

Expression Of Interest.

Master Control Facility, Department of Space, ISRO Hassan is proposing to establish 11m high speed Full Motion C/S Band Ground Station Terminal on turn key basis at South American region. Interested vendors experienced in similar installation may visit ISRO web: <http://www.isro.gov.in/tenders> or <http://eprocure.gov.in/cppp/latestactivetenders> site for downloading the documents.

The details can also be obtained from Purchase & Stores Officer (Purchase), Master Control Facility-ISRO, Hassan-573201, Karnataka, India, Tel +918172-273594, e-mail: psopurchase@mcf.gov.in

Government of India
Department of Space
Master Control Facility-ISRO
Hassan-573201, Karnataka, India

Invitation for Expression of Interest

Supply & Installation of 11 meter high speed Full Motion C/S Band Ground Station at South American Region.

The Expression of Interest (EOI) is sought for Establishment of 11 meter High speed full motion C/S band Ground station terminal at south American region (Latitude : around 9 deg North, Longitude around 280 deg) as part of augmentation of MCF (Master Control Facility, Hassan, India) TTC (Telemetry, Tracking & Command) Network. This terminal tracks the satellites, transmits command to satellite, receive telemetry from satellite and transfer the same to MCF, Hassan, India in near real-time through communication link.

Introduction:

Master Control Facility (MCF) is one of the Units of Indian Space Research Organization (ISRO) under the Department of Space, Government of India. The primary responsibility of MCF is to support TTC (Telemetry, Tracking & Command) operations to various Communication / Remote sensing / Navigational / Scientific Application Satellites of ISRO namely GSAT / INSAT / IRS / IRNSS series of satellites in the orbital position of 32 deg to 132 deg East Longitude as allocated to Indian administration.

During Launch and Early Orbit Phase (LEOP) of a geo-synchronous satellite, several ground stations are required around the earth to have almost continuous tracking and visibility of satellite for mission operations. It is planned to have ISRO's planned ground network for supporting the ISRO's future geo-synchronous satellite LEOP operations. Also this station is planned to be used for tracking of Low Earth Orbit (LEO) (Polar orbit) satellites.

As a part of this, a full-fledged 11m high speed C/S band antenna system with state-of-the-art electronics is planned to be installed and commissioned at South American region. The entire work involving Design, Supply, Installation, Testing and Commissioning of the proposed system is envisaged to be completed on TURNKEY basis, in about 24 months from the Effective Date of Contract (EDC). The complete antenna system and the associated elements shall have comprehensive remote monitoring and control features to enable unmanned operations.

MCF-ISRO is the nodal organization for the co-ordination and implementation of this project by providing infrastructure and support at South American region.

Brief Scope of the Project :

The vendor has to establish, demonstrate the performance, operationalise and provide maintenance support during warranty for the following 11 m C/S TTC Ground Station at South American region

Building, Internal Electrification, PH, Sanitary, HVAX, Safety, security systems are **NOT** part of the turnkey project.

Foundation for Antenna Terminal however, shall be part of the turnkey solution.

Ground Station TTC terminal: This station shall be 11m Antenna with C/S Feed operating either in C band or S band at a time. Major specification of the Ground station terminal is as follows.

	Item description	Specification	
1.	Antenna Type	About 11 meter Solid Parabolic dish with shaped Cassegrain Geometry.	
2.	Antenna Mount	Elevation Over Azimuth.	
3.	Feed type	8 port Monopulse Tracking, Frequency reuse CP feed	
4.	Operating Freq. Transmit Receive Tracking (Monopulse)	C-band 5850 to 6450 MHz. 3600 to 4200 MHz. 3600 to 4200 MHz.	S-band 2025 to 2125 MHz. 2200 to 2300 MHz. 2200 to 2300 MHz.
5.	Frequency bandwidths Command (2 frequencies) Telemetry (2 frequencies)	2 MHz 500 KHz	2 MHz 500 KHz
6.	Gain at Feed Receive Transmit	51.8 + 20 log (F/4) dBi in Receive Band 54.9 + 20 log (F/6) dBi in Transmit Band	45.5 + 20 log (F/2.2) dBi in Receive Band 45.5 + 20 log (F/2.125) dBi in Transmit Band
7.	G/T at 5 deg elevation	31.7 dB/deg K + 20 log (F/4)	22.5 dB/deg K @ 2200 MHz
8.	Polarization (Tx & Rx)	CP (RHCP & LHCP in Communication port) & selectable RHCP & LHCP in Tracking Ports for C band	CP (RHCP & LHCP) in Communication Port & selectable RHCP & LHCP in Tracking Ports for S band
9.	Radiation Pattern	Meets ITU – RS 580-6	
10.	Transmit Power	85 dBW	70 dBw
11.	Drive Coverage Elevation Azimuth	-1 to 92 Deg. +/- 360 Deg.	
12.	Drive Speeds	Max : 9 deg/sec, Min: 0.01 deg/sec or less in both Axes	
13.	Azimuth / Elevation drive and tracking Acceleration	3 deg/Sec ² min in all drive modes.	

Features:

- Two uplink chains in C band with one to one redundancy.
- Two uplink chains in S band with one to one redundancy.
- Two Down link chains in C band with one to one redundancy.
- Two Down link chains in S band with one to one redundancy.

- Mono pulse tracking facility in C band / S band frequencies in both LHCP / RHCP Polarization which is selectable.
- Integrated base band system with ranging facility
- Facility for Zero Range Calibration with appropriate Test loop translators in C & S band
- Instrumentation for monitoring and calibration purpose.
- Weather monitoring system , M&C system, Timing System

All the active systems shall have required redundancy capability.

Eligibility Criteria.

