



BRIEF OF THE CASE

Case Reference: CF.No/ AIR HQ/S 59101/36/ACQT(MAKE) BM-I

1. **Service:** Indian Air Force
2. **Nodal Directorate:** Directorate of Ops (Space)
at SHQ
3. **Name of the Case:** Design and Development of a **High Throughput Communication Satellite in LEO With User Terminals** through Indian Industry.
4. **Case Brief.** At present communication satellite services availed through GEO has inherent disadvantages in terms of its known location and latency. Both these factors are disadvantages for conduct of operations. Therefore, there is a need to have an added capability of extending communication services from space with reduced latency.
5. **Proposal.** IAF intends to partner with indigenous defence production industry to undertake design, development and manufacture of **High Throughput Communication Satellite in LEO With User Terminals** under the **Make – I (Government Funded)** procedure as per Chapter III of DAP 2020.
6. **Broad Technical Parameters** Broad Technical Parameters of the equipment are:-
 - LEO constellation is proposed for extending satellite communication services. The payload configuration could be 'Ku' or 'Ka or higher bands of microwave spectrum to accommodate high data rate applications. The payload could be multi-band. Having a dual use communication satellites in lower orbits will be advantageous in terms of security (difficulty in differentiating civil and strategic services), availability (graceful degradation) and high data rate applications. Certain additional aspects which are to be catered and are critical for availing end to end solution are enumerated in following paragraph.
 - Suitable ground control segment for controlling these communication satellites as well as hub infrastructure should be planned so that an end to end solution is ensured.
 - The user segment could be static, airborne and mobile. Airborne user segment could vary in size depending upon the type of aircraft (Fighters, Transport and Helicopter). Antenna radiation pattern of this user segment should possess the dynamic capability to withstand the aircraft rotor blade effects to ensure connectivity with the satellite. User segments could preferably be Software Defined Radio (SDR) sets which are capable to operate at higher data rates (~100 Mbps or better).
7. **Indigenous Content (IC)/ Categorisation.** Successful development under **Make – I** category would result in acquisition from successful Development Agency (DA) through the **Buy Indian (IDDM)** category with indigenous design and development and a **minimum IC of 50%**.



8. **Industry Attributes:**

(a) Should be an Indian entity (as per provisions of Para 20, Chapter I of DAP 2020, including additional conditions at sub paragraphs (a) and (b)). **(Essential)**

Note: A copy of DAP 2020 is available on website of Ministry of Defence.

(b) The Indian entity could be an AOP (Association of Persons) as per guidance in DAP 2020.

(c) Experience in manufacturing, maintenance, MRO (Maintenance, Repair & Overhaul) of related equipment **(desirable)**.

(d) Familiarity with QA processes of DGAQA and certification requirement of the equipment **(desirable)**.

(e) Experience in design, development, manufacture and integration in space based technologies **(Desirable)**.

1. Interested **Indian** vendors may send their proposals by **31 Jan 22**

It is requested that, answers to questionnaire may also be dovetailed by the industry in their response.

Interested respondents are also urged to read the provisions of "Make-I" procedure at Chapter III of DAP 2020 as the project will be progressed as per these provisions.

2. **Contact Details.** Any queries/further details of the case may be obtained from the Nodal Dte at Air Headquarters (Vayu Bhavan). Interested Indian vendors may forward their responses through letter/fax/email to the Nodal Directorate as follows:-

Nodal Directorate

Directorate of Ops (Space)
Room No. 592/B, Air HQ (VB)
Rafi Marg, New Delhi – 110 106
Email – dspace574@iaf.nic.in
Tele – (011) 23014729

A copy of all communication should also be addressed to: -

Email: aero.design@gov.in and makeind.af@gov.in

Disclaimer

This project brief is neither an agreement nor an offer by the MoD to the prospective bidders or any other person. The purpose of this brief is to provide interested vendors with information that could be useful to them in preparation and submission of their proposals related to this project. The questionnaire has been prepared to obtain initial information for screening of the vendors. Detailed questionnaire will be sent or further interactions will be held, to seek additional information for the feasibility study to assess the status of enabling technologies and capabilities of the Indian industry. The responding vendors will bear all costs associated with or relating to preparation and submission of their proposal related to this case. MoD reserves the right to amend, supplement or delete the information in this brief or questionnaire, as suited to the case. The MoD reserves the right to withdraw this project brief without assigning any reasons thereof. The issuance of this project brief and the questionnaire, or a response to the same, does not bound the MoD to shortlist/select the responding vendor for the project. The MoD reserves the right to disqualify any responding vendor, at any stage, on grounds of national security.



**QUESTIONNAIRE RELATED TO
HIGH THROUGHPUT COMMUNICATION SATELLITE IN LEO WITH USER TERMINALS**

1. Whether the company/Association of Persons (AoP) is eligible as per provisions of DAP 2020? (Eligibility of Participation: Indian vendors only).
2. Please provide a brief account of vendor assessment of its capability (Financial and Technical) to undertake the project? Please state, list of documentation can be provided for verification?
3. Please provide summary of essential financials (annual turn-over, net worth, credit rating).
4. Please provide details of available manufacturing infrastructure.
5. Please provide details of major contracts undertaken in past?
 - (a) Also indicate special achievements to demonstrate in-house design capability, production capability or project management.
6. Please provide details of resources/capability of the firm to undertake indigenous design, development and testing.
7. Whether 50% Indigenous Composition (IC) can be ensured? What will be the achievable Indigenous Content.
8. Provide details of following: -
 - (a) Cost of design and development of **High Throughput Communication Satellite in LEO With User Terminals.**
 - (b) Cost of Procurement of one complete system.
 - (c) Estimated Time period required for design and development of the equipment.
9. Enabling Technologies for realising the equipment within the country.
10. Details of which components will be manufactured in-house and which will be outsourced (through domestic vendors as well as foreign vendors – indicate separately).