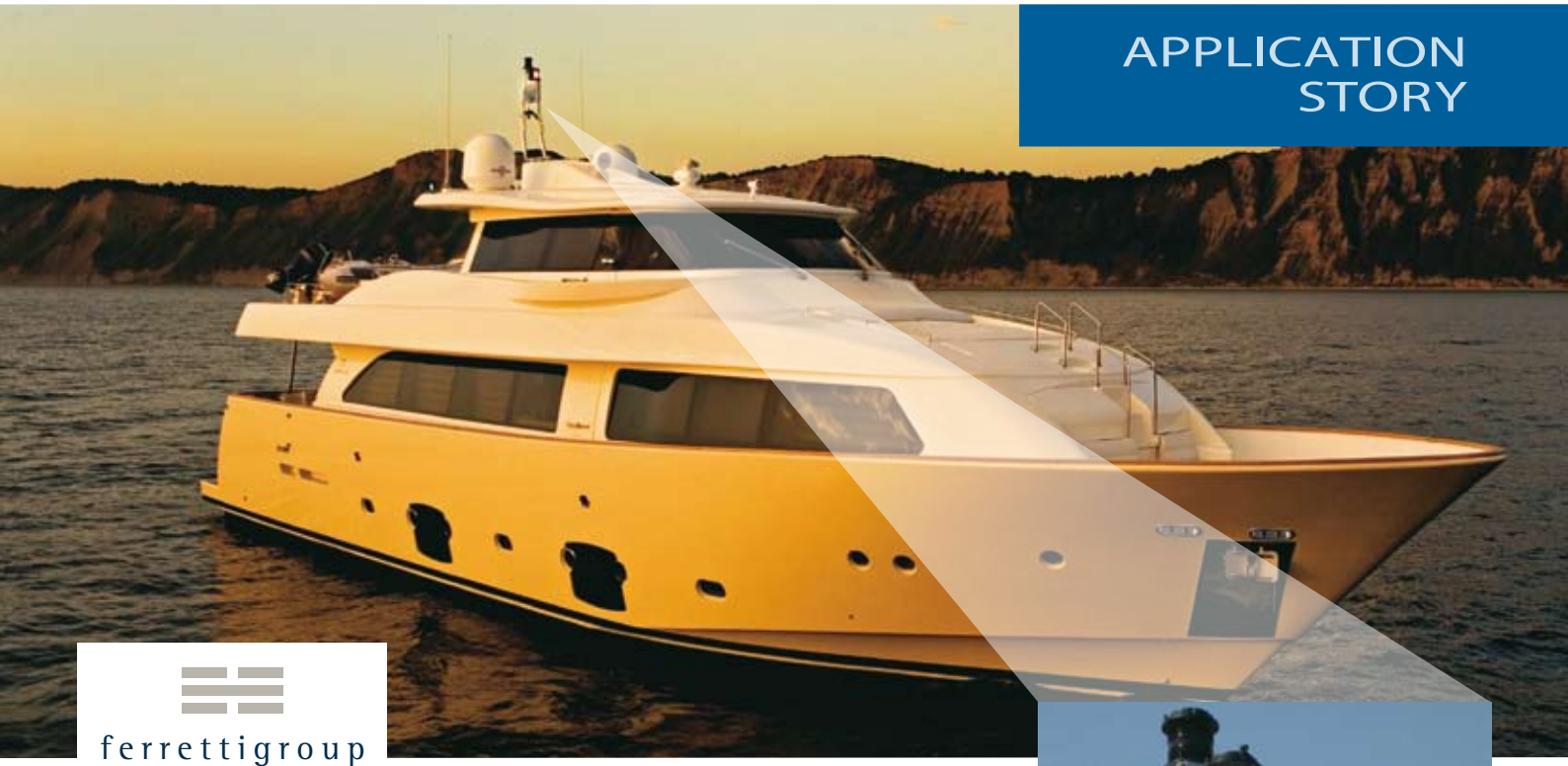




FLIR

APPLICATION STORY



ferrettigroup

Mr. Ferretti, Chairman of Ferretti Group

An interview about FLIR Systems thermal imaging cameras on board of Ferretti Group yachts

The new nautical year 2007 – 2008 was opened at the Festival International de la Plaisance in Cannes. This year, the exhibition celebrated its 30th birthday in one of the most prestigious French Riviera bays. Traditionally the show in Cannes is followed by the Monaco Yacht Show, the Genova International Boat Show and Mets in Amsterdam, to name just a few.

