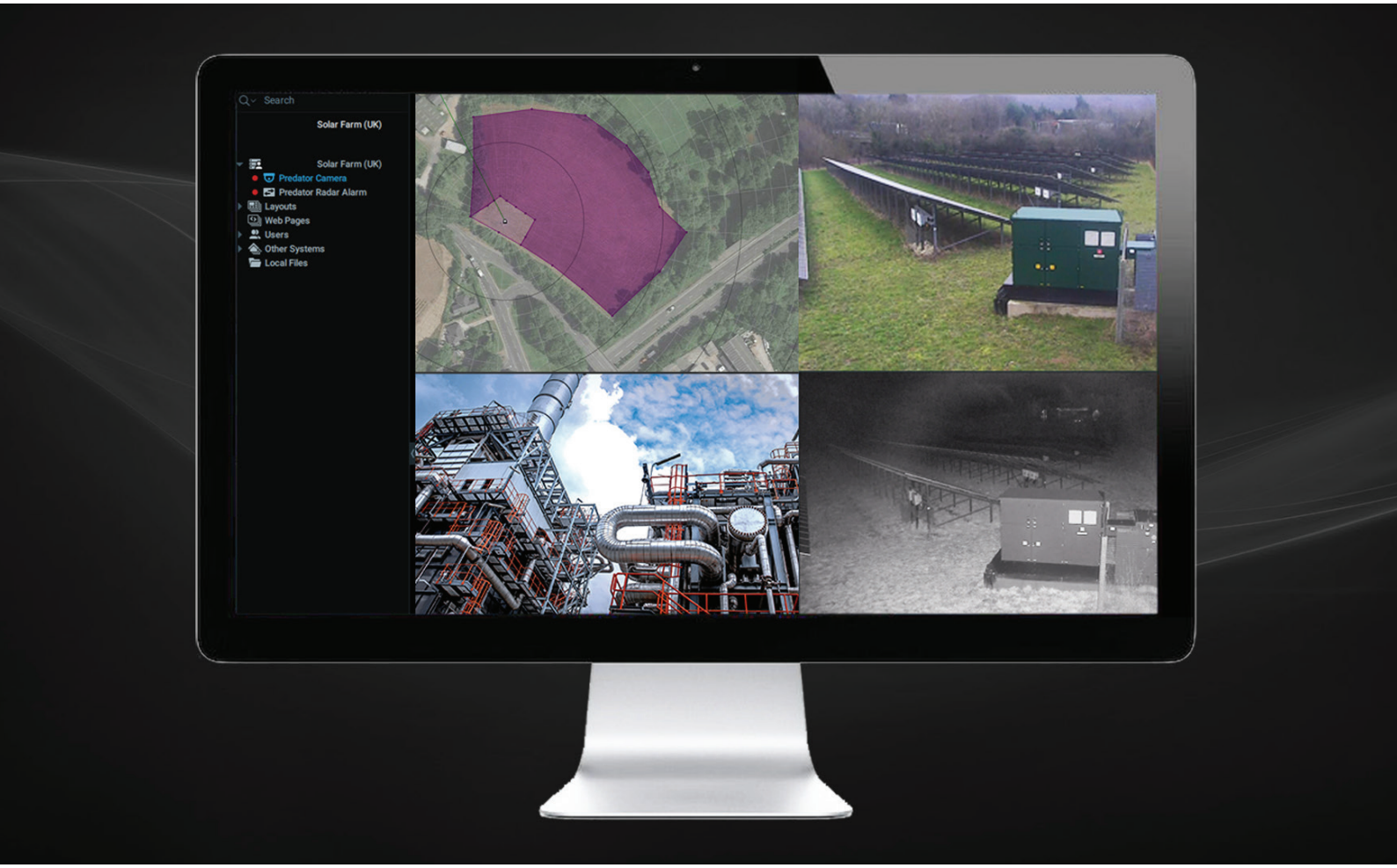
360VISION TECHNOLOGY

# Why deploy radar for wide-area surveillance monitoring?

Surveillance Solutions




## An industry leader in the application of radar technology for security surveillance, 360 Vision Technology, the UK manufacturer of rugged HD, hybrid, radar and thermal imaging cameras, is at the forefront of cost-effective radar technology suitable for a broad spectrum of high-security monitoring applications.

Radar technology is often thought to be exclusive to the realms of high-budget security installations. However, spearheading the latest developments in cost-effective combined radar, surveillance camera and analytics technology, means that now, the benefits provided by highly effective radar wide-area detection can be considered for a broader range of security surveillance applications.

