

## Over-Reliance on AIS

The automatic identification system or AIS uses VHF radio broadcasting to share vital information between AIS equipped ships and shore stations to enhance situational awareness. Yet as helpful as AIS is, there seems to be a growing culture of overreliance on AIS information, which can ironically lead to more incidents and accidents. So let's talk about AIS. It's easy to see the benefits of AIS. Enhanced safety, traffic management, search and rescue, and data collection to guide industry wide improvements to mention a few.

The advantage of interfacing the AIS with ECDIS and the radar is that, from the officer of the watch's point of view, ECDIS and radar will not only display their own ship's progress in real time, but they will display that of other vessels as well. But here's the bottom line. Navigating officers are expected to use the information from the AIS to supplement data from supplement data from other bridge equipment and enhance their situational awareness, but they should never rely exclusively on it. IMO resolution a 1106 offers guidelines for the correct use of AIS and strongly advises caution. The officer of the watch should be aware that not all vessels carry AIS and that it could be switched off, rendering vessels somewhat invisible.

Let's take a look at a situation that happened because of overreliance on AIS information. In the early morning, a small container vessel was sailing at 12 knots in coastal waters. The officer of the watch was alone on the bridge. The visibility was good, and the sea was calm. The officer of the watch looked out the windows scanning for potential threats.

He also observed AAS signals from a few smaller vessels on the radar and ECDIS. He did not see any targets that concerned him, although there was a target near their heading line to port at about 6 nautical miles. He then turned his attention to administrative tasks. Meanwhile, a fishing vessel 6 nautical miles away was trawling for prawns. Both the navigation lights and day shapes for trawling were displayed, but their AIS had been set to passive mode to conceal the vessel's position.

As it was daylight and good visibility, the fishers did not think it was necessary to communicate with the cargo ship.

## Over-Reliance on AIS

The officer of the watch set the engine to full astern once he realized the situation, but he was unable to avoid impact.

In the previous example, the overreliance on AIS was one of the main contributing factors for the accident. So what are the limitations of AIS? Over time equipment may become faulty and incorrect inputs yield incorrect broadcasts.

Some operators misuse AIS or turn it off illegally. VHF has a limitation of range. The inherent limitations of AIS are compounded by cyber vulnerabilities. Add to that, jamming and spoofing to GNSS has increased, particularly in areas where conflict has occurred or with military vessels operating. In heavy traffic, overload of message slots may prevent reception of in range AIS reports.

Unless there are specific ASM area notices, AIS will not warn of mammals in the area. So now that we know what AIS is and what its benefits and limitations are, let's discuss how to use it correctly. First of all, we should never rely solely on AIS for our navigation and collision avoidance. We should maintain a lookout by all available means. We should ensure that our vessel is equipped with AIS equipment that complies with international regulations and local maritime laws.

We should configure the AIS system correctly. We should be mindful of privacy settings if our AIS system allows for them. It's good practice to combine AIS data with additional navigational instruments such as radar and ECDIS. When interfacing the AIS target information with ECDIS, avoid presenting the AIS alone without displaying radar targets to make informed decisions. We should be aware of the AIS broadcast intervals.

It is crucial that the crew is adequately trained in AIS operation and interpretation. There you have it. The automatic identification system, which was universally introduced in 2004, has become a fundamental part of safe navigation in waterways around the world. It's easy to see why, but we should never surrender to the temptation of relying entirely on it.