At the occasion of the Festival International de la Plaisance in Cannes, Mr. Ferretti, Chairman of the Ferretti Group, allowed FLIR Systems an interview with regard to a FLIR Systems thermal imaging camera on board of the Ziacanaia, Mr. Ferretti's yacht.

FLIR Systems Mariner thermal imaging camera on board of the Ziacanaia

The Ferretti Group: one of the world's most prestigious yachts builders

The Ferretti Group, based in Forlì, Italy is one of the leading companies in the world of design and construction of luxury motoryachts and sporting boats measuring from 7 to 80 meters long.

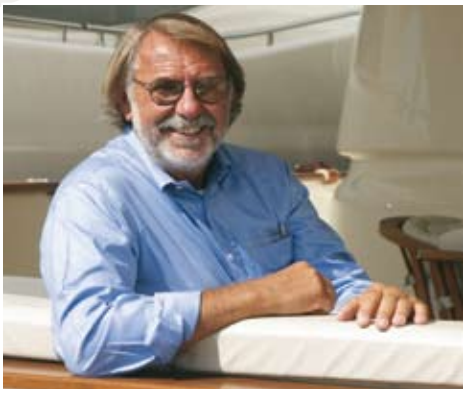
The Ferretti story started in 1968 when Norberto Ferretti together with his brother Alessandro, both driven by a great love for the sea, began a new "adventure" which brought them to create one of the most prestigious nautical shipyards in the world.

The Ferretti boatyards started out marketing boats of various sizes, and in 1971 produced their first motorsailer. In 1980, foreseeing the expansion of the market for motoryachts, the Ferretti shipbuilding yards applied the skills they had acquired in the sailing sector to the powerboat sector, specializing in the production of luxury motoryachts.

In the late 1980s, a new production unit was established in Forlì (the Group's current headquarters), where boats up to 18 meters were designed and built.

In the 1990s, Ferretti established itself as one of the leading names in boatbuilding for midsize flybridge sportcruisers.

Today the Group consists of: Ferretti Yachts division (flybridge motoryachts, 14 to 27 meters), Pershing S.p.A. (high performance



Mr. Norberto Ferretti, Chairman of the Ferretti Group





open cruisers, 11 to 35 meters), Itama Cantieri Navali S.p.A (open motoryacht, 13 to 25 meters), the American Bertram Yacht, Inc. (sport fisherman motoryachts, 12 to 21 meters), Riva S.p.A. (open and flybridge motoryachts, 10 to 35 meters), Apreamare S.p.A. in Sorrento ("gozzo sorrentino", 7 to 20 meters), Mochi Craft division (lobster boats, 13 to 23 meters), Custom Line division (maxiyachts in composite materials from 26 to 34 meters with two decks) and CRN S.p.A., (megayachts in composite material from 40 to 43 meters and steel megayachts from 46 to 80 meters).

The company's quest for synergy in the field of high tech led to its entry, in 1989, into offshore racing, which has helped the Ferretti name attain greater international recognition, due also to the excellent sporting results achieved.

In 1994 the pilot Norberto Ferretti won the title of Class 1 Offshore World Champion. In 1997 the Ferretti team won again the World Offshore Championship.

Ferretti presents itself in Cannes at the start of the 2007 – 2008 nautical season

At the Festival International de la Plaisance in Cannes, the Ferretti Group proudly presented itself on the stage of the first, eagerly-awaited event of the 2007-2008 nautical season with seven world previews. Its stand, set out over a total surface area of 1,100 square meters, displayed 38 yachts.

