CAN ARTIFICIAL INTELLIGENCE (AI) HELP PREVENT COLLISIONS?

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TODAY THERE ARE SEVERAL COMPANIES DEVELOPING ARTIFICIAL INTELLIGENCE (AI) SYSTEMS FOR SHIPS, DESIGNED TO WORK TOWARDS PREVENTING COLLISIONS. THIS TYPE OF TECHNOLOGY IS INCREASINGLY BEING TESTED BY SHIPOWNERS AND MAY ASSIST THE MASTER AND HIS CREW IN GETTING A BETTER OVERVIEW OF THE SURROUNDING ENVIRONMENT AND IMMEDIATE RISKS. HAVING MORE ACCURATE REAL TIME INFORMATION AVAILABLE TO THEM WILL HELP THEM TO MAKE THE CORRECT DECISIONS.

JACOB DAMGAARD FROM OUR LOSS PREVENTION DEPARTMENT LOOKS AT SOME OF THE ISSUES THAT ARE RAISED BY THE USE OF AI ON THE BRIDGE.

TRAINING

The users (deck officers) need to understand and be confident in how to use the AI and, very importantly, understand its limitations. The initial training should, ideally, be conducted in a simulator, so that the officers can become familiar and confident with the system and how it interacts with other bridge equipment in a controlled environment. If training is conducted on board, risk assessments must be carried out and a detailed training plan set out to determine where and when it is safe to carry out the training.

ALARM FATIGUE

This was an issue that became relevant when the ECDIS was first introduced. ECDIS has many different alarm settings and there is a risk that the OOW may miss alarms that require immediate attention when too many alarms are sounding. It is important that this new AI system is set up correctly so that it helps the OOW and does not become simply another distraction. A clear company policy should be implemented to ensure the AI system is used in a prudent way.

ERGONOMICS

The system should be installed so that it is easily accessible from the ship's main conning area, and that its displayed information can be easily seen without distracting the OOW's attention from other bridge equipment.

MALFUNCTIONING

The technology behind the AI system is quite complex and rectifying any malfunction may not be within the scope of the onboard crew. Crew training should cover the basic process of how to identify and rectify malfunctions, following the manufacturer's instruction, which will allow the crew to assess whether the fault affects the reliability of the system and whether its use should be discontinued until the fault is rectified. Furthermore, shoreside support should be available to assist the crew.

It is also important to note that any AI system is not a statutory requirement and should only be used in addition to other bridge equipment required by SOLAS regulations. For collision avoidance, the traditional methods of visually assessing the bearing and distance of the other ship and also the use of RADAR and ARPA still apply. If a ship does become involved in a collision, or other incident, and it is found that there was overreliance on the AI system leading up the incident, this may be used against Members and could be seen as a contributing factor to the incident.