



APPLICATION STORY



Thermal imaging cameras for home security

FLIR SR-Series:
an affordable and environmentally friendly solution

All over the world the perimeters of industrial parks, airports and harbors are being protected with the help of thermal imaging cameras from FLIR Systems, but the security solution big companies choose to protect their assets can be used for home security as well. Extremely affordable, maintenance free and environmentally friendly, FLIR thermal imaging cameras can be the ideal security solution for home protection.

A very good example of this fact is an estate near Newport Pagnell in Buckinghamshire, the United Kingdom. The estate has been secured by FLIR integrator Case Security. Andrew Herridge, Operations Director at Case Security, explains why the owner of the estate opted for thermal imaging cameras. "FLIR thermal imaging cameras need no light to function and are incredibly dependable."

Case Security provides electronic security solutions for commercial markets and a limited number of high-end domestic customers. They deploy state-of-the-art technologies to control, deter and monitor their clients' premises, including FLIR thermal imaging cameras.

No light needed whatsoever

Unlike other night vision systems, thermal imaging cameras detect the thermal radiation that is around us all the time, translating it into a visual image. This means that FLIR thermal imaging cameras deliver 24/7 imaging capability regardless of lighting conditions. And that's not all: thermal radiation penetrates atmospheric obscurants

better and farther than visible light, allowing you to see what's out there through haze, smoke, dust and even light fog.

"This estate has quite a lot of land that comes with it", continues Mr. Herridge. "In this rural environment there are no streetlights, so to monitor the entire area with normal Closed-Circuit Television (CCTV) cameras we would need to install lights ourselves. That would not only be a very costly operation, it would also attract attention to the property, disturb the local wildlife and it would be bad for the environment with all the electricity needed to power those lights. And you also have to consider the cost of maintenance, for

With its excellent range performance this SR-313 can detect intruders from a distance.



These two FLIR SR-313 thermal imaging cameras have adjacent fields of view, together they cover a large part of the surrounding fields.

lights tend to break down every once and a while. With FLIR thermal imaging cameras you don't have these problems."

User friendly

The FLIR SR-Series thermal imaging cameras include the most advanced thermal imaging technology available on the market today, but in a user friendly package. The FLIR SR-313 thermal imaging cameras incorporate an uncooled Vanadium Oxide microbolometer detector producing crisp 320 x 240 pixels thermal images. Advanced internal camera software called Digital Detail Enhancement enhances these images further, to ensure that even the smallest of details can be seen.



Conventional CCTV cameras rely on color contrast to provide enough information for the viewer to detect a threat. Even at moderate ranges, weak contrast can render these cameras useless. Thermal cameras do not have this limitation. "The contrast on a thermal image is usually much bigger, due to the difference in temperature between a person and his surroundings", explains Mr. Herridge. "That means that generally speaking you can detect a person with a thermal imaging camera at a larger distance."

Excellent range performance

Equipped with a 35 mm lens the FLIR SR-313 thermal imaging cameras can detect a human size target at 780 meters and a small vehicle at over 2 kilometers. Due to this excellent range performance only a few FLIR SR-Series thermal imaging cameras are needed to monitor the entire estate. "We've installed six FLIR SR-313 thermal imaging cameras on the highest parts of the house that cover all of the land that comes with the estate."

These six thermal imaging cameras and several CCTV cameras are combined in a TCP/IP network. "The images from all of the sensors in the TCP/IP network, including the FLIR SR-313 thermal imaging cameras can be accessed from every television screen in the house."

Powerful FLIR software

To manage the network, Case Security installed the FLIR Sensor Manager Pro software. Whether to protect a large industrial park, an airport, a harbor or a residential building like the estate in Buckinghamshire, FLIR Sensors Manager Pro offers powerful and efficient management capabilities for any security installation that includes FLIR Systems



These six FLIR SR-313 thermal imaging cameras cover the back of the estate

thermal imaging cameras. Not only does FLIR Sensors Manager Pro allow the user to automatically locate all FLIR Systems thermal imaging cameras in the network and to easily control them, it can also be used to control a wide variety of other sensors.