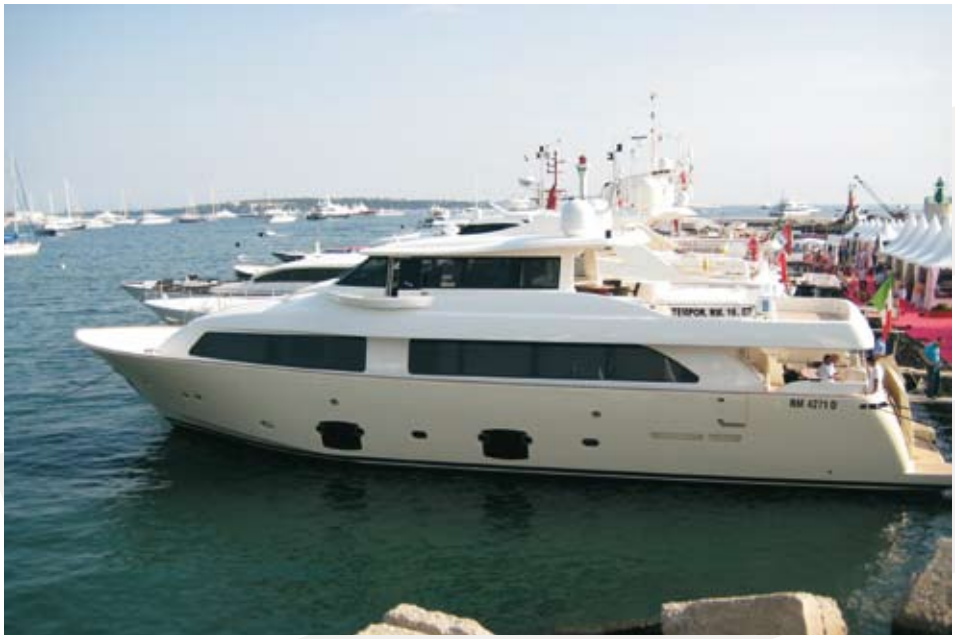
Ziacanaia

One of the yachts on display in Cannes was a Navetta 26. This new, leading model of the fleet's semi-displacement line-up was born out of the working relationship between Studio Zuccon International Project and AYT - Ferretti Group Engineering Division. It has been designed to set new standards of quality for life on-board.

The yacht displayed in Cannes was the Ziacanaia. The personal yacht of Mr. Ferretti.

The FLIR Systems Mariner

She is 26 metres in length and just under 7 m in width, enabling those on-board to cruise in a new dimension of comfort, relaxation and wellbeing. Navetta 26 intercepts the new social and nautical mega trends reflecting the preferences of "mature" owners and responding better to their higher expectations: a wish for silence, space, light and, more generally, relaxation and wellbeing on-board.



The yacht of Mr. Ferretti: The Ziacanaia

Three elements can be seen as veritable breakthroughs: 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 area and the sunbathing area featuring comfortable sundecks and a Jacuzzi; and the fact that 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.

Mr. Ferretti about thermal imaging

As can be expected from a yacht designed and constructed by one of the leading yacht builders in the world, it contains the most modern equipment for navigation. New on the yacht however is a FLIR Systems thermal imaging camera. During the boat show in Cannes, Mr. Ferretti was so kind as to explain FLIR Systems why he decided to install thermal imaging on board and his experiences with it.

"I use my boat a lot during the night.", says Mr. Ferretti, Chairman of the Ferretti Group. "A lot of times I do not go into the harbour but I like to anchor my boat in the bay. When it is not totally calm, or when there are a lot of other boats around, one person needs to stay in the wheelhouse to look around and see what is happening. But now, with the FLIR Systems thermal imaging camera on board, he is just looking to the LCD screen on which the thermal image is shown."

"It is amazing! You see everything. Exactly like during the day. It is incredible. You see every detail of the other boats: the cockpit, the bridge, the anchor, you see everything. Even in total darkness.", Mr. Ferretti continues.

