

## PROJECT BRIEF

**Case Reference.** CF No/ AIRHQ/C 18488/47/DADCD

1. **Service.** Indian Air Force
2. **Nodal Directorate at SHQ.** Directorate of Ops (Off) / Sub Dte Wpns
3. **Name of the Project.** D&D of **23 mm Aircraft Ammunition and Links** under 'Make-II' Category.
4. **Case Brief.** IAF requires 23 mm GSh Aircraft Ammunition for use on Mi-17 V5 and Mi-35 helicopter. This ammunition is required for imparting combat training to aircrew. These carts are used on air-to-ground and air-to-air targets for operational requirement as well as for training purposes. Four types of ammunition that would be required by IAF are High Explosive (HE), Armour Piercing (AP), Tracer and Inert. The HE and AP ammunitions should have incendiary effect. Additionally, certain proportion of ammunition should be provided with de-coppering elements. Associated links for ensuring continuous feed of ammunition are also mandatorily required.
5. **Proposal.** IAF intends to partner with Indian defence industry to undertake design, development and manufacturing of 23 mm Aircraft Ammunition and Links under Make-II procedure as per Chapter III of DAP 2020.
6. **Broad Technical Parameters.** The broad preliminary technical parameters of the equipment is attached as **Annexure-1**. Detailed project specifications and Preliminary Service Quality Requirements (PSQRs) shall be formulated after industry interactions and feasibility study.
7. **Indigenous Content (IC)/ Categorisation.** Successful development under **Make-II** category would result in acquisition from successful Development Agency (DA) through the **Buy Indian (IDDM)** category with indigenous design and development and a **minimum IC of 50%**.
8. **Industry Attributes:-**
  - 8.1. Should be an Indian entity (as per provisions of Para 20, Chapter I of DAP 2020, including additional conditions at sub paragraphs (a) and (b)). (Essential)  
Note: The latest copy of DAP 2020 is available on website of Ministry of Defence.
  - 8.2. Familiarity with QA processes of DGAQA and certification processes of CEMILAC (Centre for Military Airworthiness Certification) (desirable).
9. Interested **Indian** industries may send their proposals by 10 Oct 25. It is requested that, answers to questions at **Annexure-2** may also be dovetailed by the industry in their response.
10. Interested respondents are also urged to read the provisions of "Make-II" given in Chapter III of DAP 2020 as the project will be progressed as per these provisions.
11. **Contact Details.** Any queries/further details of the project may be obtained from the Nodal Dte at Air Headquarters (Vayu Bhavan). Interested Indian industries may forward their responses through letter/fax/email to the Nodal Directorate as follows:-

Wg Cdr Wpns (T-2)  
Dte of Ops (Off),  
Air HQ (VB), Rafi Marg,  
New Delhi -110106  
Ph. No.: 011-23010231 / Extn 7561  
Fax No.: 011-23015104  
Email: [klmn.1805@gov.in](mailto:klmn.1805@gov.in)

12. A copy of all communication may also be addressed to:-

Make PMU (AF); Directorate of Aerospace Design  
Room No 803; Air HQ (VB),  
'A' Block, Defence Office Complex,  
KG Marg, New Delhi-110001.  
Tele: 011-23074031 / 23071124  
Email: [makeind.af@gov.in](mailto:makeind.af@gov.in)

**ANNEXURE 1**  
(Refers to Para 6 of Brief)

**BROAD TECHNICAL PARAMETERS IRO MAKE-II PROJECT FOR 23 MM  
AIRCRAFT AMMUNITION AND LINKS**

1. **Broad Specifications.** These proposed ammunition should meet the QA requirements of CEMILAC / RCMA / DGAQA (A). The broad specifications for the required ammunition is listed below:-

<b>Ser No.</b>	<b>Technical Specifications</b>	<b>Value</b>
1.	Cartridge Characteristics	23 x 115 mm
2.	Average Bullet Velocity, $V_{25}$ , m/s	This data would be shared after signing a Non-Disclosure Agreement (NDA) with the industry at a later stage
3.	Average Value of max powder gas pressure (P max.av.), MPa (Kg/cm <sup>2</sup> )	
4.	Max Pressure, Pmax MPa (Kg/cm <sup>2</sup> )	
5.	Fuze Arming Distance, m	
6.	Tracer burning time	
7.	Cartridge mass (g) max	
8.	Bullet mass (g) max	
9.	Cartridge length (mm) max	
10.	Mass of Powder Charge (g)	
11.	Decopperer Round	
12.	Fuze	The fuze for HE ammunition should incorporate at least three safeties
13.	Shelf Life	15 Years
14.	Exposed life	03 Years
15.	Gun	GSh-23 Aircraft Gun
16.	MOQ	1,00,000 rounds over 10 years

**ANNEXURE 2**  
(Refers to Para 9 of Brief)

**QUESTIONNAIRE FOR RESPONSE IRO MAKE-II PROJECT FOR 23 MM  
AIRCRAFT AMMUNITION AND LINKS**

1. Whether the industry is eligible as per provisions of DAP 2020 (Eligibility of Participation: Indian industries only in accordance with Para 20 of Chap-I and Para 6(b) of Chap - III, DAP 2020.
2. Industry to provide an assessment of its capability (Financial and Technical) and provide necessary documentation for verification.
3. Indicate how much Indigenous Content (IC) can be ensured (minimum 50%) and bring out the plan for achieving the proposed IC. The industry to also indicate the critical technologies that will be indigenously developed.
4. Proposal for D&D of 23 mm Aircraft Ammunition and Links highlighting details like:-
  - 12.1. Technical plan for indigenous design & development.
  - 12.2. Estimated procurement cost.
  - 12.3. Estimated timeline for development.
  - 12.4. Estimated D&D cost.
  - 12.5. Envisaged dependencies on foreign companies.
  - 12.6. Plan/status for QA qualification, testing and certification.
5. Please provide details of the industry resources/infrastructure/capability of the firm to undertake D&D.
6. Please provide other relevant and applicable details. (Indicative of information on parts, assembly, testing etc).
7. Any other relevant information for the project.