

**QUESTIONNAIRE: FOR NEW MAKE PROJ
(20 MM TURRET GUN AMN)**

1. Company Details.

- 1.1. The category of company, whether large/ medium/ small of start up?
- 1.2. Years of existence (Established in _____)?
- 1.3. Annual turnover of the company?
- 1.4. The credit rating of company and net worth?
- 1.5. Annual profit in last three financial years?
- 1.6. The shareholding pattern of the company?
- 1.7. Whether the company is OEM, manufacturing agency or system integrator?
- 1.8. Experience of the company in related fields?
- 1.9. Whether similar equipment has been supplied to any other government agency (Type of equipment, quantity and cost)?
- 1.10. Whether company has patents/ IPR of any critical components/ sub-systems?
- 1.11. Whether the company has any tie-ups/ Joint Ventures with any foreign firm for producing similar equipment.
- 1.12. Asst that would be reqd from IA?
- 1.13. Likely time for devp of prototype (in weeks) & manufacturing of the product (as per capb)?
- 1.14. If any part, mtrl, sub component will be reqd to be procured ex import?
- 1.15. Details regarding quality certification, dt of certification with validity & cert agency?
- 1.16. Type of industrial licenses held for talking the proj, and licenses that would be reqd for manufacturing amn?



2. Infrastructure.

2.1. Does the company have adequate infrastructure to develop, integrate and manufacture? If not, what would be the procedure and timelines to establish the same?

2.2. Does the company have adequate infrastructure for carrying out trials and testing of the equipment?

3. Cost.

3.1. Cost of the prototype and the product (unit cost and total cost)?

3.2. Minimum quantity economically viable for business?

3.3. Quantity of prototype recommended for user trials?

4. Indigenous Content.

4.1. Likely achievable indigenous content at prototype as well as production stage?

4.2. Details of important sub systems and enabling technologies of 20mm Gun Amn for ALH-WSI & LCH?

4.3. Critical technologies identified for the system and details of critical technologies not likely to be available in India, to be sourced ex-import (in cost percentage terms)?

4.4. Sub-systems/ equipment manufactured by the company and details of outsourced equipment alongwith details of the manufacturer?

4.5. Details of Intellectual Property Rights (IPR).

5. **Time for Manufacture.** Likely time for development of the prototype (in weeks) and manufacturing capability of the product (per year capability).

6. **Broad Details/ Technical Specifications of Existing Products/ Under Development or Capable of Being Manufactured.**

6.1 **Technical Parameter.**



6.1.1. General.

6.1.1.1. Can the following parameters be minimised at the time of launch of the ammunition from its weapon launcher, by virtue of design of ammunition?

6.1.1.1.1. Thrust misalignment.

6.1.1.1.2. Gravitational tip off.

6.1.1.1.3. Variable downwash from helicopter rotor blades.

6.1.2. Does the exhaust products and exhaust induced pressure cause any damage to the fuselage or electronics in the vicinity or the aircraft. Do the exhaust gases have any adverse effect on aircraft engines?

6.1.3. Does the ammunition get actuated & fired by the fire control system integrated on ALH (WSI)/ LCH heptrs?

6.1.4. Does the ammunition have resistance to physical and thermal shocks and static?

6.1.5. Is the ammunition stable in the extremes of temperature conditions found in India i.e. from (-) 20⁰ C to (+) 55⁰ C.

6.2. Salient Features.

6.2.1. Is the calibre of the gun ammunition 20 mm? Is it capable of being fired from 20 mm gun of GIAT (already existing 20 mm Turret gun sys on ALH WSI & LCH (now known as NEXTER)?

6.2.2. What is the muzzle velocity? (Should not be less than 975 m/sec).

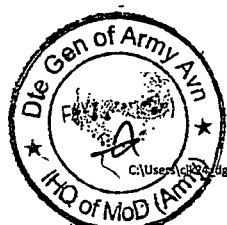
6.2.3. What are the types of gun ammunition available and is the following type incl?

6.2.3.1. Ball.

6.2.3.2. Tracer.

6.2.3.3. Armour piercing incendiary.

6.2.4. Is the AP ammunition capable of piercing 20 mm armour, if yes, then at what range and incidence angle?



- 6.2.5. What is the weight & dimensions of ammunition?
- 6.2.6. Is the cartridge cased in a brass case?
- 6.2.7. Is the cartridge water proof and is the primer non corrosive and non-mercuric?
- 6.2.8. What is the type of propellant used for amn?
- 6.2.9. Are the standard ammunition markings and colour codes being followed for marking and identification of the ammunition?
- 6.2.10. Does the ammunition box have the capacity to accommodate 300 rounds? The storage capacity of the ammunition box must be at least 25 rounds more than the carrying capacity to ensure smooth belt feed.
- 6.2.11. Is the ammunition capable of being fired from the existing 20mm Turret Gun System integrated on ALH (WSI)?
- 6.2.12. What will be the size & wt of each type of round?
- 6.2.13. What will be rg of the amn?
- 6.2.14. Will the chain links be provided with the amn and type?
- 6.2.15. What EFC will each round give to the gun barrel?
- 6.2.16. Shelf life of the amn?
- 6.2.17. Give salient difference / improved features of the indig amn with ex import?

7. **Maint and Storage.**

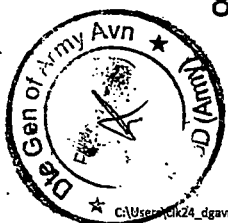
7.1. Is the ammunition easy to maintain under field conditions without resorting to special means and should be stable in transportation? Does the ammunition require special storage conditions?

7.2. Is the ammunition available in pallets?

8. **Publications.** Will the following publications be provided?:-

8.1. **Firing Tables/Range Tables.**

8.1.1. 'Users Hand Book' giving out characteristics and detailed instructions on operation, maintenance and handling by users, either bilingual or separately in Hindi and English.



8.1.2. Detailed instructions on storage, proof, inspections, maintenance and repair by qualified technicians as per guidelines laid down by the DGQA.

9. **Training Aids.** Will the following training aids be provided:-

9.1. Cut out models giving out details of various parts/components in respect of each type of ammunition.

9.2. Charts giving out the physical characteristics of various types of ammunition.

10. **Storage Conditions.** What are the environmental & physical conditions required for storage of Amn?

11. **Response Time.** The questionnaire is requested to be responded by prospective vendors to the contact person mentioned at para 12 below within 21 days of uploading on the Dept of Defence Production website.

12. **Contact Details.**

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