Making small temperature differences visible

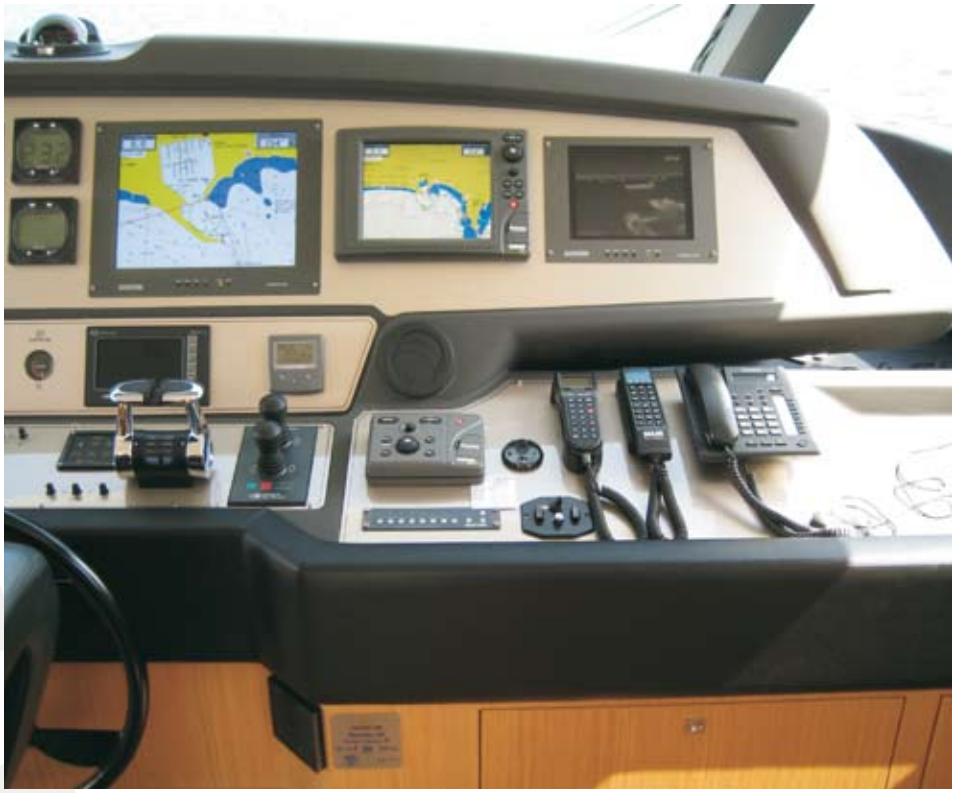
"One day, I anchored the boat in the Eolie archipelago, North of Sicily. Although there was no volcanic activity that could be seen by the naked eye, I clearly saw on the thermal image which parts of the island were hotter than their surroundings.", Mr. Ferretti explains.

Indeed, a thermal imaging camera is capable of detecting extremely small temperature differences. These temperature differences are converted into a real-time video image. Displayed on a monitor, this video image is extremely suited for night vision applications. Unlike other night vision systems that require a low amount of light to generate an image, a thermal imaging camera needs no light at all. This makes it the perfect tool to see in absolute darkness, in the darkest of nights.

Thermal imaging can complement existing technology

"When you use your boat a lot during the night, or if you sail out in the morning before the light or get back into the harbour after darkness, the thermal imaging camera is an excellent tool. Easier to use than radar. With radar you only see a small "blip" on a screen. Thermal imaging gives you a comprehensive image which is easy to understand. This does not mean at all that we do not need the radar anymore. It is a very important instrument on a yacht but a thermal imaging camera can complement the information you get from the radar screen.", Mr. Ferretti elaborates.

"Furthermore, when you want to change place in the bay, a lot of times the only thing you see of another vessel is the 180° light. But with this light only, it is very difficult, if not impossible, to see if the other boat is parallel with your yacht or not. It makes however a huge difference if it is or not when you need to pass the other boat. On the thermal image, you will see clearly, just like during the day, how the other vessel is positioned."