Video analytics

"We use the powerful FLIR Sensors Manager Pro software to ensure that any occurrences are immediately brought to the owner's attention", explains Mr. Herridge. "FLIR Sensors Manager Pro contains a Video analytics module with Video Motion and Target Detection. The user can place virtual trip wires and other triggers. If the system detects that someone is entering the perimeter a silent alarm will go off and the images that caused the alarm will be shown on the screen so the user can immediately see if it really is a trespasser or an 'unwanted' alarm. In the case of a real intrusion further action, such as calling the police for example, can be taken immediately."

"All of the images are also constantly recorded using a FLIR Network Digital Video Recorder (nDVR) for future use, to present it to the police for instance", continues Mr. Herridge. "If nothing out of the ordinary occurs the video files are discarded after a week. If the owner manually overrides this or if an alarm is triggered the files are preserved until the owner decides to discard them."

Monitoring the alpacas' behavior

In this case, however, the owner also has another use for the FLIR SR-313 thermal imaging cameras, according to Mr. Herridge. "The owner keeps alpacas, small lama-like animals from South America that produce a fur that's somewhat similar to sheep's wool. These animals are quite an investment, for they



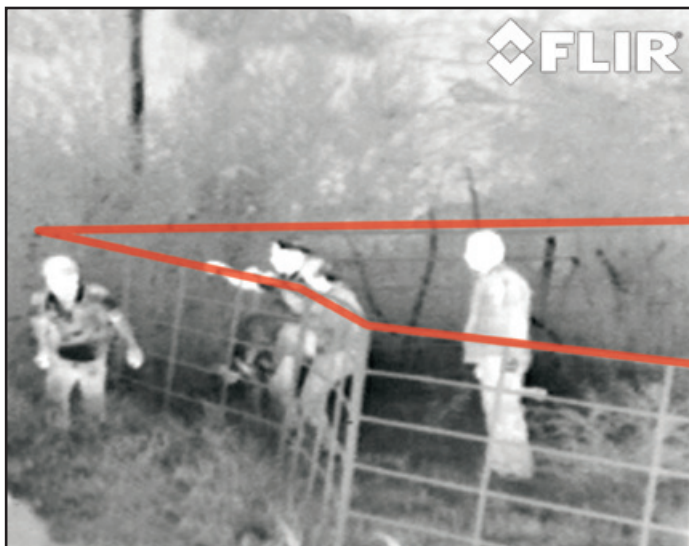
The thermal images of the six FLIR SR-313 thermal imaging cameras can be shown on any of the screens inside the house.

usually do not come cheap, so he uses the FLIR SR-313 thermal imaging cameras to check whether his alpacas are behaving normally. He says he can quite easily see if one of them has escaped or if some of them show different behavior."

Installing the cameras was easy, according to Mr. Herridge. All SR-Series can be easily connected to common power and video interfaces found in existing and new security systems. They can be easily integrated into any existing CCTV infrastructure and the images from the thermal imaging camera can be displayed on virtually any existing display that accepts composite video.

No maintenance needed

Even more important is the FLIR SR-Series' low Total Cost of Ownership (TCO), explains Mr. Herridge. "The FLIR SR-Series thermal imaging cameras have uncooled detectors, so they do not need the maintenance a thermal imaging camera with a cooled detector would require, and the absence of a motorized focus mechanism prevents mechanical break downs. The SR-Series do not need any maintenance whatsoever. This means that the TCO of these thermal imaging cameras is extremely low."



The FLIR Sensors Manager Pro software includes an advanced video analytics module. The user can place virtual trip wires and other triggers. If someone crosses the trip wire a silent alarm will go off.

For more information about thermal imaging cameras or about this application, please contact:

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