

**QUESTIONNAIRE - 127 MM GUIDED AMMUNITION FOR 127 MM MEDIUM  
CALIBRE GUN UNDER MAKE-II CATEGORY**

1. **Background.** The Ministry of Defence, Government of India, intends to procure **Guided Ammunition for 127 mm Medium Calibre Gun through Make-II procedure of DAP-2020**, as a new induction.
  
2. **Description.** The 127 mm Medium Calibre Gun (MCG) would be utilised for Anti-surface, Anti-air, Naval Gunfire support and long range surface attacks modes of firing. It is intended to be a cost effective solution to target enemy air/ surface platforms and land targets at extended ranges with better accuracy. The gun would be designed to fire the Extended Range Munitions and undertake precise engagement of enemy targets at extended ranges. It is intended to be fitted on *IN* Ships of size frigate and above. Further, there is a need to develop corresponding 127 mm Guided Ammunition capable of being fired from these Guns. Optimum utilization of 127 mm Gun would be possible with the design and development of guided ammunition that can be fired from 127 mm Gun. This would provide better weapon to target matching and would reduce expenditure of conventional ammunition by achieving results with lesser number of rounds.
  
3. **Total Quantity and Prototypes.** Indigenous development of 100 prototype and bulk quantity of 2000 guided ammunition for 127 mm MCGs would be required by the Indian Navy. The quantity indicated for prototype and production is only an indicative requirement and is not a firm commitment. The quantity has been provided so as to enable firms to arrive at economy of scale prior providing statement of cost of production version of Guided Ammunition for 127 mm Medium Calibre Gun.
  
4. **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 including those at Annexure. Limiting parameters (if any) have been indicated against the relevant parameter.

5. Please provide description of the vendor organisation in terms of research and development of ammunition, including financial capability and technical expertise.
6. Please provide details regarding major successful projects/ products/ technologies developed/ under development involving Research and Development in the field of ammunition, particularly ammunition of 127 mm calibre.
7. Please provide details of annual turnover for last three years.
8. Please provide details of ammunition manufactured by the vendor and supplied in India/ abroad.
9. Please provide details of any ammunition manufactured by the vendor and supplied to Indian Navy.
10. Does the vendor have the capability to develop prototype of 127 mm NATO standard ammunition and produce the same indigenously?
11. Will the 127 mm guided ammunition 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?
12. Does the vendor have adequate infrastructure to develop, integrate, test and manufacture 127 mm NATO standard ammunition? If yes, please provide details of the same. If no, what would be the timeframe for establishing the same?
13. What are the areas of uncertainty envisaged by the vendor in the design, development and production of the indigenous development of 127 mm NATO standard ammunition?
14. What is the approximate indigenous content (in terms of cost percentages) at both Prototype Development Stage and Production Stage?
15. What are the major components of 127 mm NATO standard ammunition?

16. 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)?
17. What is the modus operandi for Transfer of Technology (ToT) of the imported technology to achieve self-reliance?
18. 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.
19. What is the quantity that can be manufactured per year during production?
20. What will be the annual rate of supply? What would be the estimated lot/ batch size for supply of ammunition?
21. How will the vendor ensure continuous supply of components, especially for those components being procured ex-import, if any?
22. Is the vendor ready to undertake development on No Cost basis in accordance with Make-II scheme including requisite type tests?
23. What are the likely design and development costs for prototype of 127 mm NATO standard ammunition?
24. What will be the approximate budgetary cost for manufacture of 2000 rounds of 127 mm NATO standard ammunition over a period of five years? Please provide an estimated budgetary quote as per Annexure II.
25. What are the proprietary technologies incorporated in the ammunition 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 127 mm NATO standard ammunition.
26. Is the vendor willing to transfer the technology to any DPSUs in future? If yes, will the ToT include the proprietary technologies?

