

**INVITATION FOR EXPRESSION OF INTEREST (EOI) FOR
DESIGN, DEVELOPMENT AND PROCUREMENT OF
MULTI-BAND NAVIGATION RECEIVER SYSTEM (MBNR)
UNDER MAKE-II PROCEDURE OF DAP-2020**

Reference:-	Defence Acquisition Procedure 2020 (DAP - 2020)	
Appendices:-	A	Format for Eoi Response
	B	Commercial and Technical Evaluation Criteria
	C	Confidentiality Agreement
	D	Correctness Certificate

Layout

1. The Eoi comprises the following parts:-
 - (a) **Part-I** : General Information
 - (b) **Part-II** : Scope of Project
 - (c) **Part-III** : Evaluation Criteria
 - (d) **Part-IV** : Procedure for submission of Response to the EOI
 - (e) **Part-V** : Miscellaneous
2. The nodal officer for this project for all queries/ clarifications/ coordination will be Chairman, Project Facilitation Team, "Design, Development and Procurement of Multi-Band Navigation Receiver System". Address and contact details of the nodal officer are given at Para 25 of the Eoi.

PART I: GENERAL INFORMATION

3. The brief on the equipment is as follows:
 - (a) MBNR System would be used in Ground Based Systems which utilise a legacy GPS Satellite Navigation System (SNS) to determine the present position/ time.
 - (b) MBNR will help in enabling such ground based systems to be capable of working with multiple Satellite Navigation Systems such as GLONASS, IRNSS, Beidou and Galileo, in addition to the GPS.
 - (c) The MBNR will receive the GLONASS, IRNSS, Beidou and Galileo Radio Frequency (RF) signals from the antenna and will re-generate the output in the form of GPS L1 signal, which will be supplied to the legacy GPS receiver. Thus the legacy Ground Based Systems will develop capability to work with GLONASS,

IRNSS, Beidou and Galileo system, in addition to GPS, without necessitating any Hardware/Software change in the legacy GPS receivers.

(d) In addition to GPS L-1 regeneration feature, the system will also have Position/Time Spoofing detection feature, which will enable the operator to switch to another SNS if one of the SNS systems is spoofed.

(e) MBNR System including antenna when mounted on mother equipment forms an integral part of mother system and does not restrict mobility, transportation and operating requirements of mother systems (radars or other AD systems).

(f) MBNR system including antenna may be able to withstand wind speed of 100 km/h in operation (without ice formation) & 180 km/h in storage. The system may be capable of Operation & Storage at a Temperature of Minus 30° to Plus 55° C and operation between an altitude from Mean Sea Level upto 6000 meters AMSL. The software used in the equipment may have to undergo Independent Verification & Validation (IV&V). In case COTS electronic components are used, the component/equipment may be screened as per JSG 667:2017 or latest.

Objective

4. The objective of this EoI is to seek responses from eligible Indian Entities to indigenously Design & Develop Qty 01 prototype MBNR system under the 'Make II' sub-category of 'Make' and to procure Qty-33 MBNRs under the 'Buy (Indian-IDDM)' category as per Chap III of DAP 2020, after successful development of prototype.

PART II: SCOPE OF THE PROJECT

5. **Phases.** The project involves following two phases:-

(a) **Design and Development Phase.** This phase involves indigenous Design and Development of prototype MBNR system. This phase will end upon approval of the trial report by the appropriate authority within the Air HQs as per Para 54, 55 of **Chapter-III of DAP 2020** under the 'Make-II (Industry Funded)' sub-category with minimum 50% IC content.

(b) **Procurement Phase.** This phase will commence with 'Buy (Indian-IDDM)' with 50% IC in accordance with Para 55A of Chapter-III of DAP 2020 from qualifying DAs.

6. **Categorisation.**

(a) **Design and Development Phase.** 'Make-II (Industry Funded)' Sub Category of Make Category of DAP-2020.

(b) **Procurement Phase.** 'Buy (Indian-IDDM)' in accordance with Para 6(d) of Chapter III of DAP-2020 from qualifying Development Agency (DA) with minimum 50% IC.

