CASE STUDY
AIRPORT SURVEILLANCE

> Overview

Customer: Needs to secure outdoor critical areas in airport

Challenge: Find the best technology to face the airport security challenges with easy integration to other security systems.

Solution: Fully passive, SPYNEL uncooled IR cameras provide full 360 degree coverage, day/night surveillance, with dual thermal/visible channels enhancing threat identification.

Results: Detect & track in real-time multiple threats, to prevent any unintended intrusions inside the critical zone defined by the authorities.

Conclusion: SPYNEL-U uncooled IR cameras are a proven airport surveillance solution with significant technological advantages for multiple threat detection inside tailored detection zones, very low false alarm rate, and easy deployment.

> Customer

HGH and its well renowned Spynel panoramic thermal cameras are deployed around the globe to notify security staff about **any intrusion, threat or anomaly detected inside critical security areas at regional or international airports.** These outdoor sensitive areas can include perimeters, tarmacs, terminal areas, runways, aircraft, parkings and hangars.
"Airport perimeters need to be fortified to leave no breach. We are looking for new technologies, and especially **thermal imaging panoramic cameras**, which eliminate the disadvantages of traditional video surveillance, and have unique **capabilities for customized virtual line crossing detection**", said the client.

> Challenge

With continued strong growth of air transport, authorities around the world are building new airports with security placed at the forefront of concerns.

Airports face a variety of increasingly complex threats such as terrorist attacks, drone attacks, drug trafficking, illegal immigration, vandalism and more. With large flows of people coming and going, airports are still considered as prized targets for criminal and terrorist activity. Hence **securing airport perimeters** as well as adding an **anti-drone solution** are of high importance for regional, national and international airports.
Because airlines operate around the clock, airports need to be secure **day and night, in all weather conditions**. Airports are all different: airport size and layout, daily traffic, geographical location, local weather conditions, and numerous other factors require a **tailored surveillance solution and an easy integration with other security systems.**
Ultimately, taking a long-term view towards expansion projects, the airport requires flexible surveillance systems which can **be moved and deployed easily even for temporary surveillance needs.**

HGH
Enlighten the Unseen

> Solution

SPYNEL panoramic IR cameras provide the most comprehensive airport security solution allowing **protection of a critical outdoor zone delimited by virtual lines.**

Advantages of thermal imaging technology are numerous. Night and day, SPYNEL cameras detect and track **in real-time an unlimited number of intruders** where conventional CCTV systems fail. Another advantage is the **panoramic vision, allowing 360° airport surveillance at long distance**, with only a limited infrastructure. Typically, SPYNEL can be installed on an existing pylon, building, terminal or even the control tower. In the case of virtual lines where the installation of masts along them are impossible, SPYNEL is the ideal solution. Thanks to its large field-of-view and advanced software features, SPYNEL can easily differentiate an aircraft from a threat crossing this virtual line.

Additionally, SPYNEL IR sensor can work alongside security equipment **with seamless integration into third party software** (VMS, ATM, ATC, etc). Finally, it is worth noting that SPYNEL is based on a fully passive technology, meaning it will not be a source of disturbance in the airport electromagnetic environment, unlike radars.

RESULTS

The CYCLOPE automatic intrusion detection software provides advanced features to monitor and analyze the dual 360° video streams captured by SPYNEL-U sensors.

Multiple detection zones were created and virtual lines were added to detect any anomalous crossing. The alarm management module provides advanced settings and conditions to send an alert tailored to customer needs.

With the forensics analysis, the operator can easily replay the sequence to perform further analysis of the event. The 360 degree panorama recording guarantees that no event is missed, unlike PTZ camera. Additionally, videos can serve as valuable evidence for authorities.

Finally the ease-of-use of the software enables operators to be quickly operational. For the airport, the use of SPYNEL sensors reduce operating costs, as the ground patrols were no longer necessary.

> Results

According to the layout of the airport, several studies were provided to the authorities to determine the best surveillance configuration. Two SPYNEL-U uncooled thermal cameras were installed at strategic locations to provide a full coverage of the multiple critical areas to secure with no dead zones. The fully integrated dual panoramic views of the SPYNEL-U enable the operator to take advantage of both the long-distance automatic detection and tracking thanks to the thermal panorama as well as an enhanced identification of all threats and suspicious objects thanks to the high resolution and contrast of the visible panorama.
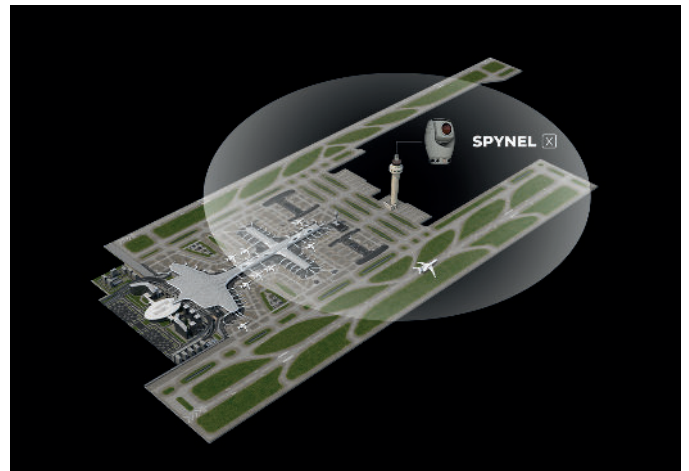
> Conclusion

SPYNEL-U provides the most secure and cost-effective solution that meets the demanding security challenges of the airport. Reliable, SPYNEL-U integrates an uncooled detector requiring no maintenance, as well as provides a very low false alarm rate.

Combining long-range and short-range coverage, the SPYNEL solution is scalable to accomodate the airport future needs, such as drone detection, air traffic management, collision avoidance, remote control tower, and more.