Drone Detection System

COUNTER DRONE TECHNOLOGY

Problem

Threats from drones has spiked drastically in recent times. Trespassing drones have caused hinderances to operations and unauthorized footage was captured. The airspace and privacy violations are alarming.

Solution

We are offering a radar based drone-detection system which enables a complete situational awareness of the airspace to keep your assets safe and secure.

- Each radar covers a range upto 5km
- Automatically differentiates a bird & drone
- Quick setup
- User friendly interface
- Affordable system

PACE

For more information
Contact us:
Pace Process Controls Pvt Ltd
drones@pace.co.in
www.pace.co.in

IRIS® | ELVIRA®

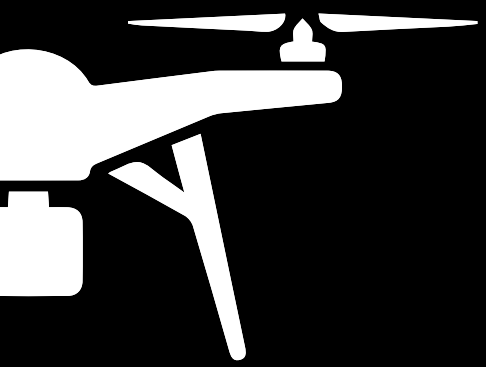
DRONE DETECTION RADAR

NEW!

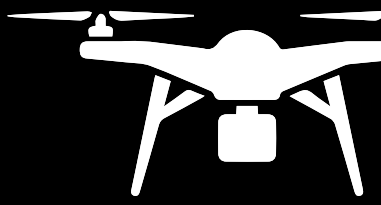
Machine Learning Software Upgrade

Classification Ranges Up To Twice As Far!

Plus 4D on-the-move capability for MIL-STD IRIS® Radar



robin
radar systems



Near misses and collisions between planes and drones at AIRPORTS

Drones used to import weapons and drugs into PRISONS

Drones that cause disturbance at public EVENTS

Drones used to study or damage CRITICAL INFRASTRUCTURE

Drones used to survey
containers and vessels at
HARBOURS and PORTS

Drones used to threaten
cyber security, privacy and
safety on SUPER YACHTS

Drones used to survey
and disrupt government
employees and VIP's

UNIQUE CAPABILITIES

When early-warning and long-range detection are important, there's simply no substitute for radar.

Surveillance by humans and optical systems has advantages, but is also limited by range and visual conditions. Radar can detect multiple targets simultaneously, even under conditions of low visibility.

Since radar doesn't depend on signals transmitted by drones, it's also able to detect autonomously, whereas other sensors may only detect radio transmissions from remote-controls

Knowing exactly where the drone is in real-time is important when integrating other sensors and countermeasures, like cameras, jammers, lasers, spoofers, protocol manipulators, etc.

Automatic Drone Classification

Even if you've managed to find a radar which can detect small objects, it's unlikely it can tell birds apart from drones. Few can.

Where most other radars don't provide classification of birds and drones, both IRIS® and ELVIRA® do that for you - automatically. Giving you time to concentrate on the action you need to take.

Unlimited 360° coverage

Both IRIS® and ELVIRA® cover a full 360-degrees and come with a standard instrumented range of five kilometres.

Our radars can be easily combined into an integrated sensor network. The output from multiple radars is incorporated into one unambiguous picture, meaning a single drone causes a single alarm.

IRIS® is a 3D radar, providing x, y, and z (altitude) coordinates for all targets and comes with a full 60-degree elevation coverage. Know exactly where your target drone is and how high it is. With accurate elevation reporting, IRIS® can cue other sensors and effectors for fast identification and mitigation.

4D Radar On-The-Move (OTM)

IRIS® is capable of detecting and tracking drones while on-the-move. This especially benefits military and police users who need to protect vehicle convoys and personnel while on the move. For VIP events a vehicle-mounted IRIS® can protect your VIPs both en-route and at the event location itself.

MIL-STD

Our IRIS® radar is used by both civil and military users. And our military users in particular, demand high standards of environmental stress and durability. That's why IRIS® is MIL-STD 810H certified.

