



APPLICATION NOTE



FLIR helps Beveren fire department locate hotspots and missing subjects more easily.

Beveren firemen value the FLIR K50 thermal imaging camera for its affordability, light weight and user-friendliness.

The appropriate firefighting equipment can be critical for a fireman, for his own survival on the one hand, and for saving the lives of others on the other hand. To ensure the safety of its crew and to deliver even better firefighting services, the firefighting department of Beveren, Belgium, recently invested in a FLIR K50 thermal imaging camera.

Beveren is a municipality located in the Belgian province of East Flanders and very close to the city of Antwerp. The port of Waasland (Dutch: Waaslandhaven) is also located in Beveren, on the left bank of the river Scheldt, facing the port of Antwerp on the other side of the river.

The Beveren-Waasland fire department is responsible for the fire safety of a number of municipalities in the vicinity of Beveren, and for the Waasland port, which houses a number of high-risk companies that produce or make use of chemical or toxic materials. The Beveren firefighting team includes 40 professional firemen, 3 officers and more than 50 voluntary firemen.

Especially with the high-risk areas of the

Waasland port under its care, the Beveren fire department has always had an eye for advanced technology in order to support its team. That's why the department has already been using thermal imaging cameras for many years. A specific type of camera system includes a PTZ camera system, including a visual and a FLIR thermal camera that can be mounted on the fire truck.

"We have been using this system for a few years now and it has always helped to give us an extra pair of eyes," comments Corporal Stefaan Terryn of the Beveren team. "We can use the PTZ system to monitor the situation for possible hotspots on site and send the video images to a crisis room through a wireless link. This way, this camera system

The lightweight FLIR K50 camera provides clear and detail rich images of 320x240 pixels.

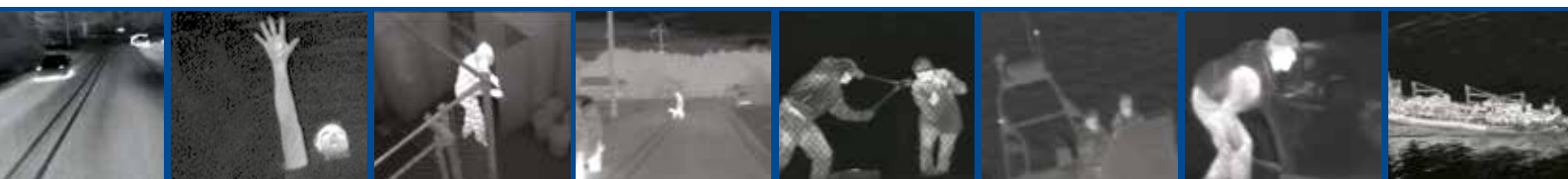


With the FLIR K50 you can see temperature changes resulting from all kinds of chemical reactions in containers, something that is very useful to the Beveren fire department because of the many chemical industry companies in the Waasland port.

helps the local authorities to assess the situation on site from a distance and take the appropriate measures when necessary."

Handheld Thermal Imaging Camera (TIC)

While the PTZ system is chiefly used to be mounted on a fire truck, the Beveren fire department also makes use of handheld thermal imaging technology from FLIR. More specifically in 2013, the department purchased a FLIR K50 point-and-shoot camera for firefighting applications.



“This camera is very useful for us for a wide range of applications,” says Corporal Stefaan Terryn. “For chimney fires for example, the K50 can help us detect hotspots in a drop ceiling. Or we can use it to see temperature changes resulting from all kinds of chemical reactions in containers,

something that is very useful to us because of the many chemical industry companies in the Waasland port. A thermal imaging camera is mostly used in progressive points in time, so we can see the evolution of a fire: either it’s cooling down or heating up again.”

When the firefighting team receives an urgent call, they usually use three vehicles: the actual fire-fighting truck, an aerial ladder platform and a tank vehicle. The thermal imaging camera is located in the fire-fighting truck and is mostly used for revision of fire-fighting activities, in other words: to see whether all work is done and all fires are extinguished effectively.

FLIR K-Series

The FLIR K-Series thermal imaging cameras have been especially developed for the most demanding fire-fighting tasks. The maintenance free uncooled microbolometer sensor produces clear and detail rich images of 240 x 180 pixels (FLIR K40) or 320 x 240 pixels (FLIR K50). Thermal images are presented on a large bright 4” display, helping firefighters to navigate and make quick and accurate decisions. The K-Series is designed to meet tough operating conditions. It withstands a drop from 2 meters on a concrete floor, is water resistant (IP67) and fully operating up to +85 °C.

Five imaging options let you shift thermal sensitivity and effective temperature range modes to help speed tactical decisions and the search for survivors.

- **TI Basic mode:** For initial size-up of fire scene and fire attack
- **Grayscale mode:** Similar to TI Basic mode but without colorization
- **Fire mode:** Improved sensitivity in high scene temperatures
- **SAR mode:** Optimized palette to assist in locating subjects
- **Heat detection mode:** Hottest spots are colorized only to assist during overhaul.

Another application of this thermal imaging camera is a targeted search for missing persons. To this end, the FLIR K50 has a dedicated color palette (SAR mode) to assist firefighting professionals in locating subjects more easily.

“The camera also helps you see dangerous situations without the need to enter a specific area,” says Corporal Stefaan Terryn. “We recently had to attack a fire in an engine room of a ship that was located in the Waasland port. This is a good example of a situation where thermal imaging is indispensable. Entering an engine room that is on fire is very dangerous. With thermal imaging, you can see what’s going on from a safe distance.”

Affordable, lightweight TIC

“Before we purchased the FLIR K50, we evaluated several TIC models. The FLIR K50 came out as the most interesting one in terms of price-quality ratio,” comments Corporal Stefaan Terryn. “Unlike previous handheld TICs we had used, the FLIR K50 is also very light, which makes it easy to handle. We already carry a lot of weight, including our heavy fire suit, air tank and high-pressure equipment. So any additional equipment should be lightweight. The fact that this is a point-and-shoot model, makes the K50 very straightforward to use, in contrast to other handheld camera models that have an angled screen.”



TI Basic mode



SAR mode



Heat detection mode



Fire mode



Grayscale mode



The Beveren fire department uses a PTZ system with a visual and a FLIR thermal camera to monitor fire situations.

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

FLIR Commercial Systems B.V.

Luxemburgstraat 2
2321 Meer
Belgium
Tel. : +32 (0) 3665 5100
Fax : +32 (0) 3303 5624
e-mail : flir@flir.com
www.flir.com

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