



APPLICATION STORY



FLIR Systems Mariner turns night into day

Increasing safety on board

The FLIR Systems Mariner installed on the "Allure" produces clear thermal images on which the smallest of details can be seen. In total darkness, in practically all weather conditions.

Yachts and pleasure craft are meant to provide an escape from the everyday world. Yacht and boat owners want to enjoy themselves together with friends and family on their vessel. They enjoy the freedom of being able to go where they want and to discover new places.

The sea and rivers can also be dangerous places. Especially in night time or bad weather. Most accidents happen when visibility is limited. In darkness or in light fog. Ships collide with each other, hit bridge pilings, exposed rocks and other floating objects. This can result in heavy damages to the vessel or even worse, loss of life.

Although modern yachts are equipped with radar and other equipment that can help to avoid these hazards, there is a new tool available as well. Thermal imaging can help to protect a vessel, its passengers and crew.

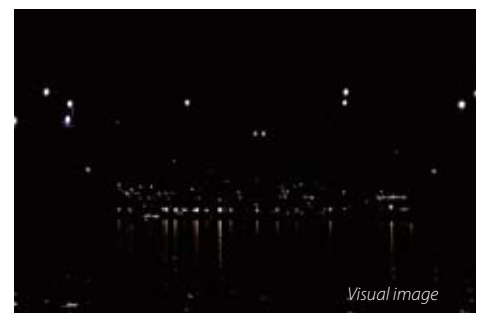
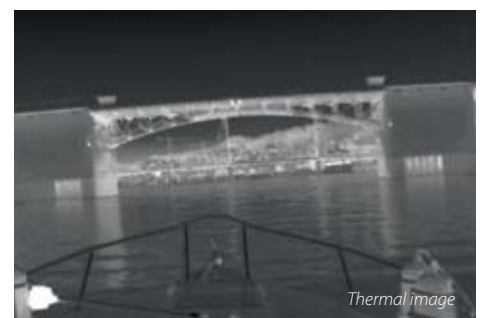
Mr. Van Eynatten is the proud owner of the "Allure". A "Super Van Craft" constructed by the Dutch yacht builder "Jachtwerf Klaassen B.V."

"Once I am on my boat it is like I am entering a totally different world. On the water, I forget my everyday worries and the boat gives me a feeling of freedom. I try to enjoy it as often as I can and often make small trips on the rivers and canals in Holland and Germany. Sometimes I follow the North Sea coast up to the South of France", says Mr. Van Eynatten.

Easier than radar

"I am however not a professional captain so I need to be careful with what I am doing on the water. Safety is very important to me. Especially when I am having family or friends on board. I am not taking any risks that might involve them in an accident."

"Although the "Allure" is equipped with radar I am not an expert using it. The only information I am getting is a blip on my screen which I am finding sometimes difficult to understand. How big is the object, how far



The images of the FLIR Systems Mariner are displayed on a standard LCD display. On the "Allure" this display is mounted above the steering wheel. It can be flipped up when the Mariner is not being used.

A small joystick control unit, installed in the bridge, allows to turn the Mariner in every direction. This significantly increases situational awareness.



is it away, how fast is it approaching? More important, should I be worried about it are the questions I often ask myself."

Mariner: easy-to-use and easy-to-install

"I often wished I had an easier, more comprehensive tool to help me in the occasions when I need to navigate in darkness or bad weather. So when I read about thermal imaging and its possibilities in a maritime environment in a magazine I became curious and wanted to know more about it.", says Mr. Van Eynatten.

"I quickly found out that GMS Instruments is distributing FLIR Systems maritime products on the Dutch market and contacted them. I was very impressed during the demonstration of the Mariner by Mr. Van Dommelen of GMS Instruments. He demonstrated the thermal imaging camera at night and I was amazed when I saw the images the FLIR Systems Mariner produced."

Mr. Van Eynatten decided to install a FLIR Systems Mariner on his yacht. This installation was done during the yearly maintenance of the yacht. "Installing a FLIR Systems Mariner is an easy job.", says Mr. Van Dommelen of GMS instruments. "You just need to mount the Mariner and connect it to a power source. Another cable needs to be connected to a standard LCD display. The Mariner is a Pan/Tilt camera so a small joystick control unit is mounted in the bridge."

"I decided to install the LCD just above the steering wheel. When I am using the Mariner I can flip it

down. I look at the thermal images on the LCD once in a while just like I look at the mirrors in my car. It is a natural checkpoint that helps to increase my situational awareness. When I am not using the Mariner, I can flip the LCD back up and you hardly even see its there", continues Mr. Van Eynatten.

The FLIR Systems Mariner produces a clear image even in the darkest of nights. Shipping lane traffic, buoys, bridges, floating debris, which may not be detected by radar but can damage a vessel severely, it is all seamlessly detected by a thermal imaging camera like the FLIR Systems Mariner.

Pan/Tilt increases situational awareness

"The thermal imaging camera is a lot easier to use than radar. It produces a crisp image on which the smallest of details can be seen. The joystick mounted on the bridge allows me to turn the navigator 370° horizontally and +/- 30° vertically. This way I can look wherever I want. Using the Pan/tilt I can also see what is happening behind me. Also in broad daylight. Seeing what is happening behind the boat is of the same importance as knowing what is going on in front or beside it."

"It is not because I have a Mariner on my boat that I go out in the dark on purpose. But when I am taking my boat out, I feel a lot safer. I do not have to worry anymore to be in the marina again before darkness. I can stay out later because I know that thanks to the Mariner I can make port safely. Also navigation inside the marina in total darkness becomes a lot easier. Although I have not yet used the Mariner in really heavy fog, I also noticed

that the camera can help tremendously in light fog. Again, this makes me feel safe when I am out. If I see fog coming, I know I can make it safely back thanks to the thermal imaging camera."

More than night time navigation only

But a thermal imaging camera can be used for more than night time navigation only. "Indeed", continues Mr. Van Eynatten, "When I am in port I can clearly see what is happening as well. Not only can I see small boats on the water at night but I can also see what is happening on land. The Mariner spots every movement. I can imagine that if I would hear something worrisome at night, I would immediately go to the bridge and turn the Mariner on. This way I can clearly see, even in total darkness, potential trespassers. The Mariner will allow me to warn others if necessary."

Protecting the vessel and its passengers

"I did not install the Mariner on my boat to start sailing at night.", concludes Mr. Van Eynatten. "But I feel a lot safer now that the camera is installed. I know that it can help to protect my ship but, even more important, my family and other passengers on board. I am not the only one to see the advantages thermal imaging on board of a yacht has to offer. A lot of boat owners in the marina have been curious about the new instrument mounted on the "Allure". When I invite them in the evening for a glass of wine and I show them the images the Mariner is producing, a lot of them are very interested and are thinking to increase their safety by installing a thermal imaging camera as well. After all, which other instrument can turn night into day?"



Mr. Van Dommelen of GMS Instruments, FLIR Systems maritime products distributor in the Netherlands and Mr. Van Eynatten on board of the "Allure".

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