7. **Quantities.**

(a) **Design and Development Phase.** Qty-01 set of MBNR System (along with associated equipment).

(b) **Procurement Phase.** Qty-33 sets of MBNR Systems (along with associated equipment).

8. **Make-II Procedure.** Detailed guidelines on Make II Procedure (Chapter III of DAP 2020) may be downloaded from MoD website for reference.

9. **Preliminary Service Qualitative Requirements (PSQRs).** The PSQRs will be shared with the companies who intend to participate in the MAKE-II Project. The PSQR sharing from IAF will take place only after signing of Non-Disclosure Agreement. The Essential Requirements at Part III of the PSQRs must be met prior to conversion of PSQR to SQR after the conduct of Single Stage Composite Trials (SSCT).

Timelines & Milestones

10. **Single Stage Composite Trials.** SSCT will be conducted in accordance with Para 55 of Chapter III of DAP 2020. Trials will be undertaken within India at IAF units.

11. **Milestones.** The MBNR Systems are planned to be inducted as per timeline brought out below. Feasibility Study Team (FST) has estimated a D&D period of 48 weeks. The estimated timeline for induction/ delivery is as follows (Appendix-L to Chap-III of DAP 2020):-

SI No	Activity	Remarks	Timeline	Cumulative Timelines
(a)	Issue of EoI	By PFT	--	T ₀
(b)	EoI Response Submission	By EoI Respondents	08 weeks	T ₀ + 8 weeks
(c)	EoI Response Evaluation	By PFT	06 weeks	T ₀ + 14 weeks
(d)	Issue of Project Sanction Order (PSO) for Prototype Development	To selected DAs	02 weeks	T ₀ + 16 weeks
(e)	Prototype development	By DAs	30-48 weeks	T ₀ + 46 weeks to T ₀ + 64 weeks
(f)	Single Stage Composite User Trials & Acceptance of Trial Report	--	07 weeks	T ₀ + 53 weeks to T ₀ + 71 weeks
(g)	Conversion of PSQRs to JSQRs	--	02 weeks	T ₀ + 55 weeks to T ₀ + 73 weeks
(h)	Issue of Commercial RFP	--	02 weeks	T ₀ + 57 weeks to

				T ₀ + 75 weeks
(j)	Solicitation of Commercial Offer	--	04 weeks	T ₀ + 61 weeks to T ₀ + 79 weeks
(k)	Finalisation of Cost Negotiation Committee (CNC)	--	04 weeks	T ₀ + 65 weeks to T ₀ + 83 weeks
(l)	Signing of Contract	--	02 weeks	T ₀ + 67 weeks to T ₀ + 85 weeks

Development of Prototype and Trials

12. MBNR System should be developed as per PSQRs. Any clarification related to functional or operational aspects of development as sought by the DAs will be provided by the Project Facilitation Team (PFT).

13. After the prototype MBNR System has been developed as per PSQRs, and confirmed by the PFT in a collegiate manner, the PFT with requisite empowered members, would carry out the SSCT of the prototype. If the prototype is assessed as meeting the desired standards, the PSQRs would be converted to ASQRs. Necessary technical literature pertaining to the design & material and verification of IC will be provided by the DAs for the SSCT on the prototype.

14. DAs will be required to produce the following documents for vetting and approval by IAF, DGAQA and Design Certification Agency as per PSQRs.

- (a) Environmental Qualification Test Procedure (EQTP).
- (b) Detailed Specification Sheet.
- (c) Detailed drawings.
- (d) Manufacturing Process Document.
- (e) Quality Assurance Plan (QAP).
- (f) Acceptance Test Procedure (ATP).
- (g) **User manual/ Brochure containing the following:-**
 - (i) Detailed drawings, specifications, standards & capabilities of MBNR & its accessories.

- (ii) Detailed guidelines/ procedure for installation & removal, data acquisition and downloading, operating instructions and storage facility.
- (iii) Training documents.

