

(11/17/20)

(11/17)

**BRIEF AND QUESTIONNAIRE ON MAKE PROJECT
AIRBORNE RUGGEDIZED FLIGHT INSTRUMENTATION SYSTEM**

Brief Outline

1. A Flight Test Instrumentation (FTI) System is used to analyse data recorded through sensors on test aircraft. It is proposed to indigenously design & develop an *airborne ruggedized flight test instrumentation system* for use by IAF under the Make-II procedure of DAP 2020.

3. Indian vendors (term to include, public limited company, private limited company, partnership firms, limited liability partnership, one person company, sole proprietorship registered as per applicable Indian laws) desirous of undertaking the design/development/manufacture may submit their response, as per format placed at Appendix B, through letter, fax or email to:-

Make PMU (IAF)
Room No 490 (E),
Air HQ (Vayu Bhavan)
New Delhi – 110106
Telefax: (011) 23013225
Email: makeind.iaf@gov.in

4. Estimated time lines are as follows:-

(a)	Time period for response from industry	Six weeks
(b)	Interaction with vendors and feasibility study	Eight weeks
(c)	If project found feasible, internal approvals and issue of EoI	Eight weeks (may extend)

5. **Brief of Equipment.** Brief of the equipment at para 2 above is attached as Appendix A.

6. **Questionnaire.** A generic format for examination of the project and response by the vendors is placed at Appendix B.

Appendix A
 (Refer Para 5 of
 Brief - Airborne Ruggedized
 Flight Test Instrumentation
 System)

BRIEF OF EQUIPMENT

1. Name of Eqpt - Airborne Ruggedized Flight Test Instrumentation System

2. Brief - A Flight Test Instrumentation (FTI) is an essential requirement to undertake trials of a new system. FTI uses sensors fitted on aircraft and a data acquisition system to record vital flight parameters. The FTI data is then used for data analysis by the test crew.

3. **Preliminary Specifications**

(a) The system must have a Data Acquisition Unit along with a self-contained recording medium (CF Card/SD Card).

(b) The system must be ruggedized for aviation utilization and be able to acquire and record the under mentioned types of aircraft data :-

- (i) Mil Std 1553
- (ii) Analog Sensor Data (0-10V, 0-40V, 0-1000mV) (Single and Differential)
- (iii) Digital Serial Bus Data (RS 232, RS 485)
- (iv) Frequency
- (v) Ethernet Data
- (vi) ARINC Data
- (vii) GPS data
- (viii) Timing function

(b) The system must be capable of receiving aircraft data and encoding for telemetry applications.

(c) The system must have user friendly GUI based programming capability. The data acquisition system programming station must be ruggedized.

(c) The system must be capable of working with 28 V DC power supply.

(d) The Data Acquisition Unit must have 9 Slots / 13 Slots for fitment of the cards. The Cockpit Control and Display unit must be provided for controlling the data acquisition.

- (e) The Data Acquisition System software must have quick look feature for real time monitoring of parameters.
- (f) The software must be capable of exporting the data in CSV, Excel, .mat formats.
- (g) The system must support a very high sampling rate (1000 Hz).

Appendix B
(Refer Para 6 of
Brief Airborne
Ruggedized Flight Test
Instrumentation System)

GENERAL ASPECTS

1. Whether the company/ Association of Persons (AoP) is eligible as per provisions of DAP 2020 (Eligibility of Participation: Indian vendors only).
2. Whether the vendor can provide an assessment of its capability (Financial and Technical)? If so provide the necessary documentation for verification.
3. Whether 50% or higher (specify) Indigenous Content (IC) that can be ensured?
4. Does the vendor envisage the feasibility of achieving future exports?
5. Whether the vendor's proposal would be eligible for Make-II subcategory of Chapter III of DAP 2020?
6. Whether R&D or ToT through foreign collaboration is proposed by the vendor? (Provide indicative information)
7. Estimated cost of development in case indigenous R&D is proposed.
8. Estimated tentative time period of completion of R&D or ToT.
9. Rough Cost of equipment for manufacture in India.
10. Please indicate plan/status for certification of the equipment.
11. Please provide relevant and applicable technical details. Indicative of information on weight, parts etc.