



FURUNO

MARITIME TRAINING

Courses and services



ABOUT US

Safety at sea is not only restrained to the functionality of the bridge equipment but also extended to the operator's knowledge of how to use it properly.

Bridge equipment is becoming increasingly sophisticated and integrated, making the successful and safe operation of the ship reliant on well-educated navigators.

FURUNO Maritime Training offers high quality training solutions - aiming to increase safety at sea.

Training centre

We are located in Copenhagen, Denmark, only 20 minutes from Copenhagen city centre.

Our training centre is ISO9001/18001 certified and approved by the Danish Maritime Authority to conduct maritime education and training.

Instructors

To guarantee high quality and to ensure a great training experience, you will be taught by our qualified and skilled master mariners with valid certificates of competence, CoC.

Training equipment

Using our two full mission simulators (DNV GL Class S), fitted with genuine FURUNO navigational equipment, you will receive training in a very realistic environment.

We have two classrooms, each fitted with eight ECDIS workstations of either FEA- or FMD-series. You will have an individual training unit available during the course to ensure the best possible learning.

Practical information

Time schedule for training courses and services is: Monday to Thursday: 8.30 - 15.30 and Friday: 8.30 - 15.00.

Lunch and refreshments during the courses are included.

All courses and services can be conducted in English or Danish.

Course calendar

Please contact us for information about scheduled training courses.

Generic courses	Days	Price per person	Page
Ice Navigation (basic / advanced / basic and advanced)	3/2/5	1100/950/1950 EUR	4
Onboard Assessment - IMO Model Course 1.30	2	750 EUR	5
Onboard ECDIS Assessor	4/5	1950 EUR	6
Operational use of IBS or INS - IMO Model Course 1.32	5	1450 EUR	7
Operational use of ECDIS - IMO Model Course 1.27	5	1450 EUR	8
Generic ECDIS Training	4	1100 EUR	9
Navigational Investigator	2	750 EUR	10
Lead Navigational Investigator - IMO Model Course 3.11	5	1450 EUR	11
Basic Electronic Navigation Course	1	200 EUR	12

Furuno type specific courses	Days	Price per person	Page
FURUNO type specific ECDIS Training (basic / advanced / refresh)	2/3/1	750/1100/400 EUR	13
Radar Training	1	300 EUR	14

Services	Days	Price	Page
3 rd Party Onboard Navigational Audit	1	2000 EUR	15
3 rd Party Onboard Navigational Assessment	4/5	Individual agreement	16
Teambuilding Day	1	3500 EUR	17
Navigational Familiarization Day	1	2000 EUR	18
Customized solutions (training courses/instructor service)	1	Individual agreement	19

Above prices are valid from January 2019 to December 2019.

All prices are excl. VAT taxes, travel, accommodation, and transport expenses.

Our terms and conditions apply.

Ice Navigation training course

GENERIC TRAINING COURSE

This training course will provide you with the necessary knowledge to navigate and operate safely in polar waters. The course content is developed in close cooperation with an ice pilot, who has more than 40 years of experience with navigating in arctic waters. The course is available at basic and advanced level. STWC requirement from 1/7-2018.

Relevant for: Basic training is for navigators at operational level planning to sail in areas covered by the IMO Polar Code. Advanced training is for navigators at operational and management level already sailing in areas covered by the IMO Polar Code.

Equipment used: FURUNO Integrated Bridge System (IBS), FURUNO Ice Radar, full mission simulator.

Duration: 3 days (basic), 2 days (advanced), or 5 days (basic and advanced).
DNV GL certificate requires five days training course.

Content: Theoretical lectures, discussions, series of demonstrations, and exercises in a full mission simulator. Topics are:

- **Basic:** Ice characteristics and different types of ice. Vessel performance in ice and low air temperature. Operating and manoeuvring a vessel in ice. Regulatory considerations. Crew preparation, working condition and safety. Environmental factors and regulations.
- **Advanced:** Voyage planning and reporting. Equipment limitation. Operating and manoeuvring a vessel in ice. Safety in polar waters.

Admission requirement for advanced training: Ice Navigation basic training according to STCW code table A-V/4-1. Minimum two months of sailing experience in polar areas as watchkeeping officer.

Course certificate: The training courses are concluded with multiple-choice tests. If the test is passed, then a certificate is issued. Basic training complies with the STCW code table A-V/4-1 and advanced training complies with the STCW code table A-V/4-2.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark or at your preferred location.



