

Training Title

NAVIGATION AIDS FOR MODERN FLEETS

Training Duration

5 days

Training Venue and Dates

REF SM021	Navigation Aids for Modern Fleets	5	16 – 20 June 2025	\$6,500	London, UK
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In any of the 4 or 5-star hotels. The exact venue will be informed once finalized.

Training Fees

- \$6,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING AIM

To examine and evaluate the application of new technology to the safe navigation and control of the ship

TRAINING OBJECTIVES

Examine the fundamentals of modern ship navigation aids techniques and their procedures and assess reliability, accuracy, and limitations as part of Integrated Navigation Systems

WHO SHOULD ATTEND

- Fleet Managers
- Maritime Operators
- Logistics Coordinators
- Safety Officers
- Port Authorities
- Technology Providers
- Regulatory Bodies
- Navigation Equipment Manufacturers

TRAINING METHODOLOGY

Our approach in teaching is to consider your trainees as future business- leaders in their field, not merely as persons who are attempting to complete a training program. Our goal is to place your staff on the cutting edge of knowledge in making them Globally Skilled

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Professionals. A great deal of time will be spent in skill practice and practical work. Our training methodology would involve Intensive role- plays, exhaustive case studies, and Animated group - discussions.

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. The delegates will also be encouraged to raise their questions and to share in the development of the right answers using their analysis and experiences.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos & Software

COURSE SUBJECTS:

1. Electronic Chart Display and Information System (ECDIS)
2. Global Positioning System (GPS) and Differential GPS
3. Voyage Data Recorder (VDR) and Simplified VDR
4. Echosounder and Doppler speed log
5. Automatic Identification System (AIS), Long Range
6. Identification and Tracking (LRIT) and Bridge Navigation
7. Watch Alarm System (BNWAS)

COURSE TOPICS

Day 1

- Introduction - ECDIS functions, capabilities, and limits - Data contents and structure IMO Performance Standards.
- IMO carriage requirements - Backup, database updating, RCDS mode - Legal, regulatory, liability, safety, and economic issues- IMO model course on ECDIS training - Special applications: VTS, SAR, etc.
- ECDIS sensors: GPS, gyro, log- ECDIS and radar- ECDIS and Track Control- ECDIS and AIS - AIS and radar
- Discussions

Day 2

- Introduction to Satellite navigation-GPS Characteristics- GPS Satellite orbits- GPS – Architecture - GPS Principle idea of work – Satellites Ranging - Determining the position of a satellite- Determination of the user's position

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- Satellite frequencies- GPS modernization - Coded signals - determined the atmosphere delay - Navigation message- Determination of the user's velocity - GPS - Sources of Error.
- Datum Difference – DGPS Principle idea of work- the methods of getting the DGPS corrections – the advantages, disadvantages, and accuracy of the system.
- Discussions

Day 3

- Introduction (why do we need a VDR?) - the purpose of the VDR –
- Overview of VDR system - the configuration of the equipment - The final data storage medium- Annual performance test
- VDR Carriage requirements S-VDR Carriage requirements - IMO
- requirements for VDR data - The uses of VDR - Performance evaluation
- case to study (the passenger ship Al Salam Boccaccio 98 accident)
- discussions

Day 4

- Introduction - Echo sounder (description & principles) – Echo Sounder (description & principles) - Echo sounder transducer types- Echo sounders operation, apply the information correctly.
- Echo sounders errors - Doppler speed log modes (WTM – BTM) – Doppler speed log principles of work.
- Janus configuration - Doppler speed log (Krupp configuration) - The uses of the log, its advantages, and accuracy.
- Discussions

Day 5

- Introduction and AIS System Overview - General Objectives of AIS –
- AIS – Essential Ship's Data - AIS „Messages“ - AIS Installation and Display - SOLAS AIS Carriage Requirements - Advanced Applications of AIS.
- AIS Channels, Propagation, Coverage - Position Report - Ship 's Data – AIS Data: Navigational Status – AIS Target Tracking and Collision Avoidance - Inherent Limitations of AIS - Guide Lines for the Operational Use of Universal Shipborne AIS
- Introduction to LRIT - overview of the operational concept of LRIT and its aspects – Introduction to BNWAS – Description of the basic operational sequence of events once BNWAS is operational – its performance standards.
- Open discussions and evaluation

NOTE:

Pre & Post Tests will be conducted

Case Studies, Group Exercises, Group Discussions, Last Day Reviews and assessments will be carried out.

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