

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
INDIAN INSTITUTE OF REMOTE SENSING  
IIRS**

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**DEHRADUN  
PURCHASE & STORES  
INVITATION TO TENDER**

Date : 12/06/2018

M/s

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Our Ref No : GIRS 2018-000043-01

Tender Due: 14:00 Hrs IST on 12/07/2018

Opening : 15:30 Hrs IST on 12/07/2018

Dear Sirs,

Please submit your sealed quotation, in the Tender Form enclosed here along with the descriptive catalogues / pamphlets / literature, superscribed with Our Ref.No. and Due Date for the supply of the following items as per the terms & conditions mentioned in Annexure( Form No: )

S.No.	Description of Items with Specifications	Unit	Quantity
1	Supply, Installation, Demonstration, Training of Geodetic RTK GNSS receiver set along with accessories and Software. Detailed specifications as per Annexure	No	1

DELIVERY AT: IIRS, DEHRADUN

MODE OF DESPATCH ON SITE

DUTY EXEMPTIONS

SPECIAL INSTRUCTIONS TWO PART

SPECIFIC TERMS



ASHA CHANDRAN L.  
PURS. & STORES OFFICER  
For and on behalf of the President of India  
The Purchaser

### Specific terms and conditions to the tender

1. Please submit the Technical Details / Catalogue / Make/ Model/Data Sheets.
2. The offer should be valid for a period of 90 days from the date of opening of Tender.
3. **Please send the quotations ONLY in 'SEALED COVER' indicating our tender enquiry No. and due date by speed post so as to reach us on or before the due date & time. IIRS will not be responsible for any postal delays.**
4. **E- mail/ fax quotations 'WILL NOT BE ACCEPTED'.**
5. Please quote the percentage of GST applicable.
6. Our standard delivery term is FOR, IIRS. In case any vendor offers delivery term of Ex-works, Packing and Forwarding charges if any should be indicated separately either as a percentage of the quoted rate or as a Lump sum amount.
7. We are exempted from the payment of Customs Duty and necessary exemption certificate shall be issued upon request.
8. **Payment Term:** Payment will be made within 30 days from the date of receipt and acceptance of the item at our site for order value up to 2.00 Lakhs. For order value above 2.0 Lakh, 90% payment will be made within 30 days and 10% against submission of Performance Bank Guarantee for the warranty period (wherever warranty is applicable). The Performance Bank Guarantee should be valid for a period of 2 months beyond the completion of the warranty period.
9. For foreign orders our Standard Payment Term is Sight Draft.
10. **Liquidated Damages** – The delivery period quoted should be realistic. The delivery period so quoted and mentioned in the order is the essence of the order/contract. In case of delay in delivery of material as per the delivery schedule, Liquidated Damage @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value shall be levied. Wherever, installation and commissioning is also involved, the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted.
11. **Security Deposit:** - Wherever the offer value is Rs. 5.00 Lakhs or above, the successful tenderer should submit Security Deposit @ 10% of the order value by way of Bank Guarantee / FD Receipt. The Bank Guarantee shall be obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of all contractual obligations.
12. In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / Udyog Adhar / NSIC Registration Certification along with your offer.
13. If any bidder submits forged / false document along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.

