Expression of Interest (EoI) for Counter Drone System

Technology Overview

1. Drones or Unmanned Aerial Vehicles (UAV) are flying objects which are having varied span of dimensions - few centimetres to few meters, and payloads starting from few grams to few kilograms. The trend of using small drones to execute different tasks has increased over the last few years. At the same time, the threat caused by drones to the society, public security and personal privacy is also becoming increasingly high. From the security point of view, drones allow an attacker to reach any target in any location without risk to personnel, and there is an ever-expanding domain of usage, ranging from weapon carrier to espionage tools.

2. To mitigate and negate the impact of drones, there is a requirement to develop and deploy counter drone systems for detection, deterrence and destruction of incoming drone threats. Considering the unique nature of drones in terms of speed, size, hovering capability and resemblance to birds, no sensor system in standalone will be able to provide sufficient detection, tracking and identification capability to guarantee a reliable and effective defence against threats from drones. Conventional air defence solutions presently available with the country, which are designed to detect large, fast moving aerial objects, are not effective against small, low flying and slow-moving drones. Therefore, a combination of several types of detection capabilities including emission and reflection of microwave, infrared, visible light etc are required to detect and identify drones.

3. Counter drone system can detect, track and identify airborne drones using multiple sensors, transfer the information to associated systems and enable counter techniques to deny them the intended operation (soft kill) and/or destroy them (hard kill).

4. The detection of drone is done with the help of Radars and RF based detection system. The identification is done with the help of Electro Optic sensor and COMINT. The soft kill is carried out with RF jamming & Anti GNSS technologies, and Hard kill with the help of Laser Directed Energy Weapon (DEW).

5. The system can detect, identify and neutralise different types of drones including Small Hybrid UAVs, Micro UAV/ Multi rotor, and Nano UAVs. Counter Drone System consists of the following components:

    a) Drone detection and tracking Radar
    b) Day and night camera with laser ranging for detection and tracking of Drone target
    c) Communication channel Detection & Jamming system (Soft Kill)
    d) GPS Jamming/ Spoofing System (Soft Kill)
    e) Laser Directed Energy Weapon System (Hard Kill)
    f) Command & Control Centre (C3) with Power Source for complete System

Terms and Conditions

6. **EoI Closing Date:** Within 15 days from the date of publication on DRDO website.

7. Industries desirous of participating in EOI should be willing to realise one full system on NC-NC basis for demonstration to potential users.

8. Turnover: Rs 500 Cr per annum.

9. Industries seeking ToT should have experience in the field of electronics, Electro Optics, electro mechanical systems etc.

10. The other terms and conditions are as per the 'DRDO Policy and Procedures for ToT' for Category 'A' mentioned at https://www.drdo.gov.in/sites/default/files/inline-files/DRDO%20Policy%20%26%20Procedure%20%20for%20ToT.pdf at DRDO website.

Contact Details

11. The desirous industries should send their Expression of Interest (EoI) to Director, LRDE on the following address:-

Director,
Electronics and Radar Development Establishment (LRDE),
DRDO Complex,
CV Raman Nagar,
Bengaluru- 560093.
Fax: 080-25242916.
E-Mail: director@lrde[dot]drdo[dot]in

Copy to:-
Director,
Directorate of Industry Interface and Technology Management (DIITM),
DRDO Headquarters,
DRDO Bhawan,
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