27. Does the vendor have a valid Government Industrial License for design, development and manufacture of 127 mm NATO standard guided ammunition in India?
28. Please provide compliance to industry standards, including quality control.
29. Will the vendor carry out necessary R&D on more types of 127 mm NATO standard guided ammunition?
30. Any additional details in respect of the proposed development carried out may be provided.
31. Please provide details on technical/ operational parameters as follows:-

Ser	Description
<b>Operational Parameters</b>	
(a)	Calibre.
(b)	<b>Range.</b> Please specify the minimum and maximum range for the guided ammunition will be capable of firing.
(c)	Dimensions.
(d)	Weight.
(e)	Shelf life of ammunition in both afloat and ashore stowage.
(f)	<b>Operational Limits.</b> Are there any environmental temperature/ humidity limits for operating 127 mm NATO standard guided ammunition in Indian atmospheric conditions? Please provide limits and their impact on performance of ammunition.
(g)	<b>Description.</b> Description of planned components of the guided projectile and operating capabilities, and support equipment required.
(h)	<b>Type of ammunition and fuzes.</b> What are the types of ammunition and fuzes which will be provided.
(i)	<b>Testing.</b> How does the vendor envisage testing of the ammunition from shore and afloat?
(j)	<b>Trials.</b> Is the vendor ready for Field Evaluation Trials of the prototype in Indian waters at no cost no commitment basis?
<b>Quality Assurance Standards</b>	
(k)	Environmental test specifications.
(l)	Vibration requirements.

Ser	Description
(m)	Withstanding salt water spray.
(n)	Electromagnetic effects.
(j)	Shock test specifications.
(k)	Provide details of IP rating and applicable standards of compliance.
(l)	Painting
<b>Maintenance</b>	
(m)	<b>Quality Assurance.</b> What are the QA standards that the equipment (including components) will comply to? Provide details of standard of certification like ISO 9000, etc, details of date of certification with validity and agency?
(n)	Warranty.

32. Is there a requirement of setting up a dedicated infrastructure for 127 mm NATO standard guided ammunition like proof facility for testing the ammunition prior exploiting onboard ships and to check serviceability during entire ammunition life cycle?

33. How will 127 mm NATO standard guided ammunition be proven for reliability and safety?

34. Considering each ammunition component is required to be subjected to static and dynamic proof/ firing prior using the same for assembly in the final batch/lot of ammunition, how would the requirement of Proof-in-aid components be met?

35. Does the firm possess Environmental test facilities/provisions to undertake Qualification and Acceptance tests as per the specification requirements?

36. Please indicate willingness for trials of 127 mm NATO standard guided ammunition on No Cost No Commitment basis.

37. Please provide envisaged modalities for trials of prototype viz. location, platform, source of gun, duration and methodology.

38. What are the critical technologies envisaged to be developed/ incorporated in the 127 mm NATO standard guided ammunition?

39. Please enclose an undertaking for indigenous design iaw Appendix A to Chapter-I of DAP-20, which the firm will be required to submit at EOI stage.

40. Does the vendor have the ability to provide product support for complete shelf life cycle of 127 mm NATO standard guided ammunition?

41. Will the vendor also carry out necessary R&D for future enhancement/upgradations of 127 mm NATO standard guided ammunition?

42. The following details to be provided (relevant documents to be forwarded):-

- (a) Category of Industry (Large/ Medium/ Small Scale).
- (b) Annual Turnover in INR for last 03 financial years.
- (c) Profit/ Loss Statement of the last 03 financial years.
- (d) 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
- (e) Details of earlier contracts with Indian Ministry of Defence/ Government agencies:-

Ser	Contract Number	Equipment	Quantity	Cost

43. 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, Gol is acceptable.

44. 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.

Annexure IVENDOR INFORMATION PROFORMA

1. **Name of the Vendor/Company/Firm.** (Company profile including share holding pattern, in brief, to be attached)

2. **Type.**

- (a) Original Equipment Manufacturer (OEM) Yes/No
- (b) Authorised Vendor of foreign Firm Yes/No (attach details, if yes)
- (c) Others (give specific details).