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Purchase & Stores Officer

**SPECIAL TERMS AND CONDITIONS FOR SUBMITTING TWO PART BID**

1. This is a two part tender viz., Techno-Commercial Bid (consisting of Technical Specifications, Commercial terms & condition etc.) and Price Bid. Hence, quotation should be submitted in separate sealed covers super-scribing "**Tender No. GIRS 2018000043-01, Due on 12/07/2018 at 14.00 Hrs (Techno-Commercial Bid)**" and "**Tender No. GIRS 2018000043-01, Due on 12/07/2018 at 14:00 Hrs (Price Bid)**"
2. Both the sealed tenders (Techno commercial & Price bid) should be kept in one big cover super scribing **Tender for Geodetic RTK GNSS Receiver** against Enquiry No **GIRS 2018000043-01, Due on 12/07/2018 at 14:00 Hrs** and put in the Tender Box available in Purchase Division, IIRS or send by post or Courier within the due date and time prescribed.
3. The Techno-Commercial Bid should clearly indicate the technical details, scope of supply, payment terms, delivery terms, delivery period, taxes and duties, warranty, guarantee, security deposit, performance bank guarantee, etc. under separate heads. Please note that the **price should NOT be indicated** in the Techno-Commercial Bid
4. Tender forms can be purchased from Purchase & Store Section IIRS, Dehradun on all working days on payment of ₹ 573/- in the form of DD drawn in favor of Pay & Accounts Officer, IIRS Dehradun payable at Dehradun or can be downloaded from [www.iirs.gov.in](http://www.iirs.gov.in). When tender forms are downloaded, DD for ₹573/- drawn in favor of Pay & Accounts Officer, IIRS payable at Dehradun shall be attached with Technical Bid.
5. Only Techno-Commercial bid will be opened on the date of tender opening. The price Bids of those tenderers whose Techno-Commercial Bids are found to be meeting our specifications/ requirements will be opened. The bidders are allowed to attend the tender opening on the date and time of opening.
6. Late and Delayed Tenders will not be considered. Therefore, please ensure that your tender is posted well in time to reach us before the due date and time.
7. Fax/Email offers shall not be considered.
8. All the pages of your offer should be signed/initialed by competent authority and affixed with your company's Seal..
9. **EMD of ₹ 50,000/-** to be submitted along with the Technical Bid in the form of Crossed Demand Draft drawn on any Nationalized / scheduled bank in favor of Pay & Accounts Officer, IIRS, payable at Dehradun. Quotation received without EMD will not be considered. The EMD of unsuccessful bidder will be returned after finalization of order.



[Purchase & Stores Officer]



**SPECIFICATION AND REQUIREMENTS SHEET HIGH END REAL TIME MAPPING  
SYSTEM-BASE & ROVER (RTK GNSS SET)**

SL.NO	Description	Quantity Required
I	SUPPLY, INSTALLATION, DEMONSTRATION, TRAINING OF Geodetic RTK GNSS receiver set along with accessories and software	01 Set (Base and rover)
<b>IMPORTANT INSTRUCTIONS</b>		
I	The GNSS RTK receiver along with all accessories, spares, software, etc shall be procured from a single source.	
II	Competitiveness of the Bidder would be evaluated based on the FOR Destination value of all the items taken together.	

SL. NO.	Description
1	<b>RTK GNSS receiver (Base and rover) with internal battery &amp; battery charger</b>
	<b>GNSS receiver specifications:</b>
GNSS receiver	Multi frequency. Geodetic quality, real-time kinematic receiver with rugged high gain integrated antenna for independently GNSS satellites tracking
Measuring modes	Static, rapid static, kinematic standard post processing, RTK, standard survey, geodetic solution.
No. of channels	200 or more
Multi-frequency Satellite Signals Tracking and Recording	GPS: L1, L2, L5 GLONASS: L1, L2, L3 Beidou: B1, B2 Galileo: E1, E5A, E5B IRNSS
SBAS Tracking & correcting	GAGAN
Positioning rates	Up to 20 Hz or better
Static accuracy*	Horizontal 3 mm +/- 0.5 ppm RMS <b>or better</b> Vertical 5 mm +/- 0.5 ppm RMS <b>or better</b>
RTK accuracy*	Horizontal 8 mm +/- 1 ppm RMS <b>or better</b> Vertical 15 mm +/- 1 ppm RMS <b>or better</b>
Initialization Time	≤ 10 seconds
Operating temperature	0°C to +55°C
Ingress protection	IP67 standards
communication	Receiver should have following ports: 1 Serial, 1 Power Port, Integrated Bluetooth, internal GSM slot, 1 internal UHF radio.
Inbuilt Radio <sup>s</sup>	Fully integrated, fully sealed internal radio signal transceiver with minimum of 0.5 Watt transmitting power with 3-5 km or more coverage

