		
2	Tracking of multi-constellation GNSS System	GPS, GLONASS, GALILEO, COMPASS, NAVIC, and SBAS	Yes / No / Explain		
3	Multi-frequency signal reception	L1 ,L2, L5, E1, E5a, E5b, E6, AltBoc	Yes / No / Explain		
4	Sufficient hardware channels for simultaneous tracking of all visible satellites	higher than 500	Yes / No / Explain		
5	Crystal Oscillators	Ultra low noise Oven Controlled crystal Oscillators	Yes / No / Explain		
6	Choke Ring Antenna	Should track L1, L2, L5, E1, E5a, E5b, and E6 signals, Minimum Gain : 39 dB, Maximum Noise : 2.6 dB, Operating Temp : -50 to +60 deg C	Yes / No / Explain		
7	Lossless cables	30 meters (Loss < 0.2 dB / m or better for L Band Signals)	Yes / No / Explain		
8	On-board data logging facility	10 GB or better	Yes / No / Explain		
9	Ethernet and USB interface ports	Capable to be used at USB 3.0, USB 2.0 ports, Ethernet and wireless ports	Yes / No / Explain		
10	Temperature range of operation	-50 and 60 degree centigrade	Yes / No / Explain		
11	Software for Position, TEC, and scintillation indices estimation	GUI based System control unit	Yes / No / Explain		
12	Deliverable :	TEC, S4 index, time series of signals' phase and amplitude at 100 Hz frequency	Yes / No / Explain		
13	TEC Accuracy	< 1 TECu	Yes / No / Explain		
14	S4 index accuracy	less than 0.01	Yes / No / Explain		



15	Position accuracy	0.25 m (horizontal), and 0.5 m (vertical)	Yes / No / Explain		
16	Velocity accuracy	1 cm/s	Yes / No / Explain		
17	Time accuracy	< 10 nsec	Yes / No / Explain		
18	Auto health check monitoring system	1 min updates	Yes / No / Explain		
19	System control and data display unit	Rugged portable system compatible with pre-loaded receiver software (integrated with receiver system)	Yes / No / Explain		
20	Specification for system control Unit		-		
21	Processor	Intel core i7, 2.5 Ghz, 8th generation core or better	Yes / No / Explain		
22	RAM	16 DDR4 GB or better	Yes / No / Explain		
23	HDD	2 TB or more compatible	Yes / No / Explain		
24	Ports	USB 3.0, USB 2.0 ports, Ethernet and wireless ports	Yes / No / Explain		
25	Operating system	Windows 10 or better	Yes / No / Explain		
26	Additional data backup system	External 4 TB data storage unit or better	Yes / No / Explain		
27	Warranty	3 years	Yes / No / Explain		
28	Non comprehensive AMC	3 years	Yes / No / Explain		

## Supporting Documents required from Vendor

### 1. Product Catalogue/ Product Datasheet

### 2. Local Content Self declaration along with split up and location of value addition details, if applicable as per MII condition

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	1. Calibration and Installation at INSWIM Lab at SPL, Trivandrum	Yes / No / Explain	
2	This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted.	Yes / No / Explain	
3	This is a TWO-PART tender i.e. Techno-Commercial Bid (C1 & C2 of tender document) and Price Bid (C3 of tender document) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the Techno-Commercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same. Tenderers are advised NOT TO UPLOAD any documents revealing the price in technical & Commercial bid other than area marked as price related documents	Yes / No / Explain	
4	Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage	Yes / No / Explain	
5	The vendor has to compulsorily submit the compliance statement online otherwise their offer will not be considered for further evaluation. Before entering the compliance statement, vendors are advised to refer the detailed specification provided.	Yes / No / Explain	

6	The Technical Specification/ Drawing/ Product Catalogues/ Works Carried by vendor/ Make offered etc. as a PDF file without any financial details has to be uploaded online mode by the vendor.	Yes / No / Explain	
7	Foreign vendors are not permitted to quote 1.Only Class -I and Class-II Local suppliers as per make in India policy are eligible to participate in the bid. 2. The percentage of local content should be specifically mentioned in the offer, without which will be summarily rejected 3. Preference will be given to class-I Local Supplier and in their absence, class-II Local supplier will be considered.	Yes / No / Explain	
8	Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: (a) Equal to or more than 50% - Class I Local Supplier (b) More than 20% but less than 50% - Class II Local Supplier (c) Less than or equal to 20% - Non-Local Supplier Mention your category.	Yes / No / Explain	
9	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. Indicate the extent of Minimum local content in offered products / services and location and breakup / details of such value additions.	Yes / No / Explain	

