

AIRPORT SECURITY AND THE THERMAL CAMERA



Introduction

Under a growing threat of terrorist attacks, airport authorities around the world are installing FLIR's thermal security cameras to keep their passengers, employees, and valuable equipment safe.

Westchester County Airport (HPN) near White Plains, NY, recently added FLIR thermal security cameras to their array of other cameras and sensors. Thermal cameras allow HPN's security operators to see in total darkness. While their other cameras only work during the day, thermal cameras see clearly 24-hours a day. "FLIR picks up where everything else drops off," said Wendell Orr, HPN's System Administrator for Aviation Services.

Common challenges

Because airlines operate around the clock, airports need to be as secure at night as they are during the day. Unfortunately, standard closed-circuit TV (CCTV) cameras need lights to be of any use after dark. They can take advantage of the lights installed to help aircraft taxi to and from the gate areas, but dedicated security lights installations are expensive to engineer and install. Moreover, they can't be installed everywhere the security professional needs to see, especially along the perimeter.

FLIR's thermal security cameras don't suffer from such limitations. They make pictures from heat, so they can see people, vehicles, aircraft and infrastructure clearly in absolute darkness. Thermal security cameras also see farther than comparable CCTV cameras, night and day. This makes them a better solution for securing miles of perimeter fence.

What's more, thermal cameras work seamlessly with other sensors like ground radar, fence alarms, and video analytics. Internal software can command the FLIR camera to look at a radar return or fence alarm automatically. This allows operators to evaluate the threat and decide upon the appropriate response remotely.

While most airports have many similar security elements, they are by no means all the same. Airports have differing physical layouts, topography, physical access, and environmental factors. They also have threat levels that can vary from one to the next based on local events and influences. That they differ is clear, but they have one need in common: to provide unquestioned safety and security.

Case studies – proving that size doesn't matter to FLIR

An airport's size is largely irrelevant to the kinds of security challenges they face. While a larger airport's security infrastructure may be more complex, that is a difference of type, not of kind. Securing airports like Westchester County requires attention to the same basic considerations that exist at major international airports like Dallas/Ft. Worth (DFW) and New York's Kennedy. FLIR's thermal security cameras meet all of these challenges.

Airport security does not accept cookie-cutter solutions. The tools airport security professionals use must be flexible, easy-to-use, and able to respond to the dynamic environments they encounter every day.



Typical airport thermal camera installation



Thermal cameras guard perimeter fence lines



Regional

A regional airport, HPN covers over 700 acres, has a five-mile perimeter, and runs almost 500 daily operations. Orr uses FLIR thermal imagers there to meet two important needs: financial and tactical.

The thermal camera's ability to see at night gives security operators an obvious boost in solidifying airport safety and security. But the thermal camera's ability to see at night is also a means to an end. By seeing at night, the FLIR camera increases the effectiveness of HPN's suite of other security sensors and monitors. The thermal camera becomes the centerpiece of an effective 24-hour security system. "Without a good imaging system," said Orr, "you've got no system."

Financially, FLIR's cameras proved themselves to be the "best value" solution on multiple fronts. Because they can see clearly in the dark, thermal cameras are much less expensive to operate than a CCTV network. CCTV cameras need clusters of big, expensive lights in order to see a developing threat after dark. "Thermal imaging saves a sizable amount of money over designing, engineering and implementing a lighting infrastructure," explained Orr.

But the thermal camera's economic superiority goes beyond that. Security personnel from HPN tested FLIR's thermal security cameras side-by-side against those from other manufacturers and found that the cameras from FLIR performed just as well as their more expensive counterparts, making them their economic allure even greater.

International

Larger airports use thermal cameras for the same reasons as regional airports. In fact, many major airports around the country recently selected FLIR's thermal cameras. For example, all of New York's four major airports – Kennedy, LaGuardia, Newark and Teterboro – selected FLIR's thermal cameras as part of a larger Homeland Security initiative called the Airport Perimeter Intrusion Detection System, or APIDS.

APIDS requires FLIR's thermal cameras to integrate seamlessly into the airport's central control facilities. They must also interact with a host of other sensors like ground radars, fence sensors and CCTV cameras.

Another large, international hub airport – DFW – selected FLIR's thermal cameras. DFW selected FLIR's thermal cameras as part of an ongoing effort to modernize their security capabilities.

While fixed and pan/tilt cameras can operate as standalone systems, they are more effective when they work with other airport security systems. At DFW, operators integrated their thermal camera's video with the airport's central command and control network using FLIR's Nexus middleware. Nexus lets operators determine a threat's precise latitude and longitude, and operate a network of sensors.

FLIR's thermal security cameras have found a home in airports throughout the US and around the world. Their high quality and 24/7 imaging capability, make FLIR's cameras a "must-have" for any airport serious about keeping its passengers, employees, and aircraft safe.

Going forward

In the end, however, the technical factors are not as important as the human ones. Airport security operators need to know that – should they have a problem with a camera – their supplier will stand behind them, keeping them on line and in the game.

As proud as FLIR is of our cameras and our technology, we know that it is our people and their relationships with security professionals all over the world that makes us the world leader in thermal camera solutions...and will, for years to come.



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