



APPLICATION STORY



'FLIR thermal imaging cameras are a great tool'

Chairman of the Ferretti Group on thermal imaging

The wide range of FLIR thermal imaging cameras for maritime purposes is finding its way to a wide variety of ships. Ocean liners, tow boats, cruise ships, rescue boats and many other types of vessels have been enhanced with thermal imaging cameras from FLIR.

A very promising segment of the maritime industry is the category yachts. More and more yacht owners are incorporating FLIR thermal imaging cameras in their vessel's set of equipment. One of the first to realize the potential of this innovative technology is Norberto Ferretti, chairman of the Ferretti Group. "I've been using FLIR thermal cameras for four or five years now and it really is a great tool that helps to keep my yacht safe. In some situations it's actually even better than the radar."

FLIR thermal imaging cameras can detect extremely small differences in thermal radiation and convert that information into real-time video that's displayed on a monitor in the bridge. The crisp video that a FLIR thermal imaging camera produces allows the captain of a ship to see the vessel's surroundings even in the darkest of nights. Unlike other night vision systems FLIR thermal imaging cameras need no light at all to function and can work in absolute darkness.

To discuss the potential thermal imaging cameras have for use on luxury yachts, Norberto Ferretti has invited FLIR Commercial Systems aboard the Navetta 26 that's on display at the 2010 Genoa Boat Show, a yacht very similar to his private yacht: the Ziaccanaia.

"I do most of the travelling with my yacht during the night, because during the day I prefer staying at the beach and swimming", explains Mr. Ferretti. "My captain sails



The FLIR M-Series thermal imaging camera enables continuous 360° pan and +/-90° tilt movement. It contains both a thermal imaging camera that produces crisp thermal images of 640x480 pixels and a daylight/lowlight camera.



Norberto Ferretti, chairman of the Ferretti Group on the bridge of the Navetta 26 that was displayed at the 2010 Genoa Boat Show.





The thermal images are shown on a dedicated screen on the bridge. The joystick control-unit is aesthetically integrated.

through the night and in the morning we arrive in the location where I want to go, so when I wake up we're there. Not only does travelling at night allow me to see the most beautiful of sunrises and sunsets, it also means that I have the entire day left for me to enjoy. So travelling at night really helps me to get the most out of my holidays. And a FLIR thermal imaging camera makes nighttime travelling a lot easier."

camera for several years now and I really wouldn't want to go without. It would indeed be sorely missed if I wouldn't have it anymore."

From sailing boat to motorized yacht

In 2010 it was the fiftieth time that yacht builders from over the world displayed their best vessels in the Genovese harbor for the Genoa Boat Show. The Ferretti

Group was one of the largest contributors. The Ferretti Group, based in Forlì, Italy, is one of the leading companies in design and construction of luxury motoryachts and sporting boats. The Ferretti story started in 1968 when Norberto Ferretti together with his brother Alessandro, both driven by a great love for the sea, started the Ferretti boatyards. Nowadays the Ferretti Group has established itself as one of the leading yacht-producers

in the world. Custom Line, the company that produces the Navetta 26, is one of the many yacht producers that are a part of the Ferretti Group.

A new dimension of comfort

The Navetta 26 has been designed to set new standards of quality for life on-board. The clever design of the 26 meters long

and almost 7 meters wide motorized yacht enables those on-board to cruise in a new dimension of comfort, relaxation and wellbeing. It has a large open-view window which converts each cabin into a suite on the sea; a sky lounge featuring removable glass walls, which make it possible to create a single open space with the external lounge and the sunbathing area featuring comfortable sundecks and a Jacuzzi; and the on-board comfort is ensured by the exclusive Anti-Rolling Gyro System, supplied as standard, which allows for a reduction of over 50% in the rolling caused by wave movement both during navigation and when the yacht is moored.

