

## BRIEF OF THE CASE

**Case Reference:** CF.No/ Air HQ/C 18488/57/DAD

1. **Service:** Indian Air Force
2. **Nodal Directorate at SHQ:** Directorate of ASR (EW)
3. **Name of the Case:** Indigenous Design, Development and Manufacturing of **Airborne Multi-Constellation GNSS Receiver & Converter** through private defence production Industry
4. **Case Brief.** The airborne platforms such as fighters, helicopters and transport aircraft are installed with GPS/GLONASS receivers/Inertial Navigation GPS (INGPS) systems to determine the accurate present position to undertake navigation & weapon employment related tasks. However, in the event of jamming or spoofing by the adversary while undertaking operational missions, the performance of such systems will be degraded and if remains undetected, will affect execution of role-related tasks. Also, many of these receivers operate on GPS (L1)/GLONASS (L1) and therefore cannot operate on other Satellite Navigation System (SNS) Constellations such as IRNSS, BEIDOU or GALILIO. Since the airborne platforms are intended to operate in seamlessly in the intended geographical areas, it is necessary that the SNS receiver is capable of working on multiple SNS constellations. Such a system will also enable existing receivers to operate on Indian IRNSS system, BEIDOU and GALILIO, without the need for hardware upgrade of legacy system.
5. **Proposal.** IAF intends to partner with indigenous defence production industry to undertake design, development and manufacture of **Airborne Multi-Constellation GNSS Receiver & Converter** under the **Make-II** procedure as per Chapter III of DAP 2020.
6. **Broad Technical Parameters** The broad preliminary technical parameters of the equipment is attached as **Appendix A**. Detailed project specifications and Preliminary Service Quality Requirements (PSQRs) will be developed after industry interactions and feasibility study.
7. **Indigenous Content (IC)/ Categorisation.** Successful development under **Make-II** 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) Experience in Multi-Constellation Satellite Navigation System Receivers Technology (D&D, Manufacturing & Upgrade) (**desirable**).

(c) Familiarity with QA processes of DGAQA and certification processes of CEMILAC (Centre for Military Airworthiness Certification) (**desirable**).

9. Interested **Indian** vendors may send their proposals by 30 Sep 23. It is requested that, answers to questions at **Appendix B** may also be dovetailed by the industry in their response.

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

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

**Nodal Directorate**

Gp Capt ASR (EW)

Room No 449, Air HQ (VB)

Rafi Marg, New Delhi – 110 106

Fax: 23011753

Email: [panther.449@gov.in](mailto:panther.449@gov.in)

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

Make PMU (AF); Directorate of Aerospace Design

Room No 803; Air HQ (VB);

'A' Block, Defence Office Complex

KG Marg, New Delhi-110011

Tele: 011-23074031

Email: [aero.design@gov.in](mailto:aero.design@gov.in)

**BROAD TECHNICAL PARAMETERS:**  
**AIRBORNE MULTI-CONSTELLATION GNSS RECEIVER & CONVERTER**

1. Board parameters of Airborne Multi-Constellation GNSS Receiver & Converter are as follows:-

(a) This system is an upgrade solution for legacy airborne GPS/ GLONASS Receivers into airborne Multi-Constellation Receiver with Anti-Spoofing capability, without the necessity of hardware/software upgrade of the existing system.

(b) The system should have the capability of Multi satellite reception like IRNSS, BEIDOU or GALILIO.

(c) It should be have jam/spoofing detection capability and selection of alternate Satellite constellation thereafter.

**QUESTIONNAIRE:**  
**AIRBORNE MULTI-CONSTELLATION GNSS RECEIVER & CONVERTER**

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 the 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. Also indicate special achievements to demonstrate in-house design capability, production capability or project management.
6. Details of components which will be manufactured in-house and which will be outsourced (through domestic vendors as well as foreign vendors– indicate separately).
7. Please provide details of resources/capability of the firm to undertake indigenous design, development and testing.
8. Whether 50% Indigenous Composition (IC) can be ensured.
9. Please provide related experience in Multi-Constellation Satellite Navigation System Receivers Technology (D&D, Manufacturing & Upgrade)