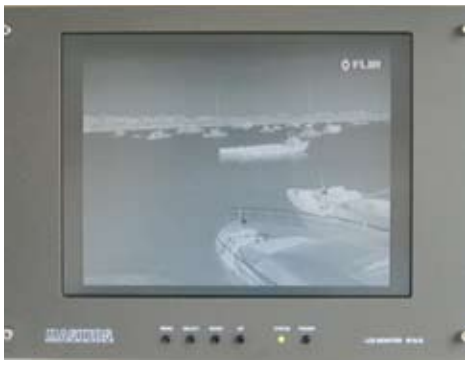
The joystick to control the FLIR Systems thermal imaging camera and the LCD display on which the thermal images are displayed are esthetically integrated in the bridge of the Ziacanaia

FLIR Systems: world leader for thermal imaging

Asked why the Ferretti Group has chosen for FLIR Systems thermal imaging cameras, Mr. Amaducci, Marine Electronics Purchaser and Consultant of the Ferretti Group, answers the question.

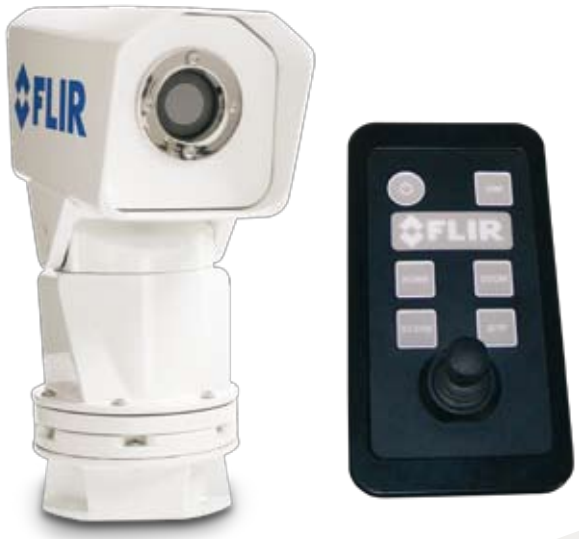
"It became clear to the Ferretti Group very fast that FLIR Systems is the world leader for thermal imaging systems. Other manufacturers of thermal imaging cameras are integrating FLIR Systems equipment in their material. We wanted to buy from the leading manufacturer. Furthermore, the

The Joystick Control Unit (JCU)



LCD display

From left to right: Mr. Amaducci, Marine Electronics Purchaser & Consultant of the Ferretti Group – Mr. Ferretti, Chairman Ferretti Group – Mr. Groenenboom, FLIR Systems Business Development Manager Maritime Products EMEA - Mr. Fornicelli, General Manager of New Technology, FLIR Systems maritime products distributor in Italy – Mr. Maras, FLIR Systems Marketing Manager Eurasia



The new FLIR Systems Navigator Pan/Tilt comes with an intuitive joystick control unit through which camera functions can be easily accessed.

thermal imaging cameras are really easy to install. We just put an extra LCD screen and a small joystick control unit in the bridge and we are ready."

New thermal imaging cameras with features requested by demanding users

"The FLIR Systems thermal imaging camera is mounted on a pan/tilt so that I can look in practically every direction. The joystick operation is very easy. I am however missing an indication on the screen that shows me in which direction the camera is looking. It is important to know if I am looking forward or sideward. Is there anything that can be done about this?", critizes Mr. Ferretti.

"FLIR Systems already solved this.", Mr. Fornicelli, General Manager of New Technology and FLIR Systems distributor in Italy, quickly answers the question. "Thanks to small icons conveniently placed at the bottom of the thermal image, the new Navigator Pan/Tilt will allow the captain to see immediately in which direction the thermal imaging camera is looking. And there is more. By the touch of a button, the camera will move to a by the captain defined "home" position. Other functions like digital zoom, different scene settings for "Night Running", "Day Running", "Man Overboard" or "Night Docking" can easily be accessed through the new joystick control unit. Furthermore, the captain can make hot objects appear black, white or red depending on his own preference."

Increasing safety on small boats

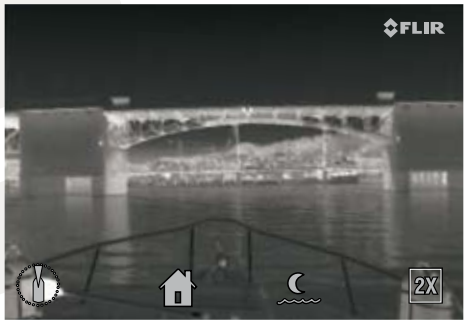
"A small thermal imaging camera will be really useful on small boats as well.", explains Mr. Ferretti. "It would be very interesting to have a small camera on tender boats. Big boats are well illuminated but smaller ones mostly are not. When going around with the tender in the harbour, accidents can easily happen. Tender boats can hit the anchor chains, other objects and boats in total darkness. By installing a small thermal imaging camera all this can be avoided."

