



## **Tick the TIC? The case for having a Thermal Imaging Camera on board your yacht**

With a recent increase in the number of fires on board superyachts, the need to keep your firefighting kit up to date is more pressing than ever. What's more, firefighting and rescue operations at sea present a unique set of challenges, quite different from those encountered in land-based fires.

So, when you are assessing your superyacht's firefighting capability, which items in your kit deserve a big tick? And what lessons – despite the differences - can be learned from land-based firefighting?

All said and done, there are many similarities between dealing with fires on land and at sea. One powerful tool used frequently ashore, but something of an unsung hero in the yacht world, is the Thermal Imaging Camera, usually known as a TIC.

Thermal imaging cameras are not new. They have been around since the 1950s and are now a staple item amongst fire and rescue services around the world. Inevitably, advances in technology have made modern day TICs considerably less clunky than their mid-century counterparts. Today's thermal imaging cameras are small, light, robust and much cheaper than they were even a decade ago.

So much so that some fire and rescue services now issue two TICs to every fire engine. Some firefighters have even redesigned their entire approach and now base their tactics on extensive use of thermal imaging.

TIC technology was originally developed for the rescue services. However, their use soon spread to other areas including industry. The UK Royal Navy paved the way for using TICs in firefighting, search and rescue and since then their use has multiplied.

The technology itself is relatively simple. Unlike conventional cameras which capture light and dark, thermal imaging cameras identify and capture hot and cold temperature differentials. They show hot areas or objects as brighter and cold areas as darker. Modern TICs also come with the ability to take spot temperature readings on whatever surface the camera is pointed at and show ambient temperature readings.

More recently, some cameras now have Bluetooth connectivity for image and data transfer to PC, Android or IOS compatible devices. This feature means that the command team can more easily see what their breathing apparatus wearers are seeing at the scene of the incident.

Clearly, thermal imaging cameras can improve firefighting or search and rescue capability in many ways. Which begs the question as to why thermal imaging cameras aren't more widely used in the marine industry? No more so than in the world of superyachts where crew sizes are usually quite small and any benefits could be significant.

Admittedly, we do see superyachts with TICs, but many don't have them. And often, the thermal imaging camera is kept by the engineer rather than a member of the fireteam. Best practice would suggest at least two thermal imaging cameras, one for the initial response and one for the breathing apparatus teams.

If you're still not convinced, here is a checklist of how thermal imaging could be used on a superyacht:

- Initial assessment: use a TIC to assess your yacht's fire risks;
- Improving the speed of locating casualties;
- Locating overheated equipment or lighting that may have triggered the alarm
- Providing better information about a fire, enabling crews to make optimal use of water;
- Searching voids or other areas where fire could spread unseen;
- Aiding in boundary cooling and monitoring for fire spread;
- Using the temperature monitoring capability to plot heat levels rising or falling over time; and
- Use in search and rescue for a person overboard.

There can be no doubt that thermal imaging cameras can be a game-changer for any fire or casualty search and rescue on a yacht. Of course, TICs are just a tool to assist crews and they don't replace the need to search properly or carry out correct door opening procedures for instance. What's more, crews need to be properly trained in how to use thermal imaging cameras. The advantages however vastly outweigh any issues.

So, when you are drawing up your firefighting strategy, place a big tick beside your TIC. The question is not how much it would cost to have a Thermal Imaging Camera, but what it costs not to have one.

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Andy served in Hampshire Fire and Rescue Service for 33 years retiring as Deputy Chief Fire Officer responsible for Operations, Risk, Strategy and Planning.

During his time in the fire service Andy was the senior commander for numerous serious incidents including in the busy ports of Portsmouth and Southampton.

He was also the lead for the Maritime Incident Response Group responding to ship fires at sea. He was the national lead on the fire and rescue service Incident Command System and is one of the authors of National Operational Guidance for Incident Command, Major Incidents, Operations and Wildfires.

In 2019 he was honoured with the Queens Fire Service Medal for his work in improving firefighter and public safety. He has a Masters degree in Business and a Master of Science degree in Crisis and Disaster Management.

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