



# TECHNOLOGY DEVELOPMENT FUND (TDF) SCHEME



## **TITLE: ACTIVE COUNTERMEASURES TO DEGRADE PERFORMANCE OF TERMINAL (EO/IR) SEEKERS**

### **1. Objective:**

To design and develop advanced active countermeasure systems capable of degrading the performance of terminal Electro-Optical/Infrared (EO/IR) seekers used in guided missile systems. This project aims to enhance the survivability of critical assets against precision-guided threats by disrupting their targeting capabilities.

### **2. Background:**

Terminal (EO/IR) seekers are widely employed in modern missile systems for accurate targeting in the terminal phase. These systems leverage advanced optical and infrared sensors, making them resilient to traditional jamming techniques. Current countermeasure technologies face limitations in effectively neutralizing these threats in dynamic and complex combat scenarios. There is an urgent need to develop active countermeasure systems tailored to counter (EO/IR)-guided missile systems.

### **3. Problem Statement:**

The project involves developing active countermeasures to degrade the performance of terminal Electro-Optical/Infrared (EO/IR) seekers. These countermeasures should meet the following specifications:

- a. Operate either as a single system or as part of an array system, providing 360-degree coverage with an elevation coverage of at least 70 degrees.
- b. Be capable of causing significant degradation to (EO/IR) seekers at distances of up to 30 km.
- c. Allow for extended operational periods.
- d. Enable quick activation from standby mode.
- e. Integrate a captive power supply to ensure uninterrupted functionality.

### **4. Proposed Solution:**

1. **System Design:** Develop active countermeasure systems capable of producing high-power, multispectral interference signals tailored to the operational wavelengths of (EO/IR) seekers.
2. **Platform Integration:** Ensure compatibility with airborne, ground-based, and naval platforms.
3. **Testing & Evaluation:** Validate performance against simulated (EO/IR)-guided threats under real-world conditions.

The system will incorporate advanced detection, tracking, and targeting capabilities to counter a wide range of seeker technologies.

5. **Expected Outcome:**

1. Deployment-ready active countermeasure systems capable of neutralizing terminal EO/IR seeker threats.
2. Enhanced survivability of critical assets in high-threat environments.
3. Reduced vulnerability to modern precision-guided munitions.

6. **Key Deliverables:**

1. Prototype of the active countermeasure system.
2. Test results demonstrating system efficacy against simulated (EO/IR)-guided threats.
3. Documentation of system architecture, operational guidelines, and integration methods.

7. **Strategic Relevance:**

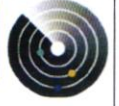
This project is critical to strengthening national defence capabilities against evolving missile technologies. By neutralizing (EO/IR)-guided threats, the system will play a pivotal role in protecting strategic assets and ensuring combat superiority in modern warfare.

8. **Future Expectation:** The system should evolve to extend its effective range and incorporate a wide bandwidth capable of affecting various targeting systems, including targeting pods, drone cameras, and RPA (EO/IR) systems, thus broadening its scope of application.
9. **Likely Order Quantity (MoQ):** The anticipated requirement is for **100** countermeasure systems once the technology is fully developed and tested.

**--End of Document--**



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### **FEASIBILITY CUM RFI RESPONSE FOR THE PROJECT REQUIREMENT UNDER TDF SCHEME (PROFORMA)**

1. **Name of the Institute** (Industry/Academia):
2. **Contact details:**
  - a. Email
  - b. PoC
  - c. Address
3. **Title of the project requirement:**
4. **Project Description** (Define broad understanding of the project requirement and proposed solution under the project).
5. **Briefly detail the proposed technical solution in terms of subsystem/submodule levels.**
6. **Road map for achieving the proposed outcome (Development Plan Phase wise -Max 5 phases).**
7. **Development and production Estimates:**
  - i. Estimated time required for development of the proposed technology /product (In Months).
  - ii. Estimated cost required for the for development of the proposed technology /product (BQs of submodules/subsystems if any pls attach).
  - iii. Estimated production cost of the end product after successful development ( per unit or batch cost).
  - iv. Whether the industry has already done any Suo moto design and development of the proposed product/technology at Technology Readiness Level – Yes/No
  - v. Details of Suo moto design and development done if marked Yes in previous question (within 250 words).
  - vi. Essential infrastructure required for development of the proposed product/technology for which funding is required.
8. **Technical strength in terms of manpower.**
9. **Relevant Work Experience.**
10. **Any other relevant information**

Queries if any and the reply in PDF FORMAT to be submitted online addressing to;

TO,

**THE DIRECTOR TDF, DRDO**

**DRDO BHAWAN, RAJAJI MARG, NEW DELHI 110011**

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