GMDSS – Global Maritime Distress and Safety System

7 – 18 December 2026
Düsseldorf (Germany)



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Ref: 3255379_202182 **Date:** 7 – 18 December 2026 **Location:** Düsseldorf (Germany) **Fees:** 10600 GBP

Introduction

In today's maritime industry, communication and safety are essential for protecting lives, cargo, and the marine environment. The Global Maritime Distress and Safety System GMDSS, established by the International Maritime Organization IMO, ensures that ships can always send and receive distress alerts and critical safety information — anywhere in the world, under any sea conditions.

This 2-week intensive training course provides participants with a complete and practical understanding of the GMDSS framework. It covers the technical, operational, and regulatory aspects of maritime communication systems, combining in-depth theory with hands-on practical training.

Participants will learn how to operate GMDSS equipment, apply standardized distress and safety procedures, and ensure compliance with SOLAS and STCW conventions. The course also prepares candidates for the General Operator's Certificate GOC or Restricted Operator's Certificate ROC, both internationally required for communication officers and ship masters.

Course Objectives

By the end of this course, participants will be able to:

- Understand the objectives, structure, and legal framework of the GMDSS.
- Identify the GMDSS sea areas A1-A4 and their equipment requirements.
- Operate key communication systems: VHF, MF/HF, Inmarsat, EPIRB, SART, and NAVTEX.
- Send and receive distress, urgency, and safety messages using DSC and voice procedures.
- Integrate satellite and terrestrial communication systems for effective coordination.
- Apply proper procedures for Search and Rescue SAR operations.
- Conduct regular equipment testing and maintenance for operational readiness.
- Manage GMDSS documentation and logbooks according to IMO standards.
- Demonstrate the professional competence required for GOC/ROC certification.



Course Outlines

Day 1: Maritime Communication Framework

- Introduction to maritime safety systems.
- Evolution and need for the GMDSS.
- International conventions: IMO, SOLAS, STCW.
- Overview of GMDSS objectives and components.
- The role of communication in maritime safety.

Day 2: GMDSS Structure and Sea Areas

- The GMDSS network and global coverage.
- Definition and requirements of sea areas A1-A4.
- Shore-based stations and Rescue Coordination Centers RCCs.
- Communication links between ships and coast stations.

Day 3: Radio Communication Systems

- Principles of VHF, MF, and HF communication.
- Frequency bands, channels, and distress frequencies.
- DSC operation and coding principles.
- Message types: routine, safety, and distress.

Day 4: Digital Selective Calling DSC and Procedures

- DSC functions and the alerting process.
- Categories of distress, urgency, and safety.
- Relay and acknowledgment procedures.
- Common operational errors and preventive measures.

Day 5: Satellite Communication Systems

- Overview of the Inmarsat network and its services.
- Operation of Inmarsat-C, Fleet, Mini-C, and EPIRB.
- The Cospas-Sarsat system and distress alerting satellites.
- Equipment installation, registration, and activation.

Day 6: Safety and Navigational Information Systems

- NAVTEX and SafetyNET services.
- Enhanced Group Call EGC and Maritime Safety Information MSI.
- Weather forecasts and navigational warnings.
- Message decoding and information management.



Day 7: Emergency Communication and SAR Coordination

- Principles of Search and Rescue SAR operations.
- On-scene communication procedures.
- Use of SART and AIS-SART during rescue operations.
- International coordination between RCCs and vessels.

Day 8: Equipment Maintenance and Power Supply Systems

- Power sources and battery backup systems.
- Routine inspection and equipment testing.
- Troubleshooting and fault reporting.
- Recordkeeping and maintenance scheduling.

Day 9: Practical Training and Simulation

- Realistic distress and safety communication drills.
- Coordination between multiple ship and shore units.
- Message logging and system monitoring.
- Performance evaluation and feedback.

Day 10: Assessment and Certification

- Written and practical examinations.
- Evaluation of operational competence.
- GMDSS logbook review and performance analysis.
- Final debriefing and certification ceremony.

Why Attend This Course: Wins & Losses!

- Receive internationally recognized training aligned with IMO and SOLAS standards.
- Build operational expertise in modern maritime communication systems.
- Enhance readiness for real-life emergency coordination.
- Strengthen compliance and safety awareness.
- Develop the competence required for GOC/ROC certification.
- Improve efficiency in maritime communication and coordination.
- Increase professional credibility and employability in the global shipping sector.

Conclusion

The Global Maritime Distress and Safety System GMDSS course provides a comprehensive understanding of the systems and procedures that underpin maritime safety and emergency communication.



Through a balanced combination of theoretical study, real-world examples, and hands-on simulation, participants gain the knowledge, confidence, and competence to manage communication under the most demanding sea conditions. This program equips maritime professionals to maintain international safety standards and ensure effective, reliable communication across all sea areas worldwide.