Certificate no.: 929/180 305

GENERIC TRAINING COURSE

This course will provide you with the basic knowledge and the qualifications necessary to execute, administer, and supervise proper onboard assessments.

Relevant for: Shore based personnel and officers onboard vessels conducting onboard assessments of competence of the seafarers.

Duration: 2 days.

Content: Theoretical lectures, discussions, and series of demonstrations. Includes the principles of developing and implementing a shipboard assessment system. After completing this course, you will be able to:

- Apply the international provisions concerning the training and assessment of officers and ratings onboard vessels in the context of international law.
- Determine and apply effective assessment methodologies.
- Organize, administer, and conduct onboard assessment.
- Develop a performance improvement plan.
- Evaluate and report outcomes and observations.

Course certificate: The training course is concluded with a multiple-choice test. If passed, then a certificate is issued. The training complies with the IMO Model Course 1.30 and the STCW Code, section A-1/6.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark or at your preferred location.

GENERIC TRAINING COURSE

This course contains advanced training in ECDIS functionalities and capabilities, which will provide you with the level of competence necessary to conduct qualified onboard assessments. It includes lessons in extended route planning, as well as practical training in a full mission simulator, with focus on training your assessor skills.

Relevant for: Shore based personnel and senior officers conducting onboard assessment of competence of navigational officers, who operate an ECDIS.

Equipment used: FURUNO ECDIS, FURUNO Integrated Bridge System (IBS), full mission simulator.

Duration: 4 - 5 days.

Admission recommendation: For the training course to be conducted in 4 days, the participant must have basic knowledge of ECDIS regulations and functions.

Content: Theoretical lectures, discussions, and series of demonstrations. Training covers advanced ECDIS training and the principles of developing and implementing a shipboard assessment system and it includes assessor exercises in a simulated environment. After completing this training course, you will be able to:

- Apply the international provisions concerning the training and assessment of officers and ratings onboard vessels in the context of international law.
- Determine and apply effective assessment methodologies.
- Organize, administer and conduct onboard assessments.
- Develop a performance improvement plan.
- Evaluate and report outcomes and observations.

Furthermore, you will obtain an understanding of:

- Principal types of ECDIS systems and their display characteristics.
- Operational use of ECDIS functionalities.
- Risks of over-reliance on ECDIS, system performance and accuracy.
- Display setup, route planning, route monitoring and alarm handling, etc.
- Chart handling.

Course certificate: The training course is concluded with a multiple-choice test. If passed, then an Onboard ECDIS Assessor certificate is issued. The course complies with the IMO Model Course 1.30 / STCW Code, section A-1/6.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

GENERIC TRAINING COURSE

This training course will provide you with the training required to safely operate an Integrated Bridge System (IBS)/Integrated Navigation System (INS).

Relevant for: Navigators operating onboard vessels equipped with IBS/INS today or are planning to do so in the future.

Equipment used: FURUNO IBS, full mission simulator.

Duration: 5 days.

Admission recommendation: IMO Model Course 1.27 or similar generic ECDIS training. FURUNO ECDIS type specific training.

Content: Theoretical lectures, series of demonstrations, active discussions based on your practical experiences, and multiple practical exercises in our full mission simulator. After completing this training course, you will know and understand:

- Legal and technical aspects of IBS/INS.
- How to work with IBS/INS in normal, abnormal, and emergency situations.
- Potential failures and risks when operating an IBS/INS.
- The importance of human machine interface (HMI) when operating IBS/INS.

Course certificate: When the training course is concluded a certificate is issued. The course complies with the IMO Model Course 1.32.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.



Certification no. 538/160 413

GENERIC TRAINING COURSE

This training course will provide you with the training required to safely operate ECDIS, when used as the primary source for sea charts. This course is also considered as FURUNO ECDIS type specific training.

Relevant for: Navigators operating ECDIS today or are planning to do so in the future.

Equipment used: FURUNO ECDIS, FURUNO Integrated Bridge System (IBS), and full mission simulator.

Duration: 5 days.