Thermal imaging camera on board

According to Mr. Ferretti such a high quality yacht should not lack a high quality thermal imaging camera, so when the Ziacanaia was built he chose to include the FLIR Navigator II thermal imaging camera in the vessel's equipment. When the new FLIR M-Series thermal imaging cameras came out, Mr. Ferretti decided to replace his FLIR Navigator II model on the Ziacanaia with the new FLIR M-625L thermal imaging camera.

The FLIR M-Series thermal imaging cameras are powerful, flexible, and built to last. With the M-Series' variety of sensors and resolutions the thermal imaging cameras from the M-Series can meet a wide range of maritime navigation, collision avoidance, security, and search and rescue needs. The FLIR M-625L thermal imaging camera that's installed on the Ziacanaia contains both a thermal imaging camera that produces crisp thermal images with a resolution of 640x480 pixels and a daylight/lowlight camera. The rugged, waterproof gimbal enclosure enables continuous 360° pan and +/-90° tilt movement for horizon-to-horizon visibility.



Riccardo Tebaldi, part of the Ferretti Group Delivery team, uses the HM 324xp+ handheld thermal imaging camera.

'I wouldn't want to go without it'

According to Mr. Ferretti once a client has a FLIR thermal imaging camera there's no going back. "In my experience a client that has previously included a FLIR thermal imaging camera on his yacht will always order a FLIR thermal imaging camera on every new yacht he buys. And I completely agree. I've had a FLIR thermal imaging



The waterproof and shock-resistant FLIR HM-324xp+ portable thermal imaging camera delivers crisp thermal images of 320x240 pixels.



The FLIR M-625L on the Navetta 26 contains both a thermal imaging camera and a daylight/lowlight camera.

All new Custom Line yachts have a FLIR thermal imaging camera from the FLIR M-Series as standard on the options list. Yacht owners can choose between two dual payload solutions (thermal camera with an incorporated extra ultra low light camera) that is to say the M-625L or the M-324L or between two single payload solutions (thermal only cameras) M-625XP or M-324XP. The M-625L and M-625XP are equipped with a thermal imaging camera that produces crisp thermal images of 640x480 pixels. The M-324L and M-324XP produce thermal images of 320x240 pixels.

'Better than the radar'

"My captain is the one who uses the M-Series thermal imaging camera the most aboard my ship and he is very enthusiastic", says Mr. Ferretti. "He even says that in some situations it's more useful than the radar. During the night

he uses the FLIR thermal imaging camera to exactly determine his position relative to the beach or rocks, almost as if it is daytime!" This does not mean that the radar is useless. "It is still a very important instrument on a yacht but a thermal imaging camera can significantly complement the information you get from the radar screen. With radar you only see small 'blips' and that's really useful for detecting other vessels or objects, but it really isn't easy to interpret the information. With the FLIR camera you can immediately identify the vessel or object, because a thermal image is easy to understand."

"Nowadays many yacht builders install two radars on the bigger yachts", continues Mr. Ferretti. "But if a tight budget would force me to choose between having one radar and a FLIR thermal imaging camera and having two radars I would definitely choose to have a FLIR thermal imaging camera, because it really complements the radar very well and helps to raise situational awareness."

HM-Series handheld thermal imaging cameras

Recently Mr. Ferretti's crew also started using the FLIR HM-324XP+ handheld thermal imaging camera. Not only does it provide you with a



Mr. Ferretti: "The quality of the image and the amount of detail it shows are very impressive."

crisp thermal image with resolutions of up to 320x240 pixels, being a handheld self-contained unit it delivers these images from wherever you are standing. The flexibility of these waterproof and shock-resistant portable thermal imaging cameras can be used to dramatically increase situational awareness. "We use it when we take the tender for trips to the shore or to pick up guests", explains Mr. Ferretti. "Before we had the FLIR HM-324XP+ we avoided this kind of trip at night, because the darkness makes it a bit risky, but with the FLIR HM-324XP+ we can safely use the tender even at nighttime."

