TECHNOLOGY DEVELOPMENT FUND (TDF) SCHEME

TITLE: INDIGENOUS REFURBISHED OF ALL RF MODULES, LOGIC PCBS AND COOLING SYSTEM OF JAMMER SYSTEM

1. Objective:

The project aims to develop an indigenous capability to either repair the existing Printed Circuit Boards (PCBs) or refurbish the ELTA Jammer System with advanced airborne electronics. This will ensure operational readiness and sustainability of the system while meeting the stringent requirements of modern fighter aircraft.

2. Background:

The ELTA Jammer System is a critical component of the electronic warfare (EW) suite used in modern fighter aircraft. With aging hardware and increasing maintenance challenges, there is an urgent need for repair or refurbishment to ensure continued operational effectiveness. The current solution also needs to replicate existing interfaces and compatibility with aircraft avionics and mission computers.

3. Problem Statement:

The project aims to either repair the existing PCBs of the Elta Jammer System or refurbish the system using new, state-of-the-art airborne electronics designed in a small form factor (3U). The system must meet the stringent environmental requirements of modern fighter aircraft when mounted on an outboard weapon station. The system is expected to have a Mean Time Between Failures (MTBF) of 400 hours. The solution should replicate all current Interface Control Documents (ICDs) with the aircraft mission computer and avionics. A Technology Development Evaluation (TDE) committee will analyse the complete system and recommend whether the repair or refurbishment of existing PCBs is feasible.

4. Proposed Solution:

1. Evaluate the feasibility of repairing existing PCBs or developing a fully refurbished system.
2. Design and integrate compact (3U) airborne electronics for the system.
3. Ensure compatibility with mission-critical interfaces and stringent environmental requirements for outboard weapon station mounting.

A Technology Development Evaluation (TDE) committee will assess the feasibility and recommend the optimal approach (repair or refurbishment).

5. Expected Outcome:

1. A robust, indigenously developed solution for the repair or refurbishment of the ELTA Jammer System.
2. Enhanced maintainability and reliability of the system, supporting aircraft EW capabilities.
3. Cost savings through reduced dependence on foreign Original Equipment Manufacturers (OEMs).
4. Strengthened defense indigenization efforts.

6. Key Deliverables:

1. Operational prototypes of the repaired or refurbished system.
2. Supporting Automatic Test Equipment (ATEs) and ground support systems.
3. Documentation, including updated Interface Control Documents (ICDs) and test reports.

7. Strategic Relevance:

This project aligns with the national vision of achieving self-reliance in defense technology and supports the operational readiness of fighter aircraft. It will also serve as a model for indigenous capability development in electronic warfare systems, with potential applications for similar systems used by the Indian Navy.

8. Future Expectation:

The system should enable maintenance of the ELTA ASPJ pod and main unit by repairing or refurbishing the internal electronics. This will ensure the jammer system remains operational and effective in supporting the aircraft's electronic warfare capabilities.

9. Likely Order Quantity (MoQ):

The expected quantity for production includes 48 ASPJ pod systems, 30 main units, and associated Automatic Test Equipment (ATEs) and ground support equipment.

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FEASIBILITY CUM RFI RESPONSE FOR THE PROJECT REQUIREMENT UNDER TDF SCHEME

(PROFROMA)

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

Email to, arjunk.hqr@gov.in, CC to dir.tdf-drdo@gov.in,