	Cellular modem		Fully integrated, fully sealed internal GSM/GPRS modem
	Data format		NMEA, RTCM versions 2.x, 3.x, CMR, CMR+, CMRx or compressed format
	Power supply	Internal	Rechargeable, removable Li-ion battery with 5 hours continuous operation time in RTK rover mode with internal radio and Bluetooth in use
		External	Receiver should have provision for external power input
2	<b>Controller with internal battery &amp; battery charger</b>		
	<b>Controller specifications:</b>		
	Memory		2GB Non-volatile inbuilt Storage or more, SD card slot or better
	Display		Sun-light readable color 3.5 inch or large size Touch screen with at least VGA display
	Keypad		Full alphanumeric keypad
	Communication		USB Host, USB Client, 9-pin serial RS-232 Integrated Bluetooth.
	Operating system		Window Mobile 6.5 Professional operating system or latest version
	Ingress protection		IP 65 or better
	Operating temperature		0°C to +55°C
	Power supply	Battery	Rechargeable Li-ion battery pack with 8 hours continuous operation time under normal operating conditions
		Charger	Suitable battery charger
3	<b>External UHF radio modem kit with external battery &amp; battery charger<sup>s</sup> (Optional may be quoted separately)</b>		
	Suitable 35 Watt capacity UHF radio modem with antenna and other accessories		
4	Accessories: Tribach with Optical or laser plummet, Tribach Adaptor, Pole mount bracket for controller, tripod, Range pole, Height measuring tape/rode, Field carrying hard case, Set of interconnecting cables, External power supply cables for GNSS receiver,		
5	Controller software with license:		
	<ul style="list-style-type: none"> <li>✓ The software should allow configurable survey style for RTK, PPK, static/ fast static, polygon, area calculation, satellite view, PDOP, HDOP etc.</li> <li>✓ The software should be able to log data for all the signals tracked</li> <li>✓ Active background maps of JPEG/TIFF, DXF/DWG formats</li> <li>✓ Import &amp; Export to industry standard formats like CSV, DXF, KML etc</li> <li>✓ Data storage: Should be able to store GNSS data collected by the RTK system</li> </ul>		



6	Post processing Software with license <ul style="list-style-type: none"> <li>✓ Operating System: Windows 8/8.1/10 or latest</li> <li>✓ Should be able to import Raw data from receiver provided and as well as RINEX data</li> <li>✓ Processing of raw data</li> <li>✓ Import &amp; Export to RINEX formats.</li> <li>✓ Datum Transformation: should have the facility of transferring of data from one datum to another datum</li> <li>✓ Reporting: Software should be capable of generating reports directly for the surveyed data</li> <li>✓ Coordinate System Manager</li> <li>✓ Should be able to perform baseline processing</li> <li>✓ Should be able to process static data of single point for control</li> <li>✓ RTK data: should be able to handle RTK data</li> </ul>
7	<b>Training:</b> Supplier should provide training at IIRS/ISRO Dehradun for one week on all facilities of both hardware and software.
	<b>Warranty:</b> <ol style="list-style-type: none"> <li>1. Warranty should be for one year.</li> <li>2. Extended warranty for one more year (optional item, should be quoted separately)</li> <li>3. AMC for 3 years (should be quoted separately)</li> </ol>

\*Accuracy computed from long observation will not be considered.

<sup>s</sup> the vendor should do the liaising activities between IIRS/ISRO and WPC, New Delhi for obtaining a radio operating license and an undertaking in this regard should be enclosed with the quotation. Quotations without such undertaking letter will not be considered. External UHF radio modem kit is an optional item and hence may be quoted separately.

**Note:**

- Vendor should quote the tender in two parts (technical and commercial) separately.
- The quotation should clearly mention all the modules of software of controller and post processing software.
- The quotation should clearly mention all the accessories that will be supplied.
- The software provided should work on latest windows operating system.
- Vendor should provide all user guide, quick start manual and troubleshooting & maintenance manual both in soft and hard copies.
- All software modules should be GUI based and should be supported by latest Microsoft windows operating system.
- Vendor must provide all details of preprocessing and post processing software along with the licensing policies.
- Vendor should also give price details for each additional license for the software module
- Vendor should provide all user guide, quick start manual, trouble shooting, maintenance manuals in both soft, and hard copies.
- Vendor should provide the exact dimensions of instrument in the tender.
- Vendors should specify all the details and specification regarding physical dimensions and performance parameters.

- Vendor should provide a technical compliance sheet along with the quotation. Tenders without compliance sheet will not be considered.

