CONCEPT

# Vessel Traffic Services (VTS) Operations: VTMIS Traffic Image, Radio Procedure and Incidents

6 – 10 June 2027
Jeddah - Corniche four-star



# Vessel Traffic Services (VTS) Operations: VTMIS Traffic Image, Radio Procedure and Incidents

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## Introduction:

Vessel traffic services VTS exist to improve the safety and efficiency of vessel traffic and protect the environment, yet many VTS centres still depend on individual watchkeepers reading a cluttered traffic image, issuing unclear VHF calls and coordinating pilots, tugs and berths by habit. Near misses, groundings and delayed arrivals often trace back to these gaps. This Core Concept course trains VTS operators, supervisors and port control staff to run a VTS watch to a defined procedure using radar, AIS, CCTV and VTMIS tools. Participants produce a VTS Watch Operating Procedure and Incident Response Card Set.

## Course Objectives:

- Distinguish the information service, navigational assistance service and traffic organisation service and decide which one a given traffic situation calls for
- Build and verify a VTS traffic image by fusing radar, AIS, CCTV and VHF direction finding data within a VTMIS platform
- Conduct shore-to-ship VHF exchanges using message markers and Standard Marine Communication Phrases with read-back and logging
- Coordinate vessel movements with pilotage, towage and berth planning through sailing plans, traffic clearances and passage windows
- Handle collisions, groundings, pollution reports and man overboard events within a VTS area using escalation checklists
- Measure VTS centre performance and operator competence against IALA guidance and a quality management cycle

## Target Audience:

- Watchkeepers who monitor the VTS area and exchange information with vessels on VHF
- Watch supervisors who allocate sectors, approve traffic clearances and lead the shift team
- Harbour master and port control functions that authorise movements within port limits and anchorages
- Marine operations coordinators who schedule pilot boarding, tug allocation and berth availability
- VTS training and quality staff who assess operator competence and review recorded incidents

## Course Outline:

### Day 1: VTS Purpose, Service Types and the VTS Area

- IMO Definition of VTS: Safety, Efficiency and Environmental Protection Aims
- Information Service, Navigational Assistance Service and Traffic Organisation Service Compared
- Coastal VTS Versus Port and Harbour VTS: Area Boundaries, Sectors and Reporting Points
- VTS Authority, Competent Authority and VTS Provider Roles
- VTS Centre Current-State Review: Traffic Density, Hazard Map and Service Gaps

### Day 2: IALA Guidance, Sensors and the VTMIS Traffic Image

- IALA G1089 Provision of a VTS: Planning, Declaration and Delivery of Services
- IALA Recommendation V-103 Operator Training Streams and Model Course Structure
- Radar Coverage, Target Tracking and Clutter Settings for Harbour Approaches
- AIS Messages, CCTV Channels and VHF Direction Finding for Target Identification
- VTMIS Platform Functions: Sensor Fusion, Vessel Database and Track Correlation

### Day 3: Watchkeeping, Radio Procedure and Movement Coordination

- Traffic Image Verification Routine: Unidentified Targets and Track Swaps
- VHF Working Channel Discipline and Message Markers: Instruction, Advice, Warning and Information
- Standard Marine Communication Phrases at Overview for Shore-to-Ship Exchanges
- Sailing Plans, Traffic Clearances and Passage Windows for Restricted Channels
- Pilot Boarding Ground, Tug Allocation and Berth Plan Synchronisation

### Day 4: Incidents, Emergencies and VTS Centre Quality

- Collision and Close-Quarters Risk: CPA and TCPA Alerts and Intervention Thresholds
- Grounding, Engine Failure and Anchor Dragging Response Checklists
- Pollution Report, Man Overboard and Search and Rescue Handover to the Rescue Coordination Centre
- VTS Recording Replay and Incident Log Review for Lessons Learned
- VTS Quality Management Cycle: Service Levels, Audit Findings and Operator Revalidation

### Day 5: VTS Simulator Exercises and the Watch Operating Procedure

- Simulator Exercise: Congested Channel Entry With Conflicting Pilot and Tug Timings
- Simulator Exercise: Loss of Radar Sensor During Restricted Visibility
- Simulator Exercise: Vessel Aground Blocking the Fairway With a Pollution Report
- Exercise Debrief Using VHF Recordings, Track Replay and Watch Log Evidence
- VTS Watch Operating Procedure and Incident Response Card Set Drafting and Peer Review

## Skills You Will Gain:

- Traffic Image Management
- Sensor Data Fusion
- Maritime VHF Radio Procedure
- Vessel Movement Planning
- Close-Quarters Situation Assessment
- Maritime Incident Escalation
- VTS Recording Analysis
- VTS Service Quality Review

## Why Attend This Course:

- Return with a VTS Watch Operating Procedure and Incident Response Card Set tested in timed simulator exercises
- Practise clear VHF exchanges that vessels understand the first time, using message markers and standard phrases
- See how pilot, tug and berth timings can be aligned from the VTS console before conflicts reach the channel
- Compare watch practice with VTS and port control staff from coastal, harbour and offshore terminal settings

## Conclusion:

A VTS centre protects traffic when its watch team works from one verified traffic image and one agreed procedure. The course moves from VTS purpose, service types and area design, through IALA guidance, sensors and the VTMIS traffic image, to radio procedure, message markers and movement coordination with pilots, tugs and berths, then to incidents, emergencies and quality management. The final day runs timed simulator exercises and produces a VTS Watch Operating Procedure and Incident Response Card Set ready for the centre's supervisors.