15. Design & Development (including developmental testing/ trials) of the MBNR Systems is to be undertaken by the DAs. In case any IAF facility is required during trials, the vendor may provide a list of such facilities in his response (Para 29 of **Appendix A** refers).

Solicitation of Commercial Offers

16. A commercial Request for Proposal (RFP) for 'Buy (Indian-IDDM)' phase would be issued to all DAs who have cleared the 'single stage composite trials' of prototype to solicit their commercial offers and additional technical information/ documentation, as may be necessary.

Deliverables

17. The project is envisaged to have the following deliverables and the details of procurement phase will be further amplified in the Commercial Request for Proposal (RFP):-

- (a) **Prototype Development Phase**. Qty-01 set of MBNR System (along with associated equipment).
- (b) **Procurement Phase**
 - (i) A total of Qty-33 MBNR Systems along with associated equipment.
 - (ii) Requisite training, Technical literature including user handbook, operations & technical documents and manuals.

Intellectual Property Rights (IPRs)

18. Policy on IPRs is mentioned at Para 59 of the Chapter III of DAP-2020 for Make-II Procedure.

PART III : EVALUATION CRITERIA

Commercial and Technical Evaluation Criteria

19. **Eligibility.** Indian Entity satisfying criteria given at Para 20 of Chap 1 to DAP 2020 is considered as an eligible "Indian Entity" for the project.
20. EoI respondents will be evaluated for compliance to commercial and technical criteria as per **Appendix B**.

Indigenous Content (IC)

21. Indigenous Content of minimum 50% is to be ensured at prototype stage and during procurement stage. After successful development of MBNR system, further procurement will be as per the 'Buy (Indian-IDDM)' procedure in accordance with DAP-2020. IC content will be assessed as per guidelines at Para 21 of Chapter I of DAP 2020. All relevant deliveries made under contract shall be accompanied by a certificate of IC issued by the Chief Financial Officer (CFO) of the prime/ main contractor. All final deliveries under contract shall be accompanied, in addition to the certificate issued by the CFO of the prime (main) contractor as aforesaid, by its Company Auditor's certificate.
22. **Foreign Collaboration.** If the EoI Respondent is collaborating/ plans to collaborate with a foreign technology provider, the nature of such collaboration and the technology areas being transferred must be stated in the response (please refer Paras 13,23,27&28 of **Appendix A**).

PART IV: PROCEDURE FOR SUBMISSION OF RESPONSE TO THE EoI

23. **Guidelines for Submitting EoI Responses.**

(a) The responses should be submitted as per format placed at **Appendix A**. Should a vendor need to mention any other information, a separate column/ row/ additional pages may be added.

(b) All responses as per Appendices should be submitted in a single file/ folder. Supporting documents/ additional references should be submitted in a separate folder with proper reference mentioned against each parameter/ sub parameter in respective appendices.

(c) Any supporting document/ evidence without any reference to specific parameter of criteria will not form part of assessment. Such document may be used only at discretion of review committee/ person.

24. **Rejection Criteria for Selection as EoI Respondent** The following may lead to rejection of EoI response:-

(a) Failure to meet the Commercial and Technical Evaluation Criteria given at **Appendix B**.

(b) Failure to offer compliance to any of the terms and conditions given in the EoI.

(c) Failure to agree with the project timelines.

(d) Failure to offer desired indigenous content.

(e) Any other parameter of the response considered inadequate.

25. The envelopes shall be addressed as under:-

Chairman, Project Facilitation Team
Design, Development and Procurement of
Multi-Band Navigation Receiver System
Gp Capt Air Staff Requirements (EW) (Room No. 449)
Air HQ (Vayu Bhawan)
Rafi Marg, New Delhi-110011
Telephone/ Fax: 011- 23060219/ 011-23011753
E-Mail ID: panther.449@gov.in

26. The response to this EoI must be submitted by 3:00 PM on **10 May 24** at the address mentioned above.

27. The Company will be required to sign and honour the 'Confidentiality Agreement' with MoD, Govt of India. The 'Confidentiality Agreement' will be furnished by each EoI respondent at the time of submission of EoI responses as per format given at **Appendix C**.

