



ARKHE IS: DRONE DETECTION & MITIGATION

MULTI-SENSOR PROTECTION AGAINST AERIAL THREATS

Atech's Arkhe Integrated Surveillance (IS) brings advanced drone detection and mitigation by combining command-and-control capabilities with passive RF sensors, providing wide-area coverage and high reliability. The system delivers real-time situational awareness of the airspace, identifying drone threats with precision, even during small-scale operations, low-altitude flights, or under challenging weather conditions, day or night.

The solution enables detection, tracking, and classification of drones across all categories: commercial, military, or homemade, which may be designated as friendly, neutral, or hostile. Visual cues displayed on the Human-Machine Interface (HMI) support operators in confirming targets prior to any countermeasure. Mitigation functions are targeted and precise, minimizing collateral effects and preventing interference with legitimate RF communications and adjacent systems.

Powered by integrated machine learning, the system enhances performance, operational safety, and predictive maintenance. Its modular and scalable architecture ensures seamless adaptation to new requirements, keeping pace with evolving threats and emerging technologies.

INTEGRATION AND KEY DIFFERENTIATORS

The system architecture is modular and features advanced drone detection and mitigation capabilities, integrating multiple sensors such as RF, radar, EO/IR cameras, and jammers. The passive RF sensor does not require ANATEL (Brazilian National Telecommunications Agency) certification and is able to detect drones with or without remote ID, applying direction-finding (Strobe mode) to locate non-cooperative emitters. Detection range is differentiated, depends on the technical conditions of the installation site (altitude, line of sight, interference, etc.), with 360° coverage and support for frequencies between 70 MHz and 6 GHz (433, 868, 915 MHz, 2.4, 5.2, and 5.8 GHz).

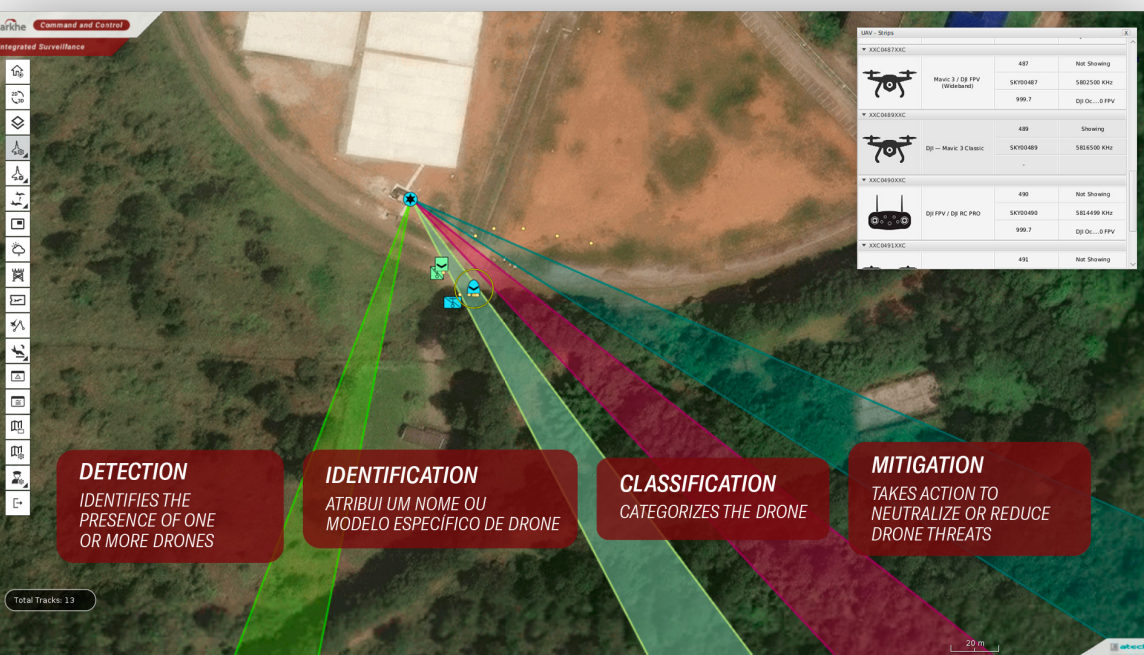
The Human-Machine Interface (HMI) displays targets through standardized symbology in compliance with MIL-STD-2525. Installation can be performed on fixed structures (such as buildings and towers), mobile platforms (vehicles), or transportable configurations (tripod-based). Leveraging Arkhe IS as the foundation of the solution enables integration with other systems or even simulators.



Designed for both civilian and military applications, the system supports use by public security forces, defense operations, critical infrastructure protection, and border monitoring,

MAIN CAPABILITIES:

- Detection, tracking, and classification of commercial, military, or homemade drones
 - Localization of radio transmitters and drone control signals
 - Support for the Remote ID standard
 - Collection of telemetry data from commercial drones (open protocol / Remote ID)
 - Intuitive HMI allowing georeferenced visualization, identification, and classification of drones
 - Standardized symbology in compliance with MIL-STD-2525
 - Strobe feature: Direction Finding (DF) mode for non-cooperative drones
- AI technology integrated machine learning
 - Database of commercial and previously identified drones
 - Support for multiple sensor types: RF, electro-optical and/or infrared (EO/IR) cameras, radar (radar fusion), and jamming sensors
 - Operation under adverse weather conditions, day or night
 - Flexible installation: tripod, tower, vehicle, buildings, among others
 - Scalable and modular architecture



The system provides situational awareness of the operational theater, with possible threats identified through the C-UAS (Counter-Unmanned Aerial System) solution.

Legend:

- | | |
|---|--|
|  | Radio transmitter
[neutral classification] |
|  | Drone (UAS)
[neutral classification] |
|  | Drone (UAS)
[friendly classification] |
|  | Radio transmitter
[friendly classification] |
|  | Law enforcement
equipment [detector]
[friendly classification] |