

EnforceAir: protecting borders against illegal trafficking

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HIGH-ALTITUDE-TACTICAL

The Anti-Drone Solution Uses Non-Jamming, Non-Kinetic Technologies

Rogue or unauthorised drones are increasingly used to smuggle contraband, such as weapons or drugs, from one country into another. Some illegal trafficking organisations also use small, unmanned aerial systems (sUASs) to scout for weaknesses in the fence, wall, or perimeter protection so that they can sneak human beings across the border.

Multiple government agencies are often responsible for border protection within a given country, and often using radars for drone detection. The radar operators on the border can find it difficult to differentiate between small

drones and other flying objects, such as birds, and may receive many false alarms. Without a counter-drone mitigation system, these agencies use radars and cameras to track border-crossing drones and then send personnel to check if contraband was dropped. This approach can be time-consuming with limited success.

Additionally, the use of counter-small, unmanned aerial systems (C-sUAS) can be problematic near borders. Border personnel must consider jurisdiction and privacy concerns and evolving regulations, which often differ between countries and regions. Some counter-drone measures could disrupt existing communication signals operating on certain frequency bands.

EnforceAir

Unlike traditional anti-drone solutions on the market, D-Fend Solutions' EnforceAir's RF cyber-based takeover technology uses non-jamming and non-kinetic technologies. This method keeps borders and personnel secure by autonomously taking control over rogue drones and fending them off or landing them safely in a designated zone.

RF cyber takeover is optimal to protect international borders from hostile drone incursions, regardless of the terrain. Systems can combine multiple sensors to protect borders via detection, prevention and apprehension of rogue drones and their pilots at (or near) the border by conducting surveillance from a safe position. Data extraction helps locate and identify the ground operator for apprehension, or to prevent future intrusions.

RF-based cyber takeover delivers greater situation awareness and visibility into the scope of the drone threat, including seeing the frequency of attempted drone crossings and which types of drones are most often used.

One of the most important benefits is the preservation of continuity. RF cyber takeover does not interfere with the agencies' or nearby communications systems and allows transportation and everyday life to continue uninterrupted.

Cyber classification capabilities also benefit security agencies. Border forces utilise drones for aerial security along the border in places with camera gaps, and personnel must also be mindful of not disabling lawful sUASs in the area. Such friendly drones can be tagged as “authorised” to fly near the border. This capability may be absent from traditional detection and/or mitigation systems. Also, unlike jammer-based solutions, RF cyber takeover does not disrupt non-drone communications in the area.

RF cyber technology can also integrate with third-party law enforcement platforms and command and control (C2) solutions. Border authorities can receive preventive notifications while extracting crucial data, such as the drone take-off and pilot remote control locations. Relevant units can be equipped with real-time information regarding at-risk outposts, and emergency personnel can prepare accordingly. Counter-drone system operators can benefit from C2 solutions’ ability to offer a single, holistic view of all threats on the ground and in the sky.

Agencies can further benefit from multiple deployment options, which provide optimised coverage for various scenarios, conditions and terrain types, with rapid and easy set-up. Hardware should be lightweight and compact, to be rapidly taken apart, moved and reassembled in minutes. The following options are ideal for border deployment:

- Long-Range Directional antenna kits with dual-sensors.
- Vehicle kits are Ideal for providing a moving bubble of coverage while travelling along border roads and paths,
- Ground-Level Tactical kits provide complete support for ground forces, with 360-degree coverage.