"And there are more maritime applications. Think about all the water taxis in Venice. Radar is totally useless in Venice since it shows too many blips. A thermal imaging camera would help to avoid accidents."

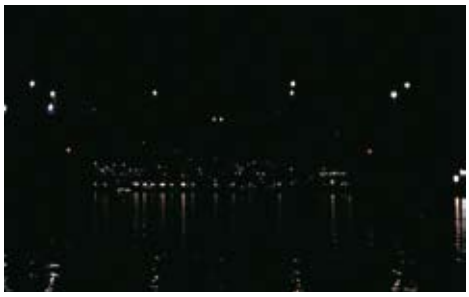
The future of thermal imaging

"Thermal imaging is definitely more than a toy. It is very useful technology on board of a yacht.", Mr. Ferretti continues "I think we will see thermal imaging go through the same evolution as e.g. chart plotters. There used to be a day and age when we installed one chart plotter on every five boats we produced. Today, I am installing two chart plotters on one boat in a lot of cases."

"For yachts of 30 meters and above, a thermal imager is really a must have. I was very surprised when I heard about the cost of a thermal imaging system. Although it is an amazing tool, it is extremely affordable. Therefore we are encouraging our dealers to include it as an option in as many yachts as possible. It is really crazy not to install a thermal imaging camera. After all, the price of a thermal imaging camera is marginal compared to the total price of the yacht.", Mr. Ferretti concludes.



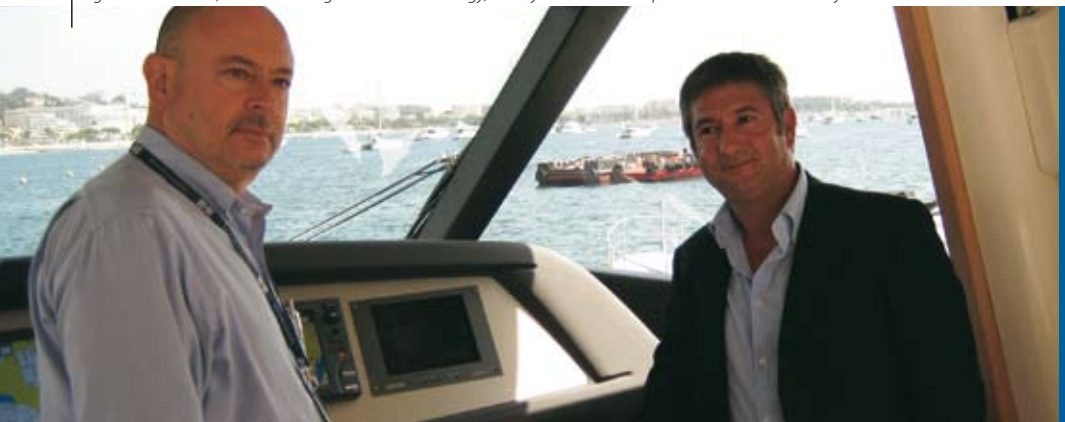
Thanks to small icons conveniently placed at the bottom of the thermal image, the captain can see immediately in which direction the Navigator is looking, whether it is in the "home position" or not. Also other settings of the camera can easily be read from these icons.



Visual image

Acknowledgements:
FLIR Systems wishes to thank the Ferretti Group, and especially Mr. N. Ferretti and Mr. Amaducci for the interview and Mr. R. Fornicelli of New Technology for making the appointment and setting up the meeting.

Left: Mr. Amaducci, Marine Electronics Purchaser & Consultant of the Ferretti Group
Right: Mr. Fornicelli, General Manager of New Technology, FLIR Systems maritime products distributor in Italy



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