



APPLICATION STORY



Inland skippers use thermal imaging to navigate through tight spots at night



The combination of excellent image quality and an affordable price makes the FLIR M-Series perfect for commercial applications.

Inland skippers are faced with the daunting task of navigating their long bulky barges through the tight locks and bends that they need to traverse to deliver their cargo to its destination. When darkness or light fog impedes regular vision, bright searchlights are commonly used to enhance the skipper's situational awareness. But now there's another tool on the market: FLIR thermal imaging cameras.

One of the commercial skippers that recognized the potential FLIR thermal imaging cameras have for commercial shipping is the German inland skipper Rolf Bach. "The first time I saw thermal imaging cameras demonstrated on the barge of one of my colleagues I immediately knew I had to get one for my own barge combination 'El Niño', 'La Niña.'"

The FLIR products distributor responsible for the presentation and the subsequent installation on 'El Niño' is the Wulsbüttel, Germany, based Trauthoff Infrarot- & Sicherheitstechnik GmbH. Bach purchased an M-Series model that includes a thermal imaging camera and a lowlight camera to provide the best imaging possibilities in every lighting condition imaginable. "Before I had seen the product I thought the price was maybe a bit steep, but when I saw the FLIR M-Series in action I immediately saw that it is good value for money."

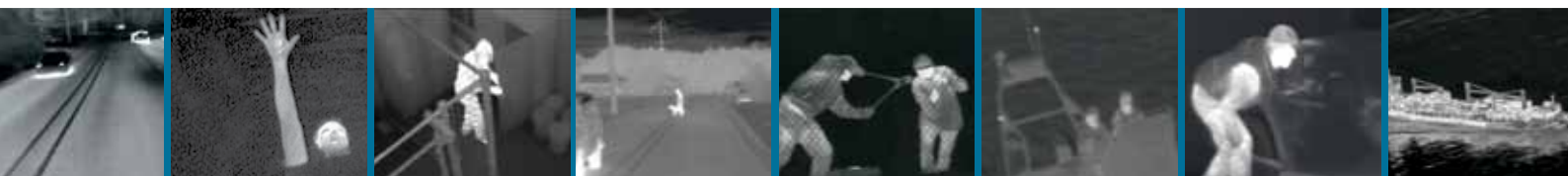
The FLIR M-625L incorporates a thermal imaging camera with an uncooled Vanadium Oxide microbolometer detector that provides thermal footage at a resolution of 640 x 480 pixels. The combination of a sensitive high resolution detector and the advanced thermal image enhancing algorithms that have been included in the FLIR M-Series, enables the FLIR M-Series thermal imaging cameras to provide industry leading image detail and range performance.



When commercial skipper Rolf Bach saw a demonstration of the FLIR M-Series he immediately knew he had to buy one for himself.



Not only does the FLIR M-series allow Bach to safely navigate and dock his barge combination, it also helps to detect intruders while he is docked in the harbor.





The FLIR M-Series thermal imaging camera is mounted on top of the bridge to provide maximal situational awareness.



From this vantage point the FLIR M-Series thermal imaging camera can make the most of its wide field of view and excellent range performance.



The thermal imaging footage from the FLIR M-Series is continually displayed on one dedicated screen and one multi-functional screen on the bridge of 'El Niño'.

Avoiding collisions

In the short time that Bach has been using the FLIR M-Series thermal imaging camera on his own ship it has certainly proved its worth. "Europe's network of rivers and canals can be quite challenging. There are locations where the fairway is only just wide enough for two ships to pass each other by. Even during the day such situations require your full attention, but when it's dark it really turns into a challenge."

According to Bach the FLIR M-Series is a great help. "It really gives a great overview of the situation. You can immediately see how much room there is left to maneuver. Before I had the FLIR M-Series I looked at the radar and out of the window. At night the lack of visual information makes this a stressful situation. Nowadays I find that I hardly look outside or at the other screens in such situations. The FLIR M-Series tells me everything I need to know to avoid a collision, which not only makes it safer, but also less stressful."

Blinding lights

In the area where Bach operates there are many navigational challenges. "I mainly operate in the Danube and the Rhine, Europe's two longest rivers. In all, the river network runs through 17 countries, covering most of Europe. In that territory there are countless tricky locks, challenging corners and tight fairways. At night most vessels switch on their powerful searchlights to be

able to navigate these locations safely, but that means that if there's an oncoming vessel, both of the skippers will be effectively blinded by each other's lights. Obviously this situation can be very dangerous."

"Now that I have the FLIR thermal imaging camera I don't need to switch on the lights", continues Bach. "I just use the FLIR M-Series to navigate and the oncoming vessel can safely switch on the lights. Since the M-Series thermal imaging camera detects thermal radiation instead of visible light, the searchlight of the oncoming vessel will not blind me when I'm using the FLIR M-Series thermal imaging camera to navigate."

Recorded thermal footage as evidence

Bach has not been involved in an accident since the FLIR M-Series was installed, but if an accident does occur he can use the thermal imaging footage from the FLIR M-Series thermal imaging camera as evidence. "Waterway traffic is similar to road traffic. If an accident occurs it is often difficult to prove who was at fault. I therefore connected the FLIR M-Series thermal imaging camera to a digital video recorder and I'm constantly recording the live thermal video footage."

If no accidents occur the recorded video is automatically deleted after a week. But if there is an accident, Bach can prove which party was at fault. "The FLIR M-Series provides crisp thermal video footage regardless of lighting conditions, so this system also works



Bach admits that he mainly looks at the thermal footage of the FLIR M-Series when crossing an upcoming vessel at night.

perfectly at night; and that is when most accidents occur due to the limited vision. Hopefully I will never be involved in a collision but if an accident does happen I will be very glad to have this thermal imaging system."

Easy to use

The FLIR M-Series' Joystick Control Unit (JCU) is esthetically incorporated in the bridge. The JCU presents all of the camera's commands right underneath your fingertips and with a simple tap of the finger you can easily pan and tilt the camera to employ the camera's 360° pan and +/-90° tilt reach. The ergonomic design of the JCU allows easy and intuitive operation, according to Bach. "The FLIR M-Series thermal imaging camera is very easy to use, especially if you compare it to other navigational tools like the radar. Operating a FLIR thermal imaging camera is very intuitive, whereas radar can be more complicated at times."

According to Bach navigating through tricky locks, passing under tight bridges and cornering difficult bends is made easier, safer and less stressful by the FLIR M-Series thermal imaging camera.



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

FLIR Commercial Systems B.V.
 Charles Petitweg 21
 4847 NW Breda - Netherlands
 Phone : +31 (0) 765 79 41 94
 Fax : +31 (0) 765 79 41 99
 e-mail : flir@flir.com
 www.flir.com