

**QUESTIONNAIRE - INDIGENOUS STABILISED LAUNCHER FOR MANPADS  
UNDER MAKE II CATEGORY**

1. **Background.** The Ministry of Defence, Government of India, intends to procure Indigenous Stabilised Launcher for MANPADS, (*hereinafter mentioned as ISL*) through Make-II procedure of DAP-2020, as a new induction.
2. **Description.** ISL is envisaged to be stabilised launcher designed for remote single/ salvo firing of Russian origin Igla-S/ VERBA missiles. The system is envisaged to be fitted on Indian Navy ships.
3. The ISL system shall have following features: -
  - 3.1 Stabilised launcher with small footprint enabling fitment onboard both minor and major platforms.
  - 3.2 Integrated day and night capable EO sight capable of search, track and generation of FCS.
  - 3.3 Remote-controlled launch mechanism.
4. **Total Quantity and Prototypes.** There is a total requirement of 40 systems for fitment onboard *IN* ships and one prototype for proving the system prior bulk procurement.
5. **Questionnaire.** In order to identify prospective vendors who can undertake the said project, the vendors are requested to furnish information as elucidated in succeeding paragraphs.
7. Please provide description of the vendor organisation in terms of research and development of stabilised launcher with abovementioned missile.
8. Please provide financial capability and technical expertise.
9. Please provide details regarding major successful projects/ products/ technologies developed/ under development involving Research and Development in the field of launcher for missile systems using the latest techniques.
10. Please provide details of annual turnover for last three years.
11. Please provide details of launchers manufactured by the vendor and supplied in India/ abroad.

12. Please provide details of any stabilised launcher or similar product manufactured by the vendor and supplied to Indian Navy.
13. Does the vendor have the capability to develop prototype of ISL (MIL grade) and produce the same indigenously?
14. Will the ISL be designed and developed indigenously in India? If no, please provide details of all foreign companies with whom there is a partnership/ Joint Venture/ MOU for carrying out the design and development? Will your company finally hold the IPR of the design so generated during the prototype development phase?
15. Does the vendor have adequate infrastructure to develop, integrate, test and manufacture ISL? If yes, please provide details of the same. If no, what would be the timeframe for establishing the same?
16. What are the areas of uncertainty envisaged by the vendor in the design, development and production of the indigenous development of ISL?
17. What is the approximate indigenous content (in terms of cost percentages) at both Prototype Development Stage and Production Stage?
18. What are the major components of ISL?
19. What are the major components that will be indigenously manufactured by the vendor? What will be the source of acquisition for the remaining components (details of the source firms may be specified indicating whether the source firms are domestic/ foreign)?
20. What is the modus operandi for Transfer of Technology (TOT) of the imported technology to achieve self-reliance?
21. What are the anticipated timelines for development of the prototype (including Quality Assessment Tests) and production of bulk quantities? Specify the timelines separately for each.
22. What is the quantity that can be manufactured per month/year during production?
23. Can the vendor manufacture/ supply the ISL as per demand in future. Please explain. What will be the costing for the same?
24. How will the vendor ensure continuous supply of components, especially for those components being procured ex-import, if any?

25. Is the vendor ready to undertake development on NO Cost basis in accordance with Make-II scheme including requisite type tests?
26. What are the likely design and development costs for prototype of ISL.
27. Will the cost include all other costs like project monitoring, installation, specialised tools etc. If not please mention the specific costs.
28. What will be the maintenance philosophy of the ISL. Please provide details regarding repairs/ maintenance procedures of the ISL? Will it require specialised engineer/manpower?
29. What will be the approximate budgetary cost for manufacture of prototype, along with delivery timeline? Please provide an estimated budgetary quote inclusive of all costs.
30. What are the proprietary technologies incorporated in the ISL being developed? Are the proprietary technologies indigenous or ex-import? If ex-import, will the foreign vendor transfer the technology? Clarify the Intellectual Property Rights (IPR) for ISL.
31. Is the vendor willing to transfer the technology to any DPSUs in future? If yes, will the TOT include the proprietary technologies?
32. Does the vendor have a valid Government Industrial License for design, development and manufacture of ISL in India?
33. Please provide compliance to industry standards, including quality control.
34. Will the vendor carry out necessary R&D on more types of ISL?
35. Any additional details in respect of the proposed development carried out may be provided.
36. What will be the estimated fair life of the product? What will be the warrantee on the product?
37. Will the vendor provide on-site warranty?
38. Please provide details regarding providing support to Indian Navy towards maintaining the aforesaid ISL.

39. Please provide details on technical/ operational parameters as follows: -

Ser	Description
<b>Technical Parameters</b> (Give a brief technical description about the technical specifications and parameters)	
1.	Stabilized launcher with 02/04 IGLA missiles configuration
2.	Electro Optical Fire Control System (EOFCS) integrated day/ night capable Electro Optical Device/s (EOD)
3.	Over all weight shall not exceeding 800 kg (including EOSS/ EOD)
4.	The system shall have > +150° freedom of operation in azimuth and - 05° to + 60° in elevation
5.	Capable of being slewed at 40° to 50° per second in both elevation and azimuth
6.	The launcher/s system shall be provisioned with an integrated EOFCS capable of generating fire control solutions for single/ salvo launch
7.	Sufficient stabilization in both azimuth and elevation to achieve lock-on by missile seeker (IglA/ Verba VSHORADS and VSHORADS)
8.	The EOFCS shall have a Multi-Functional Display Unit (MFDU) consisting of a LED monitor with soft touch keys/ push buttons capable of all initializations, operational settings, calibration, diagnostics and operating various software functions
9.	The system shall undertake recording and logging of all operational activities using an internal Recording Unit (RU) connected to the system network
10.	The system shall have a service life of > 10 years with proper maintenance
11.	ISL shall have a Built-In-Test (BIT) feature incorporated into the system
12.	Customisable mechanical and electrical stoppers to limit the firing arcs of launcher system as per ship's design requirement
13.	The system shall have a remotely located safety switch (Permit/ Inhibit Switch) to enable/ disable firing of the launcher
<b>Trial Methodology</b>	
14.	Testing: How does the vendor envisage testing the ISL and at which location?
15.	Trials : Is the vendor willing to conduct Field Evaluation Trials in Indian Waters/ IN facility at No Cost No Commitment basis?
<b>Basic Functional Tests</b>	
16.	Shore trials including firing
17.	Ship borne trials including firing
18.	EMI/ EMC test
19.	EOD trials
20.	LRF trials
21.	Proof Firing
22.	Shock and vibration test

49.2 Annual Turnover in INR for last 03 financial years.

49.3 Profit/ Loss Statement of the last 03 financial years.

49.4 Infrastructure and number of employees working in R&D of systems related to the product. Provide details of developmental facilities like Laboratories, inspection and quality control, and trials and testing facilities.

49.5 Details of earlier contracts with Indian Ministry of Defence/ Government agencies: -

Ser	Contract Number	Equipment/ Product	Quantity	Cost

50. The entity/firm is requested to confirm if the foreclosure criteria for Make-II category as specified in Para 20 (b), Ch - III of DAP 2020 or as amended in future by the MOD, GOI is acceptable.

51. Any other details/ relevant information not asked for in the questionnaire which the entity would like to submit before the Feasibility Study may be provided.

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