Content: Theoretical lectures, active discussions based on your navigational experiences, series of demonstrations, and multiple practical exercises in our full mission simulator. The training course includes the following topic:

- Principal types of ECDIS systems and their display characteristics.
- Differences between ECDIS and ECS.
- Introduction to the legal aspects of ECDIS compliance.
- Operational use of Electronic Navigational Charts (ENC) and Raster Navigational Charts (RNC) including chart updating processes.
- Setting up display, route planning, route monitoring, and alarm handling.
- Detection of misrepresentation of information, and factors affecting system performance and accuracy, including the risks of over-reliance on ECDIS.

Course certificate: The training course is concluded with three compulsory tests and if all three passed, then a certificate is issued. The course complies with the IMO Model Course 1.27 and the STCW 2010 Code, as amended in A-II/1-3 and B-I/36-66.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.



GENERIC TRAINING COURSE

This training course will provide you with the training required to safely operate ECDIS when used as the primary source for sea charts. This course is also considered as FURUNO ECDIS type specific training. Follows IMO Model Course 1.27.

Relevant for: Navigators operating ECDIS today or are planning to do so in the future.

Equipment used: FURUNO ECDIS, FURUNO Integrated Bridge System (IBS), and full mission simulator.

Duration: 4 days.

Content: Theoretical lectures, active discussions based on your navigational experiences, series of demonstrations, and multiple practical exercises in our full mission simulator. The training course includes the following topic:

- Principal types of ECDIS systems and their display characteristics.
- Differences between ECDIS and ECS.
- Introduction to the legal aspects of ECDIS compliance.
- Operational use of Electronic Navigational Charts (ENC) and Raster Navigational Charts (RNC) including chart updating processes.
- Setting up display, route planning, route monitoring, and alarm handling.
- Detection of misrepresentation of information, and factors affecting system performance and accuracy, including the risks of over-reliance on ECDIS.

Course certificate: The training course is concluded with three compulsory tests and if all three passed, then a certificate is issued.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.



DANISH MARITIME AUTHORITY

Certification no. 2013-01

GENERIC TRAINING COURSE

This training course will provide you with basic knowledge about marine safety and incident investigation. Elements from the IMO Model Course 3.11 are included.

Relevant for: Navigators or shore based personnel who serve, or are about to serve, as safety investigator, safety representative, or safety officer.

Equipment used: FURUNO ECDIS.

Duration: 2 days.

Content: Theoretical lectures, discussions, and series of demonstrations. The training course includes the following topics:

- Ship board accidents and incidents.
- How to construct an Event and Contributing Factor chart.
- Human factors.
- Collection and preservation of evidence.
- Witness interviewing.
- Risk assessments, assessing, minimising and eliminating hazards.
- Extracting electronic data from the FURUNO INS bridge.

Course certificate: The training course is concluded with a multiple-choice test. If passed, then a certificate is issued.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

GENERIC TRAINING COURSE

This training course will provide you with in-depth knowledge about the methodology, processes, and procedures needed to conduct a safety and incident investigation. It includes information about the obligations and duties described in the CI Code and the ISM Code for safety and incident investigation.

Relevant for: Personnel who serve, or are about to serve, as safety investigator, safety representative or safety officer.

Equipment used: FURUNO ECDIS.

Duration: 5 days.

Content: Theoretical lectures, discussions, and series of demonstrations. The course includes the following topics:

- Shipboard accidents and incidents.
- Human factors.
- Collecting and preserving evidence.
- Witness interviewing.
- Risk assessments, assessing, minimising and eliminating hazards.
- Accident Investigation Process.
- Extracting electronic data from the FURUNO INS Bridge.
- Setting up an investigation.
- Template for a marine safety investigation.
- Techniques for collecting, analysing and reporting on marine casualties and incidents.

Course certificate: The training course is concluded with a multiple-choice test. If passed, then a certificate is issued. The course complies with the IMO Model Course 3.11.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

Basic Electronic Navigation

GENERIC TRAINING COURSE

This training course will provide you with knowledge of the basic functions of your navigational equipment (radar, electronic chart, GPS, and AIS), combined with extensive practical training in a simulator, strengthening your navigating skills in a very realistic environment.

Relevant for: Personnel sailing pleasure crafts, fishing vessels, or work boats.

Equipment used: Simulator, FURUNO radar/ARPA, FURUNO GPS, FURUNO ECDIS, and FURUNO AIS.

Duration: 1 day (6 hours).