3. **Contact Details.**

Postal Address:

\_\_\_\_\_

\_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Pin Code: \_\_\_\_\_ Tele: \_\_\_\_\_

Fax: \_\_\_\_\_ URL/Web Site: \_\_\_\_\_

Email: \_\_\_\_\_

4. **Local Branch/Liaison Office/ Agent (If Any).**

- (a) Name and Address.
- (b) Pin code.
- (c) Tel.
- (d) Fax.
- (e) Email.

5. **Financial Details.** Category of Industry (Large/ Medium/ Small Scale): \_\_\_\_\_

6. **Certification by Quality Assurance Organisation.**

Name of Agency	Certification	Applicable From (Date &Year )	Valid Till (Date & Year)

7. **Details of Registration.**

Agency	Registration No.	Validity (Date)	Equipment
GeM			
DGQA/DGAQA/DGNAI			
OFB			
DRDO			
Any other Government Agency			

8. **Membership of FICCI/ASSOCHAM/CII or Other Industrial Associations.**

Name of Organisation

Membership Number

9. **Equipment/ Product Profile (To be Submitted for Each Product Separately).**

(a) Name of Product. (IDDM Capability be indicated against the product. Should be given category wise for e.g. all products under night vision devices to be mentioned together)

(b) Description (attach technical literature).

(c) Whether OEM or Integrator.

(d) Name and address of Foreign collaborator (if any).

- (e) Industrial Licence Number.
  - (f) Indigenous component of the product (in percentage).
  - (g) Status (in service/design & development stage).
  - (h) Production capacity per annum.
  - (i) Countries/agencies where equipment supplied earlier (give details of quantity supplied).
  - (j) Estimated price of the equipment.
10. Any other relevant information.
11. **Declaration**. It is certified that the above information is true and any changes will be intimated at the earliest.

***(Authorised Signatory)***

**STATEMENT OF COST FOR PROTOTYPE DEVELOPMENT OF 127 MM NATO STANDARD GUIDED AMMUNITION**  
**FOR 127 MM MEDIUM CALIBRE GUN**

<u>Ser</u>	<u>Items</u>	<u>Qty</u>	<u>Imported Components Cost (I)</u>	<u>Indigenous Components Cost (₹) (II)</u>	<u>Approximate Unit Cost in INR (₹) (I) + (II)</u>	<u>Any other details Please mention specific IC content that will be achieved</u>
A.	Cost of fully formed 127 mm NATO Standard Ammunition	100				
B.	Cost of associated equipment (specify each line item)	-				
C.	Cost of any special maintenance Tools or special test equipment	-				
D.	Project Monitoring and Admin costs	-				
E.	Cost of ToT if any	-				
F.	Any Other Costs ( <i>please specify head</i> )					
<b>Total</b>						

**STATEMENT OF COST FOR PRODUCTION GRADE VERSION OF 127 MM NATO STANDARD GUIDED AMMUNITION  
FOR 127 MM MEDIUM CALIBRE GUN**

<u>Ser</u>	<u>Items</u>	<u>Qty</u>	<u>Imported Components Cost</u>  (I)	<u>Indigenous Components Cost (₹)</u>  (II)	<u>Approximate Unit Cost in INR (₹)</u>  (I)+(II)	<u>Any Other Details</u>
A.	Cost of fully formed 127 mm NATO Standard Ammunition	2000				
B.	Cost of associated equipment (specify each line item)	-				
C.	Cost of any Special Maintenance Tools or special test equipment	-				
D.	Project Monitoring and Admin costs	-				
E.	Cost of recommended MRLS	-				
F.	Cost of documentation	-				
G.	Any other costs ( <i>please specify head</i> )	-				
	<b>Total</b>					

\* **Note:** The quantity indicated for production is only an indicative requirement and is not a firm commitment. The quantity has been provided so as to enable firms to arrive at economy of scale prior providing statement of cost of production.