**"Traditionally, the use of radar systems has been considered to be the preserve of high-end installations, such as those at airports or ports," says Tony Holloway, Business Development Manager at 360 Vision Technology. "However, using 360 Vision Technology Predator Radar all-in-one devices, with integrated 360-degree rotational radar and integrated high-**

**definition PTZ camera(s), any open area can be secured, using a single, or for coverage of very large open areas, multiple radar devices. Versus deploying many traditional thermal or infrared cameras, Predator Radar could prove a far more effective and economical solution to cover the same area. In addition, Predator Radar's advanced detection capability is such that target detection and alarm functionality are continuous, day and night, even within adverse weather conditions."**

**"Radar, or to be precise, 'Radio Detection and Ranging' technology, employs low energy radio frequency waves which are emitted and reflected off objects. 360 Vision's radar technology uses advanced built-in software to measure the time it takes for the radio energy to be reflected and returned, in this way, the radar device can instantly calculate the precise distance and position of any number of targets across a 360-degree area of coverage, as scanned by the radar on its constantly rotating axis. Video analytics can then qualify the detected objects as being human or otherwise providing an enhanced level of potential threat detection.**

**"On detection of a target, or targets, Predator Radar instructs its integrated Predator PTZ camera, or cameras, to view the targets and provide instant visual verification. Additionally, as the targets move, they are automatically continuously tracked by the camera(s) to maintain real-time visual coverage."**

Up to four tracking PTZ surveillance cameras can be integrated with one single radar unit. The configuration of the cameras is flexible, with either one camera built-in to the radar device, with three further external cameras integrated for tracking, or two cameras physically integrated with the radar device, synced with up to two external cameras. This continuous scene analysis provides operators with powerful, accurate, object detection, and is combined with notifications via real-time webpage based live radar display, TCP/IP serial data/event messaging plus local or IP remote physical alarm contact outputs, providing a range of detection integrations, in addition to the ONVIF protocol for Video and Control integration.

## Radar vs alternative technologies

When considering the use of radar vs alternative technologies, there are many factors other than purchase price alone to consider, these will include reliable performance, total cost of installation and cost-of ownership.

It's important to consider that effective target identification is critical to high-security systems covering large areas, and that traditional detection methods, such as fence line detectors or camera analytics software alone, may fail to identify an object accurately enough. This will lead to false alarms and operators being alerted needlessly, leading to an ineffective increase in workload for each member of the security team in the control room.

With its 360-degree surveillance capability, Predator Radar units can scan vast areas, equivalent to 125,000 square metre coverage. Although it is possible to cover large areas with traditional CCTV cameras, depending on the type of technology and implementation approach, far more video

cameras will be required to cover the same area. This has a direct impact on equipment, infrastructure and installation costs, whereas a radar system covering the same area requires far less cabling, less power, less communication equipment and less manpower to install. Therefore, the total cost of installation and long-term ownership can be substantially lower for a radar system, compared to that of a typical camera system, when compared to the smaller number of Predator Radar devices required.

## Effective threat detection

The combination of 360-degree radar detection and powerful analytics programming enables Predator Radar to detect objects through smoke, fog and even adverse weather conditions, enabling the camera to be directed to targets, and its analytics to employ 'Detect and follow' functionality, no matter what the environmental conditions.

**"Using both radar and powerful analytics combined in one unit provides combined 'double knock' alarm verification, to provide the ultimate in alert accuracy for any application," says Tony.**

**"Predator Radar's all-in-one wide area PTZ camera with sophisticated software analytics will identify targets and continue to track them. This helps security surveillance operators to be alerted to a situation and identify precisely where the target is and where it is going, to provide the optimum level of incident information and evidential video."**

## Object verification

By applying the latest video analytics, once a target has been identified and tracked by the radar unit, targets can be instantly classified via camera analytical rules, such as automatically detecting and identifying persons or vehicles, providing even greater target identification and accuracy. Allied to this, advanced machine learning means systems can learn to effectively ignore false alarms, such as those created by foliage, animals, light cast or adverse or heavy weather conditions.

Extending the core applications for radar surveillance, wherever an area needs to be secured for security or safety, 360 Radar can be deployed. Today, traditional multi-camera solutions are being replaced by one single, simple to maintain radar unit, at applications such as large private houses, areas of natural beauty, stately homes, works compounds and road infrastructure, including tunnels, where they effectively monitor traffic for stopped vehicle and incident detection.

From the protection of national borders, to utilities, commercial sites, business premises, critical national infrastructure, high value estates, compounds and events, 360 Vision Technology's Predator Radar camera solutions are providing effective security, and safety and site management across the globe.

**For more information on 360 Vision radar solutions, customers can contact 360 Vision Technology on +44 (0)1928 570000, email: info@360visiontechnology.com, or visit their website at www.360visiontechnology.com**

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