



Einfluss neuer Risiken auf das Safety Management System am Beispiel der Reederei F. Laeisz



Laeisz FLEET

40 vessel under Laeisz Management



CAR CARRIER



CONTAINERSHIP



GAS CARRIER



RESEARCH



RIVER CRUISE



Chapter IX of SOLAS 1974 (Management for the Safe Operation of Ships)

Regulation 2:

..... applies to, namely:

Passenger Ships

Oil Tankers

Chemical Tankers

Gas Carriers

Bulk Carriers

Cargo High-Speed Craft of 500 Gross Tonnage and Upwards

Other Cargo Ships and Mobile Offshore Drilling Units of 500 Gross Tonnage and Upwards

Regulation 3 affirms the requirements for safety management,
i.e. that (1) the company and the ship need to be compliant with the requirements
of the International Safety Management Code



ISM Code (mandatory 1 July 1998)

Other provision relevant to SOLAS chapter IX and the ISM Code include:

Maritime cyber risk management in Safety Management Systems (resolution MSC.428(98)).

MSC.428 (98), requires ship owners and managers to assess cyber risk and implement relevant measures across all functions of their safety management system, until the first Document of Compliance after 1 January 2021.



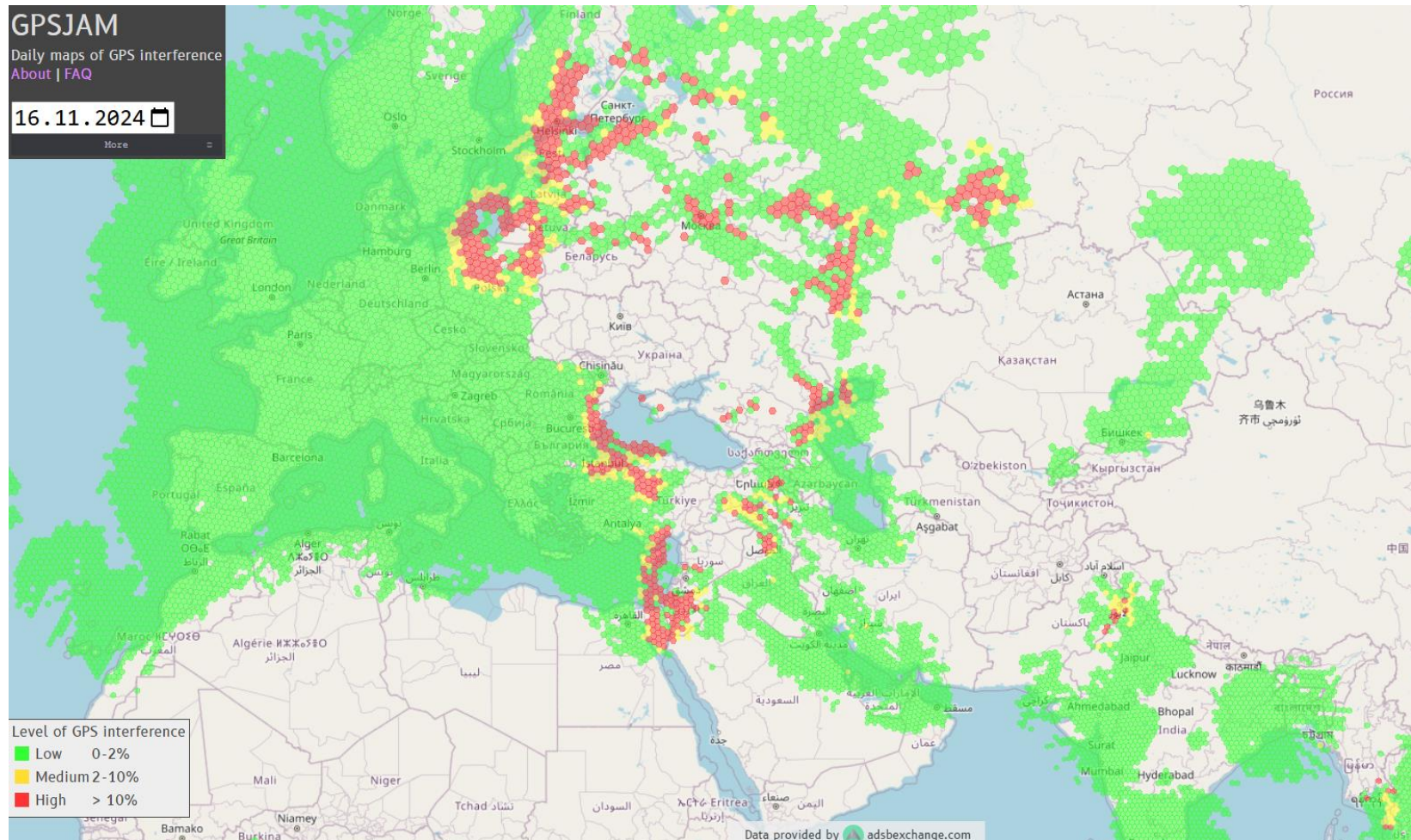
All Vessels in Laeisz Fleet are equipped with ECDIS
(Electronic Chart Display and Information System)

