



APPLICATION STORY



The "Tortuga," a Sunseeker yacht, with the FLIR Systems Navigator Pan/Tilt installed above the bridge.

With a thermal imaging camera down the Neva

FLIR Systems Navigator Pan/Tilt facilitates night-time navigation

The Neva River is an essential part of St. Petersburg's charm. Many generations of locals and visitors to the city have been completely enraptured by long, evening walks along the banks of the Neva during the city's famous White Nights. The Neva River is only 46 miles long and flows from Lake Ladoga to the Gulf of Finland, in the eastern part of the Baltic Sea. Before joining the Baltic, the Neva splits into several branches forming a delta, where downtown St. Petersburg is located. The river is covered with ice between mid-December and early April and during this period ships are unable to navigate the river.

Navigating in darkness

"The Neva is a beautiful River," explains Mr. Vadim Gorbunov proud owner of a Sunseeker, Manhattan-66. "Just like any river it can be dangerous as well. Not only yachts are sailing the river, smaller recreational vessels and jet-skis are using it as well. Not only during daytime, but also in the dark. They are not always easy to see from a distance and an accident can happen. Since the boating season is relatively short in Russia due to the weather conditions, I like to use my boat as much as possible. I enjoy going out early, sometimes even before sunrise, and come back to the harbor very late. Any tool that can help me to navigate during the dark hours is therefore an asset."

"When I visited the "Moscow International Boat & Yacht Show", I came in contact with Mr. Miroslav Grishin, CEO from Radio-Navigator Co., Ltd.

Mr. Grishin is a distributor of FLIR Systems thermal imaging cameras for maritime applications in Russia. He explained me how thermal imaging works, that it does not need any light to produce a crisp image, and the benefits of using thermal imaging on board of a yacht. I was impressed and wanted to test the system so that I could see it myself."

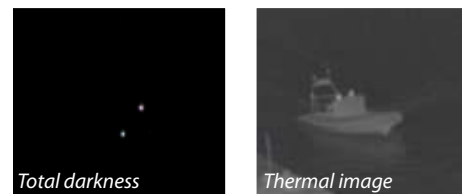
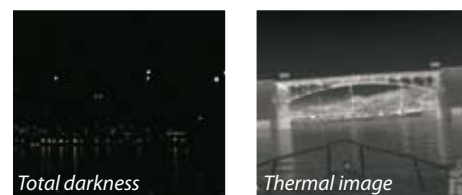
Testing the FLIR Systems Navigator Pan/Tilt

"I decided to show Mr. Gorbunov the FLIR Systems Navigator Pan/Tilt on board of his own yacht," explains Mr. Grishin of Radio-Navigator Co.

"Apart from Mr. Gorbunov, we had another captain on board. Initially both were very skeptical about the possibilities of the Navigator Pan/Tilt thermal imaging camera. As we sailed down the Neva we began to test the camera's capabilities.



Thanks to the intuitive Joystick Control Unit, the Navigator Pan/Tilt can be easily controlled. No training is necessary.



Thermal imaging provides a crisp image in total darkness. It needs no light to operate.





Boating season is short in Russia, due to the weather conditions. Owners want to use their yachts as much as possible.

We observed the river ahead of us, and then began to scan the shoreline. On the monitor, we saw crisp thermal images of structures all around us. There were people walking along the banks of the river, cars driving by, it was incredible how detailed the images were. As we sailed along, we began to focus more of our attention to the waters ahead of us and began to really test the true capabilities of the Navigator Pan/Tilt."

"The yacht sailed down the Neva to the Tuchkov Bridge. In the distance we saw two lights that seemed to be approaching our yacht quickly. Naturally this caught our attention so we gazed at the monitor intently. Then from a distance of a few hundred meters we began to make out the image of two jet-skis enjoying a ride on the river. Next we noted a small boat in the distance. In the dark, it was invisible to the naked eye. We could barely see the navigation lights. However, on the screen we could clearly see that it was a small towboat and the direction in which it was going. This impressed the captains quite a bit."