10	Self-declaration on local content percentage and location of value addition: The Class I and II Local Supplier shall provide a Self-Declaration along with your bid in PDF format indicating the item offered meets the minimum local content as called for in the tender as mentioned above and provide the Percentage (%) of the local content along with the details of the location(s) at which the local value addition is made. In case of Two-part tenders, it is mandatory to indicate compliance to Minimum Local Content (MLC) in the technical bid itself. Confirm attachment of Self declaration as stated above along with the offer.	Yes / No / Explain	
11	GST extra as applicable. Please quote applicable G.S.T rates with HSN code. Your GST Reg.No. and details shall be furnished in your quotation	Yes / No / Explain	
12	Delivery Terms [Normal delivery terms - FOR VSSC]	Yes / No / Explain	
13	Delivery Period [Please Specify the period, LD shall be applicable in case of delayed delivery]. Mention the time required for supply and installation wherever applicable.	Yes / No / Explain	
14	Time required for installation and calibration to be mentioned separately , LD will be applicable.	Yes / No / Explain	
15	Payment [Within 30 days after receipt and acceptance of Item at our Stores].	Yes / No / Explain	
16	Liquidated Damages @ 0.5% per week subject to maximum of 10% of order value is applicable beyond the promised delivery schedule.	Yes / No / Explain	
17	Warranty [Minimum 3 years required.]	Yes / No / Explain	
18	Performance Bank Guarantee for 3% of order value valid 2 months beyond the Warranty Period to be provided.	Yes / No / Explain	
19	VSSC at its discretion will place a separate order for AMC for 3 years after completion of Standard Warranty of 3 years. AMC rates will not be considered for your bid evaluation. rates of AMC for 3 years may be specified in price bid template alone.	Yes / No / Explain	

20	<p>Security Deposit: Successful Tenderer shall submit Security Deposit equivalent to 3% of the order value valid for a period of 60 days beyond the date for completion of the Purchase Order. This security deposit is collected towards the performance of the Contract. The said Security Deposit shall be submitted either in the form of Bank Guarantee or Fixed Deposit receipts from Nationalised/Scheduled Banks. No exemption is applicable for MSE vendors from submission of Security Deposit. In case PSU/Autonomous bodies/Central Government organizations, Indemnity Bond shall be accepted. Wherever SD and PBG are involved, the same can be submitted in consolidated SD cum PBG, valid till completion of warranty obligations under the contract. Necessary formats will be issued to the successful tenderer along with Purchase order.</p>	Yes / No / Explain	
21	Country of Origin	Yes / No / Explain	
22	GeM Seller Unique ID	Yes / No / Explain	
23	Quote Validity: Minimum 180 days [for Two part Tender] from the date of Tender opening.	Yes / No / Explain	
24	PO ordering address in full with Contact Persons Name, E-mail id, Phone No. [also attach your Quotation in PDF format ].	Yes / No / Explain	
25	<p>As per the provisions of Office Memorandum No. F. No. 6/18/2019-PPD dtd. 23.07.2020 (i.e., Rule No. 144 (xi) of GFR) and its Amendments, issued by Department of Expenditure, Ministry of Finance. I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.</p>	Yes / No / Explain	

26	If any of the bidders submit any forged or false documents along with the Tender, such tenders will be summarily rejected and such bidders will be blacklisted for all future tenders.	Yes / No / Explain	
27	Any other terms.	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Packing & Forwarding	Freight	Other costs	Remark
1	Multi-frequency GNSS Receiver	6.00 Nos.		-					

### Common charges (Applicable for all items)

<b>AMC Charges for 1st Year after warranty period</b>	
<b>AMC Charges for 2nd Year after warranty period</b>	
<b>AMC Charges for 3rd Year after warranty period</b>	
<b>AMC Charges for 4th Year after warranty period</b>	
<b>AMC Charges for 5th Year after warranty period</b>	
<b>Optional Accessories-Lumpsum</b>	
<b>Optional Spares Cost (lumpsum)</b>	