(MSC.1/Circ.1503/Rev.1). ECDIS – GUIDANCE FOR GOOD PRACTICE

14 .Factors affecting system performance and accuracy

An elementary understanding should be attained of the principles of ECDIS, together with a full practical knowledge of:

.1 starting and setting up ECDIS; connecting data sensors: satellite and radio navigation system receivers, radar, gyro-compass, log, echo-sounder; accuracy and limitations of these sensors, **including effects of measurement errors and ship's position accuracy**, manoeuvring on the accuracy of course indicator's performance, compass error on the accuracy of course indication, shallow water on the accuracy of log performance, log correction on the accuracy of speed calculation, disturbance (sea state) on the accuracy of an echo-sounder performance; and





Laeisz SMS related Documents

Navigation Radio Manual

Chapter 2.4.3.

2.4.3. Monitoring of the sensor input

To ascertain any errors, the OOW should regularly check the accuracy of the sensors by all available means. If the OOW discovers an error, the Master has to be informed and appropriate action taken.

The Master has to ensure that all OOW are informed of any known error and limitation of the bridge equipment. Example of test methods:

- GNSS (GPS; GLONAS etc.) - check accuracy by regularly conducting alternative position fixing methods
- RADAR - check accuracy by regularly conducting index error checks or operator fixes. Radar Information Overlay (RIO) can be used to check the RADAR against GNSS



Navigational Audit by Master

(The Master should carry out a full style navigational audit within 14 days after joining. Findings should be reported to the management, discussed with the bridge team and rectified within a given period.)

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2. Position Fixing

More than one method of fixing position was used during deep sea passage and in coastal waters?

(celestial, visual, radar, dead reckoning, significant change of water depth)



Laeisz elaborated in 2023 a Training along with WINGS (Maritime Simulation Center Warnemuende) combined Course BRM ECDIS

Course Content: Ship Operation – Refresher & Lesson Learned
General - Position Errors

Electronic Position Fixing Sensor

- The Main position fixing sensor which is connected to ECDIS is GPS
- There are number of physical processes that limit the fundamental accuracy.
- The main causes of position error are due to:
 - Various atmospheric delays
 - Multiple errors from signal reflection
 - Errors in stated satellite position
 - Satellite clock error
 - Inherent errors in measuring pseudo range
 - Interference by Jamming or spoofing
 - Malfunction in the GPS onboard equipment
 - CCRP settings in the System – AIS Check!

Each OOW has to pass Course every 2 Years



Equipment:

After RCA (Root cause analysis) all Laeisz vessel equipped with two GNSS receiver

At least one of them is GPS combined with GLONASS, GALILEO and BeiDou operation