PART V: MISCELLANEOUS

28. **Pre-Eol Response Meeting.** Companies may submit written queries/ clarifications/ amplifications on specific issues within 10 days of the issue of Eol. A pre-response meeting will be held in about three (3) weeks after the issue of Eol to clarify issues/ queries raised by the participating firms to facilitate submission of response. Date of pre-response meeting will be promulgated by the PFT.
29. Guidelines for penalties in business dealings with entities as promulgated by Government from time to time will be applicable on procurement process & bidders.
30. The Pre-Contract Integrity Pact (PCIP), listed as detailed in Para 119 of Chapter II of DAP 2020, shall apply mutatis mutandis to 'Buy (Indian-IDDM) phase of the project.
31. Respondents would be subject to disqualification if they make false, incorrect, or misleading claims in their response to this Eol. A 'Correctness Certificate' as per the format at **Appendix D** will be furnished as part of the response.
32. Please acknowledge the receipt of this invitation for Eol.

File No: AIR HQ/S 96135/165/ASR

Date: 15 Mar 2024


(A Mishra)
Group Captain
Chairman, PFT

FORMAT FOR EOI RESPONSE

PART I – VENDOR DETAILS

1. Name of Case:
2. Name of EoI Respondent:
3. Mailing Address/Contact/Phone/Email/Website (If factory site is located differently, indicate address of the same):
4. Name/Particulars of CEO:
5. Date of incorporation:
6. Brief history of company:
7. Nature of Company:
(Public/Private/Limited/Sole proprietorship etc)
8. Category of Industry:
(Large/Medium/Small/Micro/Start Up)
Note: Attach the certificate, if the company is a MSME.
9. Nature of business (Manufacturer/ Trader/ Sole Selling or Authorised Agent/ Dealer/ Assembler/ Processor/ Re packer/ Service Provider):
10. Average Turn Over of the last three financial years:
11. Net worth of the company, as on 31 Mar of last FY(year 2023) (should be positive).
12. Details of current products:-
(Type/ Description, Licensed/ Installed Capacity, Annual Production for Preceding 3 Years):
13. Details of foreign collaboration(s), if any, related to execution of the project.
(Include details related to name(s) of the entity, work share planned during design, development, as well as manufacture):
Note: In case of foreign collaboration, compliance to Para-3 of Chapter-III of DAP 2020 to be clearly established.
14. Have you supplied any product/services to MoD, Indian Army/Indian Air Force/ Indian Navy/ Indian Coast Guard/ DPSUs/ DRDO labs/Ordnance Factories, any other defence organisation etc.? (Provide indicative list, if applicable)
15. Details of permanent manpower:-
 - (a) Technical:
 - (b) Administrative:
16. Total Area of Factory:
 - (a) Covered area (Sq M):
 - (b) Uncovered area (Sq M):
 - (c) Any other space available (Sq M):

17. Is the factory space adequate to undertake design, development and manufacture of the MBNR system?
18. Have you ever developed or produced any equipment/parts related to GNSS receivers? If yes, then the product details to be provided.
19. Any other information relevant to the case.

