INPUTS FOR FEASIBILITY STUDY FOR MAKE-II PROJECTS

COMBINED INDICATOR OF INTEGRATED STAND-BY INSTRUMENT SYSTEM

1**. Government of India (GoI), Ministry of Defence (MoD), is considering** Indigenous design, development and supply of Combined Indicator of Integrated Stand-by Instrument System **(approximate quantity 70 Nos.)** for fitment on fighter aircraft under **'Make-II'** category of DAP-2020. Indian firms (startups/MSME/Large) with demonstrated capability in the domain, interested in designing and manufacturing of equipment in India may furnish information sought.

Introduction and Brief Description of Equipment.

2. Integrated Stand-by Instrument System (ISIS) is stand-by system on aircraft for calculation of roll, pitch and slip angles, Indicated Air Speed (IAS), Mach Number, Barometric Flight Altitude, Vertical Speed and Magnetic Heading. The system primarily consists of two sub systems viz., **Combined Indicator** and **Magnetometer**. Aircraft Pitot Static system provides the feed for altitude / speed calculations and the magnetometer provides the feed for magnetic heading. Remaining parameters are calculated by the internal sensors and processing units in Combined Indicator.

3. The equipment is to be designed and developed as per requirement on fighter aircraft (dimensions, weight and power supply / consumption constraints) and interfaced / connected with aircraft systems for specific inputs. The equipment is to be MIL standard compliant for the class of equipment and certified through assistance from CEMILAC as per extant policies. Quality Assurance coverage would be provided by DGAQA and trials would be undertaken by Indian Navy.

4. **Information sought**. You are requested to provide specific replies to the queries at **Appendix 'A'** attached.

5. Please confirm that your firm has the technology and capability to design, develop and manufacture Combined Indicator of Integrated Stand-by Instrument System and that you are willing to supply it to the Government of India (GoI), Ministry of Defence (MoD), India as per provisions given for Make-II Scheme in chapter-III of DAP-2020 issued by the MoD, Govt of India.

6. Please forward details of your company and products which are suitable for our requirement to include following:-

(a) Name, address, telephone numbers, fax numbers, website and e-mail address.

(b) Areas of core competence of firm registered as startup/MSME/Large and the certificate therein.

(c) Details of products manufactured by your firm which are likely to meet the requirement of MoD, India.

(d) Specifications with regard to characteristics as asked for in the questionnaire at Appendix.

(e) Details of your past customers with special reference to the equipment required by MoD, India.

(f) Tentative cost (cost intimated here is indicative and is not binding while making a commercial bid subsequently) to include factors such as AMC, product support package, training etc.

(g) Manufacturing capacity in Numbers every month / delivery schedule.

7. The required information/details may please be forwarded at the following address by **15 Oct 21**.

For queries if any contact **011-23011247**.

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Appendix 'A'
(Refer to Para 4)

QUESTIONNAIRE: COMBINED INDICATOR OF INTEGRATED STAND-BY INSTRUMENT SYSTEM

General Aspects

1. Whether the company/Association of Persons (AoP) is eligible as per provisions of DAP 2020?

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% Indigenous Composition (IC) can be ensured?

4. Does the vendor envisage the feasibility of achieving future exports?

5. Estimated cost of development?

6. What is the estimated time period of completion of design, manufacturing and testing of prototype?

7. What is Rough Order of Magnitude (ROM) cost of 70 units to be manufactured in India?

Technical & Operational Aspects

8. What are the main components in Combined Indicator of Integrated Stand-by Instrument System? Please specify including all spares and consumables.

9. What are the special features and technology used for development of Combined Indicator of Integrated Stand-by Instrument System including the generation.

10. What is the type of display used?

11. Is there provision for built-in battery? Please indicate back up time.

12. Are there any additional features provided? If yes, please list with aircraft interfaces.

13. What are the performance metrics achieved?

14. What EMI/EMC standards does your system comply with?

15. Is the Combined Indicator of Integrated Stand-by Instrument System compatible for interfacing? Please specify all interfaces. Please specify any specific design limitations.

16. What external factors does the performance of Combined Indicator of Integrated Stand-by Instrument System depend upon?

Maintenance & Training Aspects

17. What is the reliability of the equipment in terms of MTBF?

18. What are the numbers of SMTs/STE/Gauges required for maintenance at field unit and workshop level?

19. Will the training of maintenance personnel for repair and maintenance of equipment be provided?

20. Is adequate literature and informative material for reference by user and technical personnel for preparation for Engineering Support Documents available? Whether the following would be provided:-

(a) User's manual?

(b) Technical manual?

(c) Field Repair manual?

(e) Illustrated Parts List?

(f) MRLS and spare for two years?

(g) Fault diagnosis manual?

(h) Two sets of drawing/circuit diagnosis drawings?

(j) Software documents, if applicable?

(k) CBT on CDROM for assembly/sub assembly and fault finding procedure for training of tradesmen?

Note :- Any other relevant information covering above and supplementary aspects may be provided separately in addition to your response to the questionnaire.

Details of Project Officer

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