Affordable

Radars are expensive. And military radars are seriously expensive. But it doesn't need to be that way.

In much the same way that drone technology itself has become affordable and accessible, we've combined affordable hardware with extremely smart software to provide you with military drone detection and tracking capabilities, at a low cost compared to military systems.

"IRIS® CAN DETECT AND CLASSIFY DRONES SWIFTLY AND SMOOTHLY. IT'S VERY EASY TO USE. MOVING TARGETS, STATIC TARGETS, EVEN MULTIPLE TARGETS; THEY'RE ALL DETECTED AND CLASSIFIED."

Marijn Verbaant - Min-Def C-UAS Expert

FLEXIBLE INTERFACES

Actionable Information with Early Warning and Classification… in One Sensor

For early warning of incoming drones, you need radar. Simply put, no other sensor technology has a wider coverage area. Both IRIS® and ELVIRA® provide early warning of approaching targets, giving you precious time to react.

Classifying, and most importantly, differentiating drones from birds and other moving objects, is a critical feature in preventing false positives. Whereas other systems require a combination of multiple sensors to go from detection to classification of targets, IRIS® and ELVIRA® combine detection and classification in a single sensor. This gives space and time to make accurate, critical and informed decisions.

Source: Joint Nucleus C-UAS Test Centre
Actual Drone and Radar Track Comparison

Drone in 60 Seconds

Our radars are so easy to set-up and use that you'll be detecting and tracking drones within minutes. And our newest radar, IRIS®, is so small and lightweight that a single person can carry it, deploy it and redeploy quickly, simply and easily.

Simple and Intuitive Map-Based Interface

Our map-based DRONE VIEWER is an intuitive web interface using colour coded tracks. Red tracks indicate drones and their flight path. Orange tracks represent suspected drones. Green tracks represent birds and other moving targets. All track types can be toggled on and off, and the track visualisations and colours are all user-configurable. Mapping and satellite imagery are also available and configurable.

Live Stream All Tracks and Alarms to Your External Security and Command & Control (C2) Systems

With both IRIS® and ELVIRA® you can integrate tracks and alarms as an additional layer in your existing security systems and Command and Control (C2) systems. A simple XML broadcast-based interface, as well as ASTERIX and SAPIENT communication protocols are included with both IRIS® and ELVIRA® as standard. Other protocols are available on request.

Record all Data

To enable case evaluation, all tracks and alarms are stored in a spatial SQL database.

Customise Your Own Alarm Zones

As a user, you can define virtual zones depending on your own special use-cases. You can cause both visual and acoustic alarms to be triggered when a drone is detected and classified. And for the more complex environments or scenarios, you can also trigger alarms only when a drone enters a specific area, which you define yourself.

Friend or foe? Defining safe zones around areas where you deploy your own drones will ensure detections do not trigger alarms in these areas.