PART II: PROJECT SPECIFIC INFORMATION

20. Outline proposal of the company to undertake prototype development.
21. Stages/phases of development, with indicative time schedules.
22. Critical and Niche technologies planned to be delivered along with Indigenization status and plan.
23. Identify Sub-systems, LRUs and Software that shall mandatorily be indigenously designed & developed.
24. Life cycle support and obsolescence management aspects on the product need to be provided.
25. Milestones that can be demonstrated to facilitate project monitoring.
26. Role, responsibility and expertise details of the firm, if any, and if applicable.
27. Role of foreign technology provider, if any. In case of foreign collaboration, along with scope, depth & range of ToT, details of formal acceptance by foreign partner's government (i.e. country of origin) that any license required to transfer the technology will be granted in case selected. If any inter-governmental agreement is required, same also needs to be stated.
28. Foreign dependency details for critical technologies, components/ JV (if any)/etc.
29. Requirement of specialised testing assistance, where such facilities are available only with Armed Forces/DRDO/DGAQA/DGQA/DGNAI or any other Govt facility. (Please provide a list of such facilities, with time period for which required).
30. Information to prove design/developmental capacity:-
(Any past examples of indigenous design and development, R&D facilities available in house, if any; Technical/ R&D manpower/expertise available, institutional tie ups, MoU, laboratory and drawing office facility, CAD/CAM facility, percentage of total turnover spent on R&D during last three years etc)
31. Details of important facilities:
(Production facilities, CAD/CAM/Robotics, other advanced technology tools, environmental testing facilities, tool room, metrology and test eqpt facilities, instrumentation etc).
32. Please furnish an undertaking that design and development will be as per provisions and guidelines of Chap III of DAP 2020, especially as they relate to Indigenous Design, Indigenous Content and IPR.
33. Documents to be submitted along with this appendix, by the EoI respondent:-
 - (a) Copy of latest certificate of incorporation by the Registrar of Companies.
 - (b) Audited Financial Statements (Profit & Loss Account and Balance Sheet) with Auditors Report.
 - (c) Acceptance Certificate, clause wise of all terms and conditions given in the EoI.
 - (d) Confidentiality Agreement (As per format at **Appendix C**).
 - (e) Correctness Certificate (As per format at **Appendix D**).

- (f) Undertaking as per **Para 28** of this appendix.
- (g) Self-certification for adequacy of engineering and technical ability for D&D of MBNR system.
- (j) Certificate for PSQR compliance.

Note:-

1. All submissions must be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not be assessed.
3. No separate financial, commercial criteria will be applied for start-ups.
4. Attach additional pages, as necessary.

Appendix B
(Refers Para 20&24 (a) of Eol)

COMMERCIAL AND TECHNICAL EVALUATION CRITERIA

Commercial Evaluation Criteria

SI No	Information	Pass Criteria
(a)	Nature of the Company	As per Annexure I to Appendix F of Chapter III of DAP 2020
(b)	Ownership Status	
(c)	Category of Industry.	Large/Medium/ Small/ Micro/Startup
(d)	Annual Turnover	Average annual turnover of the applicant company for the last three financial years ending 31 st March of the previous financial year should not be less than 5% of the estimated cost of the project.
(e)	Net Worth	Net worth of the entities ending 31 st March of the previous financial year should be " Positive ".

Technical Evaluation Criteria

SL No	Criteria and Sub Criteria	Pass Criteria
(a)	Engineering and technical ability	Self-certification by Eol respondent
(b)	Proposed indigenous content in percentage of total cost at prototype stage and final stage	As per Chapter III of DAP 2020
(c)	Total Land area	Statement of firm for adequacy
(d)	PSQRs Compliance	Self-certificate of compliance by Eol respondent
(e)	Intellectual Property Rights (IPR)	Vendor to confirm IPR as per Para 18 of Eol

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CONFIDENTIALITY AGREEMENT

1. It is certified that Expression of Interest document for the project of Design, Development and Procurement of Multi Band Navigation Receiver System (MBNR) will not be shared with any agency in part or in full. Only relevant details, as applicable, will be shared with technology partners including foreign technology partners. However, the Eol document itself will not be shared with any technology partners.
2. The company understands the security sensitivity of such operational system and any information pertaining to deployment and usage of the system including system scaling will not be discussed with third party without a written permission from the Project Facilitation Team. The company understands that failure to observe this agreement will lead to disqualification from the project without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

Signature with Company Seal

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Appendix D
(Refers Para 31 of EoI)

CORRECTNESS CERTIFICATE

It is certified that information submitted in the documents as part of the response to Expression of Interest (EoI) for the project of Design, Development and Procurement of Multi Band Navigation Receiver System (MBNR) is correct and complete in all respects. It is acknowledged that the company will be disqualified from further participation if any information provided is found to be incorrect.

Signature with Company Seal