Content: Theoretical lectures, discussions, series of demonstrations and practical exercises in the simulator. The course includes the following topics:

- Theory and use of the radar.
- Theory and use of the electronic chart.
- Theory and use of the GPS.
- Theory and use of the AIS.
- Practical exercises in a simulator. You will try to navigate a larger vessel from A to B, while trying to avoid collisions and groundings, with guidance from FURUNO Maritime Training instructors.

We can customize the content of the course after your specific requirements.

Language: Danish.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

FURUNO ECDIS Type Specific Training

TYPE SPECIFIC TRAINING COURSE

Basic, advanced and refresh ECDIS training courses will provide you with knowledge of the functionality and effective use of the FURUNO ECDIS. The basic and advanced training courses are compliant with regulatory demands for maker approved type specific certification.

Relevant for: Navigators operating FURUNO ECDIS today or are planning to do so in the future.

Equipment used: FURUNO ECDIS.

Duration: 2 days (basic), 3 days (advanced), or 1 day (refresh).

Admission recommendation: IMO Model Course 1.27 or similar generic ECDIS training.

Content: Theoretical lectures, discussions, and series of demonstrations. Topics are:

- **Basic:** Familiarization with available functions and the menu structure. Display setup and setting of safety values. Recognition of alarms and malfunction indicators and the appropriate actions to be taken. Route planning and monitoring. Changing to back-up systems. Loading and updating of charts and licenses. Software updating.
- **Advanced:** Includes basic training added with extended route planning, exercise training in a full mission simulator, and training in the elements from the FURUNO Integrated Navigation System.
- **Refresh:** Configuration of ECDIS. Route planning and route monitoring. Chart and system updates. Changes in the interface. Q&A's.

Course certificate: The basic and advanced training courses are concluded with a compulsory test. If passed, then a certificate is issued. The course complies with the STCW Code, table A-II/1, A-II/2 and A-II/3.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

TYPE SPECIFIC TRAINING COURSE

This training course will provide you with basic knowledge about the FURUNO radar and its effective use in navigation and for collision avoidance.

Relevant for: Navigators on pleasure crafts, fishing vessels, work boats or in the merchant marine interested in basic radar training.

Equipment used: Full mission simulator, FURUNO Radar / ARPA.

Duration: 1 day.

Content: Theoretical lectures, discussions, series of demonstrations, and active discussions based on your experience with operating a radar. Practical exercises in full mission simulator. The training course includes the following topics:

- Radar basics.
- Display and user interface.
- Target reflection.
- Clutter (GAIN, RAIN, SEA) and tuning controls.
- Radar stabilisation (orientation modes).
- New technology radar.
- Radar tracking, manual plotting and ARPA plotting.
- Collision avoidance measures using radar.

The content of the training course may be customized to your specific needs.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

3rd Party Onboard Navigational Audit

SERVICE

The aim of this external audit is to identify navigational safety gaps and to provide you with a detailed report including recommendations and best practices regarding ECDIS usage. The audit report complies with the requirements of the OCIMF's Ship Inspection Report Programme (SIRE).

Relevant for: Shipping companies interested in or required to have a 3rd party navigational audit onboard their vessels. Planned audits are executed by FURUNO's skilled master mariners (CoC), auditors and assessors.

Duration: 1 day.

Content: The audit is initiated and concluded by a meeting with the assigned bridge team representatives. The audit covers the following topics:

- Navigational procedures.
- Communication procedures.
- Navigation equipment.
- Communication equipment.
- Company forms and documentation.
- Company checklists.
- ECDIS operation including the review of a route plan.

Audit report: The audit is concluded by a detailed report, which includes non-conformances, observations, and recommendations. Compliant to OCIMF SIRE programme, chapter 4.

Location: The audit is performed onboard vessel when it is alongside in port or at anchor.

Ship Inspection Report (SIRE) Programme



3rd Party Onboard Navigational Assessment

SERVICE

The aim of this external assessment is to identify knowledge gaps and to provide you with recommendations which can help you improve your navigational safety. Our focus is on educating and advising, and the assessment is based on a constructive dialogue with the onboard navigators.

Relevant for: Shipping companies interested in a thorough 3rd party navigational assessment, validating bridge procedures, practices and personnel, aiming for continuous improvement. Assessment planned and executed by FURUNO's skilled Master Mariners (CoC), auditors and assessors.

Duration: The assessment must cover an adequate period and be performed during operational conditions. 4 - 5 days is recommended - depending on the agreed scope.