**Deliverable:**

- The vendors should provide, without fail, the list of all the subsystems, disks, interfaces (cables/controller cards), other units, licenses, which are part of RTK unit.
- The vendors should also provide the details of the documentation that will be supplied along with the system.





Compliance sheet to be filled compulsorily and submit along with quotation

S.No	Requirement	Compliance
1	Is the GNSS receiver is housed with antenna or antenna is separate?	
2	Does the GNSS receiver setup support the following measuring modes? Static, rapid static, kinematic standard post processing, RTK, standard survey, geodetic solution.	
3	Does the GNSS receiver has atleast 200 channels?	
4	Does the GNSS receiver track the following signals? GPS: L1, L2, L5 GLONASS: L1, L2, L3 Beidou: B1, B2 Galileo: E1, E5A, E5B IRNSS	
5	Does the GNSS receiver track and apply correction of GAGAN?	
6	Does the GNSS receiver capable to compute at least 20 positions at a rate of 20 Hz	
7	Does the GNSS receiver provide horizontal accuracy of 3mm and vertical accuracy of 5mm in static mode?	
8	Does the GNSS receiver provide horizontal accuracy of 8 mm and vertical accuracy of 15mm in RTK mode?	
9	Is the initialization time less than or equal to 11 seconds?	
10	Can the GNSS receiver be operated in temperature range of 0 °C to +55 °C	
11	Does the GNSS receiver comply IP67?	
12	Does the GNSS receiver has the following ports? 1 Serial, 1 Power Port, Integrated Bluetooth, internal GSM slot, 1 internal UHF radio.	
13	Does the inbuilt radio of GNSS receiver capable of providing correction within 3-5 km range?	
14	Is the GNSS receive capable of transmitting the following data formats? NMEA, RTCM versions 2.x, 3.x, CMR, CMR+, CMRx or compressed format	
15	Is the internal battery of receiver capable of providing power supply for about atleast 5 hours in RTK mode with internal radio and Bluetooth in use?	
16	Does the receiver has any provision for power supply from external source?	
17	Is the memory storage capacity of GNSS receiver is atleast 2 GB?	
18	Is the touch screen readable in bright sunlight?	
19	Does the controller of receiver has following ports? USB Host, USB Client, 9-pin serial RS-232 Integrated Bluetooth	
20	Does the controller has the latest operating system?	
21	Can the controller of GNSS receiver be operated in temparture range of 0 °C to +55 °C?	





22	Does the internal battery of controller provide power supply for atleast 8 hours?	
23	Does the GNSS receiver setup has provision for external UHF radio?	
24	Has the vendor provided the undertaking to do the liaising job between IIRS/ISRO and WPC Delhi for obtaining radio license?	
25	Is the vendor providing the following accessories? Tribach with Optical or laser plummet, Tribach Adaptor, Pole mount bracket for controller, tripod, Range pole, Height measuring tape/rode, Field carrying hard case, Set of interconnecting cables, External power supply cables for GNSS receiver,	
26	Does the controller software has following features? <ul style="list-style-type: none"> <li>✓ The software should allow configurable survey style for RTK, PPK, static/ fast static, polygon, area calculation, satellite view, PDOP, HDOP etc.</li> <li>✓ The software should be able to log data for all the signals tracked</li> <li>✓ Active background maps of JPEG/TIFF, DXF/DWG formats</li> <li>✓ Import &amp; Export to industry standard formats like CSV, DXF, KML etc</li> <li>✓ Data storage: Should be able to store GNSS data collected by the RTK system</li> </ul>	
27	Does the post processing software has following features? <ul style="list-style-type: none"> <li>✓ Operating System: Windows 8/8.1/10 or latest</li> <li>✓ Should be able to import Raw data from receiver provided and as well as RINEX data</li> <li>✓ Processing of raw data</li> <li>✓ Import &amp; Export to RINEX formats.</li> <li>✓ Datum Transformation: should have the facility of transferring of data from one datum to another datum</li> <li>✓ Reporting: Software should be capable of generating reports directly for the surveyed data</li> <li>✓ Coordinate System Manager</li> <li>✓ Should be able to perform baseline processing</li> <li>✓ Should be able to process static data of single point for control</li> <li>✓ RTK data: should be able to handle RTK data</li> </ul>	