MCF-ISRO is looking for the prospective vendors who have a proven record of establishing 11 meter high speed full Motion C/S Band Ground Station terminal at South American region and in unattended automated operations with satisfactory performance. The prospective vendor shall provide proof of previous experience of establishment of Earth-stations including maintenance of systems at above region.

The EOI shall address delivery of equipment, software, firmware, hardware and transportation to South American region. Installation services, testing, training, documentation and warranty support for a period of 3 years.

Selection Process:

The selection process would be of following steps.

Step-1: Based on the experience proof furnished by the vendors as per the eligibility criteria mentioned above, the vendors will be shortlisted.

Step-2: Subsequent evaluation of the competency and other technical & financial capability of the shortlisted vendors will be done by a team of technical Evaluation committee of MCF-ISRO by calling for technical presentation etc if necessary

There will be a pre-bid meeting for those vendors who qualify after step 2 above. This will be to ensure that the requirements of MCF are properly understood and that the offer is made compliant to MCF technical and commercial terms & conditions. The qualified vendors will be provided with Request For Proposal document (RFP) on Limited Tender Basis through e-tender (ISRO's e-procurement portal – www.eprocure.isro.gov.in) to enable them to submit Two Part Tender consisting of:

Part-A: Techno Commercial Bid containing technical specifications, deliverables, detailed description of sub-systems, time schedule, commercial terms etc.

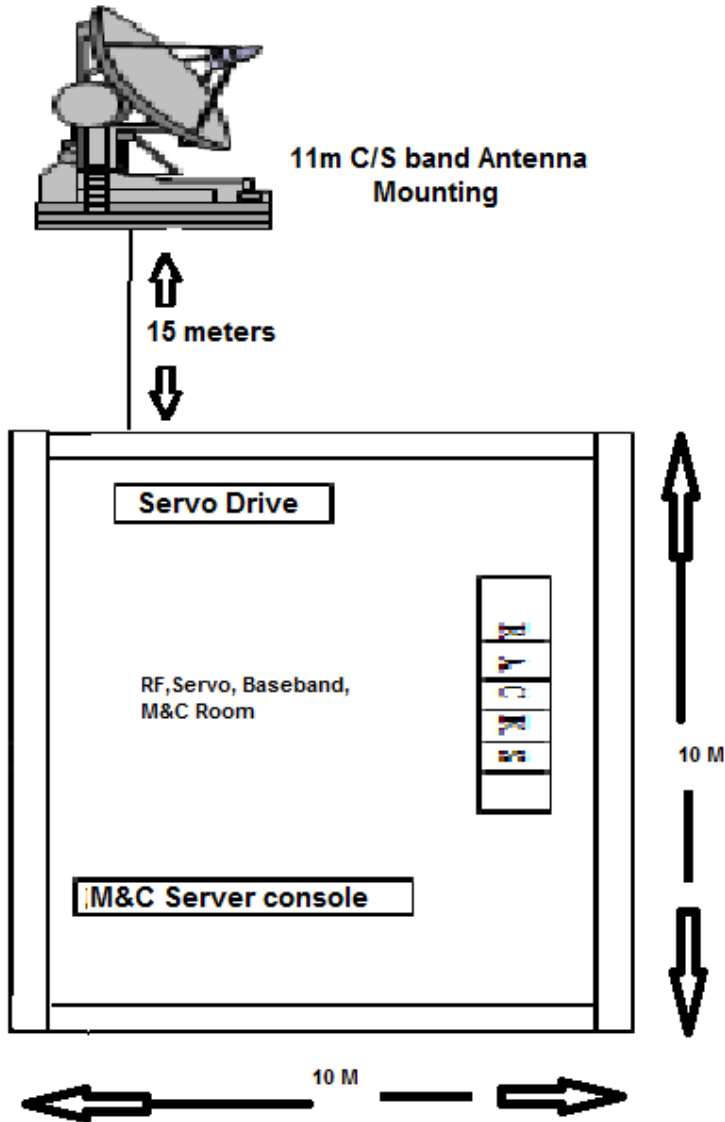
Part-B: Price bid containing price details.

Only Techno-commercial bid will be opened initially and the same shall be evaluated with reference to our technical requirements and vendors short-listed. Subsequently the price bids of the short-listed vendors will be opened and contract finalized.

Submission of Expression of Interest (EOI)

Firms meeting the eligibility criteria and interested in this project shall submit their application along with copies of all relevant documents (to establish their eligibility) to the Purchase & Stores Officer , Master Control Facility, Hassan Karnataka in a sealed envelope subscribing “ Expression of Interest for Supply & Installation of 11 meter High speed full motion C / S band Ground station terminal at south American region” so as to reach Purchase & Stores Officer MCF on or before 14:00 hours on 18 December 2015. MCF reserves the right to reject any or all EOIs without assigning any reason thereof.

Typical diagram of Ground Station Terminal is shown below



DETAILS PROVIDED FOR EXPRESSION OF INTEREST
FOR SUPPLY & INSTALLATION OF 11 METER HIGH SPEED FULL MOTION C/S BAND
GROUND STATION AT SOUTH AMERICAN REGION
BEING SUBMITTED TO MASTER CONTROL FACILITY, HASSAN, KARNATAKA, INDIA

Sl. No.	Details required	Details provided by vendor
1.	Name of the Company	
2.	Ownership	
3.	Registered Office & subsidiaries address	
4.	Technical Capabilities	
5.	Financial turnover for preceding five years	
6.	Manpower base	
7.	Quality accreditation	
8.	Licencing	
9.	Project executed worldwide	
10.	Insurers & Chartered Accountant	
11.	Projection Execution Methodology	
12.	Any Others	

Note: You may provide any additional information not mentioned above for capability evaluation.