Content: We have a holistic approach when studying personnel, procedures, and processes onboard the vessel. The assessment could, as an example, cover:

- Bridge equipment.
- Communication equipment.
- Distress procedures.
- Navigational procedures.
- Emergency plan.
- Contingency plans.
- Company forms and documentation.
- Company checklists.

The assessors observations and recommendations will be discussed with the entire bridge team and with the individual officers.

Assessment report: The assessment is concluded by a detailed and confidential report which includes evaluation of competences, recommendations, and best practices. The report complies with the requirements of the STCW Code, section A-I/6.

Location: On board vessel during sea passage from berth to berth.

Teambuilding Day

SERVICE

This event is a great opportunity for you and your employees to enter the world of a navigator. We facilitate this event in a full mission simulator, thereby creating the perfect environment for increased team performance by developing the participants' communication and cooperation competences.

Relevant for: Groups who could benefit from increasing their team competences while being in a different, professional environment - learning while having fun.

Equipment used: Marine navigation simulator, including radars, electronic chart and steering controls as seen on a ship.

Duration: 1 day.

Content: The teambuilding event could, for example, consist of an introduction to:

- How to operate a ship and its related equipment in a full mission simulator.
- How to manoeuvre and navigate a ship using real-life navigational aids.
- How to communicate effectively in simulated scenarios on a ship's bridge, where the participants will be assigned different roles.
- How to react effectively and efficiently as a team to sudden changes.
- How to maximize your use of available human resources in stressed situations.

Group size: 8 participants limitation apply per simulator. 16 participants in total.

Language: The event can be conducted in English or Danish.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

Navigational Familiarization Day

SERVICE

This event is intended for personnel who could benefit from getting a qualified insight into the world of a navigator. The content of the event could include an introduction to bridge navigation and different equipment, operations and routines. During the familiarization day participants will try our full mission simulators.

Relevant for: Shore based personnel in maritime-related business, who do not have a maritime background, for an example from finance, marketing or an IT department. Personnel who could benefit from having insight into the world of a navigator, for an example a supplier to the maritime sector.

Equipment used: FURUNO Integrated Bridge System (IBS), full mission simulator.

Duration: 1 day.

Content: We can customize the content, to ensure that you get the wanted outcome from this day. The Navigational Familiarization Day could, for example, consist of introductions to:

- Radar and how to use it as a navigator.
- How to use the electronic chart.
- How to plan your route in the electronic chart.
- Sailing and navigating in polar regions.
- How to manoeuver a ship using real-life navigational aids.

Language: The event can be conducted in English or Danish.

Location: Hammerholmen 44 - 48, 2650 Hvidovre, Denmark.

SERVICE

Customized training courses

Customised ECDIS training courses can be made to your specific requirements, when you are seeking a training solution, which does not fall within the scope of the standard training courses.

Equipment used: FURUNO navigational equipment, full mission simulators and additional equipment as necessary.

Content: A customised training course may be designed specifically to your needs, but it may also build on an existing formalized course offered by FURUNO. It could e.g. include training on FURUNO navigational equipment combined with:

- Trainer and coaching elements.
- Assessments elements.
- Navigational Investigator elements.

Please contact us to discuss how we can assist you in designing a course that fulfills your specific requirements.

Course certificate: As appropriate according to final course content.

Location: Worldwide, as appropriate according to specifications.

Instructor service

This service will enable you to use the knowledge and competences of FURUNO's highly skilled master mariners (CoC), auditors, assessors and instructors.

Content: Could include, but is not limited to, the following topics:

- Use of electronic navigation devices.
- FURUNO ECDIS / radar training with use of a full mission ship simulator.
- FURUNO ECDIS and radar familiarization at your location.
- Review of your bridge / navigational procedures.
- Internal audits (ISM etc.).
- Route planning.
- Functional support.

Equipment to be familiarized with must to be available for the instruction.

Location: Worldwide, as appropriate according to specifications.



FURUNO

MARITIME TRAINING

Phone: (+45) 36 77 40 12

Email: FMT@furuno.dk

Address: Hammerholmen 44 - 48,
2650 Hvidovre, Denmark

Website: www.furuno.dk/da/training/



We reserve the right to change the content and prices in this catalogue without notice.
The current catalogue is always available on our website.

03-2019