"The sun had now fully set beyond the horizon, and we decided to start heading home. As we were turning the boat around we wound up behind Krestovsky Island where the bank of the river was not lit up at all. It was pitch black and we could not see anything in front of us. Both captains realized that they could not see a thing in front of them without the thermal imaging camera. They were both impressed and convinced of its powerful capabilities."

"While we were on the open river and there was still a small amount of light from the city, navigation was relatively easy. The waters were also familiar to them, but now that we were behind the island with absolutely no lights the system truly proved its worth and managed to amaze both captains"

"The final test of the thermal imaging system was docking the boat in the harbor. After pointing the camera towards the board with the joystick, we were now able to moor the boat. The entire process was made very simple with the use of the thermal imaging camera."

FLIR Systems Navigator Pan/Tilt makes an impression

"After the boat trip the captains admitted that in the beginning of our trip they mostly looked out the window and glanced at the thermal image every once in a while. At the end of our trip however they said that they mostly looked to the screen and would only briefly glance out the window", Mr. Grishin continues.

"I was really convinced after the demonstration that a thermal imaging camera on board of a yacht is a great asset and immediately purchased a FLIR Systems Navigator Pan/Tilt. In darkness, I switch on the Navigator Pan/Tilt for all navigation and night docking. Also during daylight I benefit from the system. It is not blinded by glare from the sun.", says Mr. Gorbunov, owner and captain of the yacht.

Thermal imaging and radar

"Obviously my yacht has a radar on board as well. Radar pictures are clear and helpful for the professionals who have enough sailing experience. But a radar screen can be difficult to read. At times it is hard to tell if an object is moving or stationary. Nevertheless, radar is an irreplaceable instrument on board while sailing in big open waters like big lakes, seas and oceans."

"But for sailing on rivers and coastal waters the radar loses its importance. Modern high speed boats do not give the captain time to analyze radar images. A thermal imaging camera offers a real time image which can be easily understood by any captain. I always use the Navigator Pan/Tilt thermal imaging camera instead of the radar. It is more convenient to work with. Definitely on the narrower parts of the river and when I am sailing with high speed."

"And there is more. One of the most important applications for a thermal imaging camera is the detection of floating debris, small pleasure craft, buoys and other items that are not being

picked-up by radar but can damage my boat severely. Thanks to the Navigator Pan/Tilt I can safely navigate around them. And if ever I have a man-overboard situation, the thermal imaging camera can help me to find the person back before it is too late. Finally, when I am docked in the harbor, I can use the Navigator Pan/Tilt so see if anyone is approaching the yacht."

Installing the Navigator Pan/Tilt

"Installing a Navigator Pan/Tilt is a very easy job", explains Mr. Grishin. "It just needs to be connected to power. The images can be displayed on any LCD that accepts composite video. On Mr. Gorbunov's yacht we connected it to a Samsung 15" chart-plotter- 5100 display. The Joystick Control Unit (JCU) to control the Navigator Pan/Tilt is esthetically mounted in the bridge."

"Thanks to this JCU all the features of the Navigator Pan/Tilt are at the captains fingertips. Changing the direction in which the Navigator is looking, changing color palettes, applying digital zoom, returning the Navigator Pan/Tilt in its "Home Position", it can all be done with the touch of a button."



Mr. Gorbunov, owner of the "Tortuga" and Mr. Grishin, from Radio-Navigator.

A small investment avoids costly accidents

"I wanted to test the FLIR Systems Navigator Pan/Tilt thermal imaging camera as a navigational aid, because I doubted its practicality and usefulness. After the demonstration, I was extremely impressed with its many capabilities and immediately decided to buy one. The Navigator Pan/Tilt offers extremely good value for money. It is a small investment that can avoid costly accidents. The thermal imaging camera is an excellent tool to detect vessels and other objects from a far distance so that I have enough time to react. In my experience the FLIR Systems Navigator Pan/Tilt simply does not compare to any other similar equipment on the market today", concludes Mr. Gorbunov.

The thermal images produced by the FLIR Systems Navigator Pan/Tilt are displayed on a standard LCD. The Joystick Control Unit is esthetically integrated in the bridge.



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

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