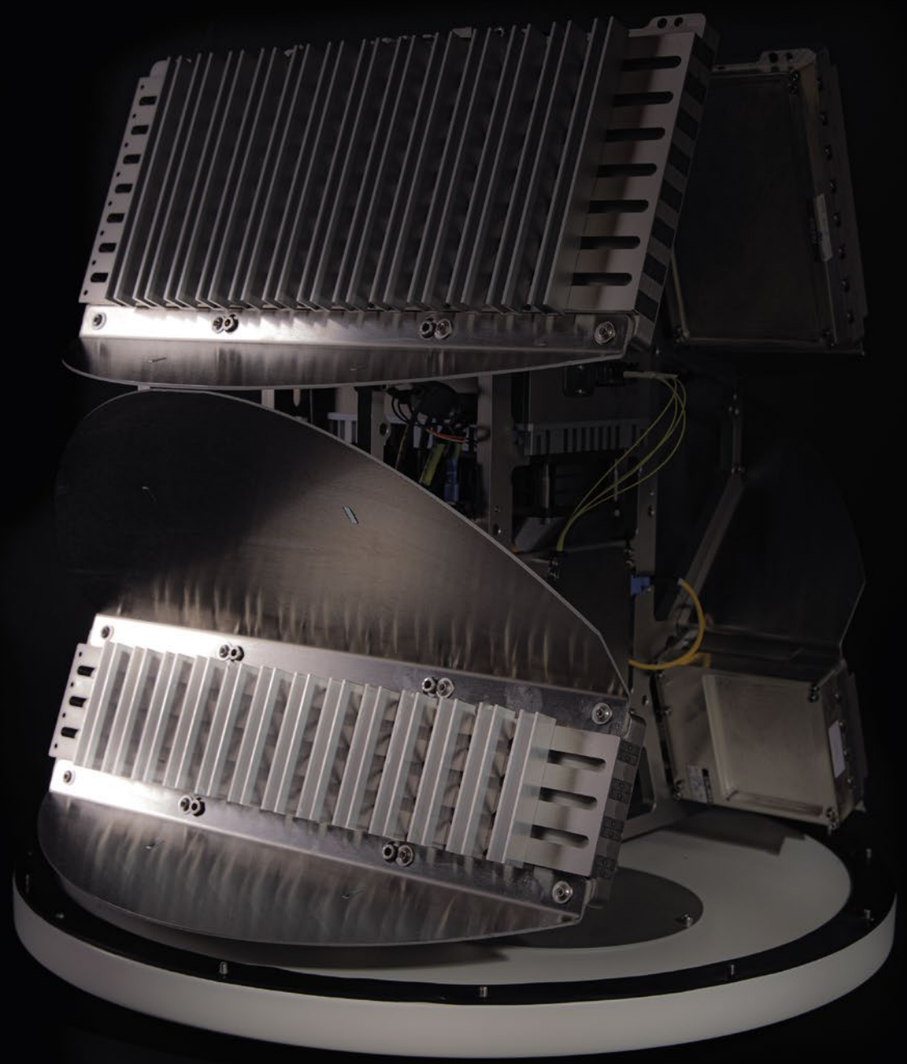
Remote Diagnostics

The system's performance can be monitored from a remote location. If something isn't working the way it should, technical staff can immediately log into the system, perform diagnostics and in most cases, solve it remotely. Of course, sometimes, security procedures mean this kind of external access isn't practical. We'll always customise the best support solution for your situation.

Easily Integrate PTZ Cameras

Our micro-doppler capability provides the necessary confirmation that a target has rotor propulsion. Even so, users often require a visual picture in order to take further action. ELVIRA® is designed to work with a high-resolution pan-tilt-zoom (PTZ) camera for fast visual confirmation of the targets it detects. When a drone is detected, the camera zooms into its direction for a controller to acquire an image and report details. With IRIS® external camera can be cued and slewed right onto the target directly, thanks to its 3D capability and accurate height tracking.

DRONE VIEWER interface



SYSTEM SPECIFICATIONS

	ELVIRA® Specifications	IRIS® Specifications
Technology	FMCW Solid State Radar (2D)	FMCW Solid State Radar (3D)
2D Position Tracking	Yes	Yes
3D Position Tracking	No	Yes
4D OTM Position Tracking (from a moving platform)	No	Yes
	FMCW Solid State Radar (2D)	FMCW Solid State Radar (3D)
Frequency	X-Band	X-Band
Power Output	4W	2x 12W
Update Rate	1.3s	1.0s
Instrumented Range	5km	5km
Azimuth Coverage	360°	360°
Elevation Coverage	10°	60°
Classification Method	Micro-Doppler	Micro-Doppler
Dimensions	918mm diameter, 1060mm height	554mm diameter, 623mm height
Weight	72kg	25kg
MIL-STD 810 Certified	No	Yes

ROBIN IN ACTION

Protecting World Leaders

If you told us, ten years ago, that our technology would be applied to protect Donald Trump from aerial threats, we'd have said: "You had a pretty vivid imagination."

Well, that happened. And we've secured several high profile political events leading up to it, including a G7 and Nuclear Security Summit, and several since.

In 2018 we were brought in to help protect world leaders as they gathered in Brussels for a NATO Summit. Amongst the attending were Donald Trump, Theresa May and King Philippe of Belgium - to name just a few.

As impressive as those political leaders look, we can't help but admire the VIP positioned on the top right pillar of the building. (Psst, that would be ELVIRA®).