The FLIR HM-Series handheld thermal imaging cameras are an excellent tool for night-time navigation, they can be life-saving in man over board situations and they're incredibly useful for securing a shipboard environment, anti-piracy and many other maritime applications.



The Genoa Boat Show is an annual event that serves as an international reference point for the recreational boating industry.



Yacht builders from over the world displayed their best vessels in the Genovese harbor, with the Ferretti Group as one of the largest contributors.

'Even useful during the day'

The FLIR M-Series and handheld HM-Series thermal imaging cameras both deliver perfect night vision, but that's not all: they can also be used during the day, according to Mr. Ferretti. "Sometimes floating debris, rocks or other potential hazards that could damage the ship are difficult to see because they have the same color as the surroundings. It's camouflaged, so to speak. With a FLIR thermal imaging camera you can very easily spot that sort of debris from a large distance, because it shows up very clearly in the thermal image."

But it doesn't stop there. According to Mr. Ferretti the FLIR M-Series thermal imaging camera can also be used for security purposes. "When my yacht is anchored in a bay it's a very good tool to monitor the perimeter of the boat. There will be no trespassers sneaking into my boat at



The Custom Line Navetta 26, at the 2010 Genoa Boat Show.

night, for even in total darkness a person or vessel that approaches my ship shows up very clearly on the thermal image even at long range. Other vessels are detected at a distance of 2 kilometers and persons at 740 meters."

'Quality is impressive'

Mr. Ferretti is very pleased with the images his new FLIR M-Series thermal imaging camera delivers. "The quality of the image and the amount of detail it shows are very impressive. You can see the people walking on the shore; you can see the other vessels into the smallest of details: the cockpit, the bridge, the anchor and even ropes show up distinctly on the thermal image, even in total darkness. It really is amazing. The FLIR thermal imaging camera even shows when the engine of a boat is still warm from recent use."

But it's not just a very useful tool, according to Mr. Ferretti. "We also use the FLIR thermal imaging camera for entertainment. For instance: we used it a couple of years ago to look at the volcano at the Italian island Stromboli, near Sicily. With the naked eye we could see no volcanic activity, but on the thermal image we could very clearly see the temperature differences in the rock due to volcanic warmth."

'M-Series thermal imaging camera a cool gadget'

The M-Series thermal imaging cameras are very intuitive and easy to use. The ergonomic M-Series controller provides ready access to all critical system functions and smooth, effortless control, even in rough seas. "The FLIR thermal imaging camera is also the only piece of electronic equipment we actually show to our guests", explains Mr. Ferretti. "If we have guests on the yacht we don't want to bore them with the radar and the chart plotter, but a FLIR thermal imaging camera isn't boring at all! It is intuitive, easy to use and very appealing. So apart from being a very useful innovation it is also a very cool gadget. As soon as we let one of our guests play with it they are captivated by its intuitive user interface. And I must say it is also very, very reliable."

Not only are the M-Series thermal imaging cameras very easy to use, they are also very easy to install and integrate with other maritime equipment aboard a vessel. M-Series systems use cutting-edge Ethernet connectivity for easy installation, control, and interface with other on-board electronics.

FLIR Commercial Systems appreciates the professional collaboration their distributor ENAV has with the Ferretti Group. FLIR distributor ENAV is a competent and professional maritime electronics supplier that undertakes all the activities from purchasing to installation to after sales assistance and service.

"A yacht usually doesn't come cheap", continues Mr. Ferretti. "Especially if the client wants a bit of luxury. So you want to make the most of the investment. A FLIR thermal imaging camera really helps you to do that, because it allows you to effectively navigate at night. And in my opinion the money shouldn't be much of an issue, for FLIR thermal imaging cameras are extremely affordable. Especially if you compare it with the overall price of a yacht the price tag of a FLIR thermal imaging camera seems very marginal!"

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

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