









Kongsberg Maritimes Training & Advisory Services

Kongsberg Maritime Training supports customers world-wide in their efforts towards predictable, safe and un-interrupted operations throughout the life-cycle. We therefore provide training and learning services bundled with world- class products and global customer support.

To meet any specific training requirements we offer both standard and tailor-made courses that focus on how to operator and maintain KONGSBERG's products. Operations will run more smoothly and economically if equipment operatates reliably and is safely, operated by skilled professionals. It is about investing in competence, sharing experiences and preparing for familiar and complex operations, but also to prepare for the unexpected.

We offer:

- Over 30 years expertise in the maritime training and learning services
- A network of global training centres, developing the skills of around 2000 people every year
- · Worldclass instructors and programmes tailored for your individual needs
- State-of-the-art simulators to ensure the up-most realism for operational scenarios delivering powerful at sea experiences on-shore

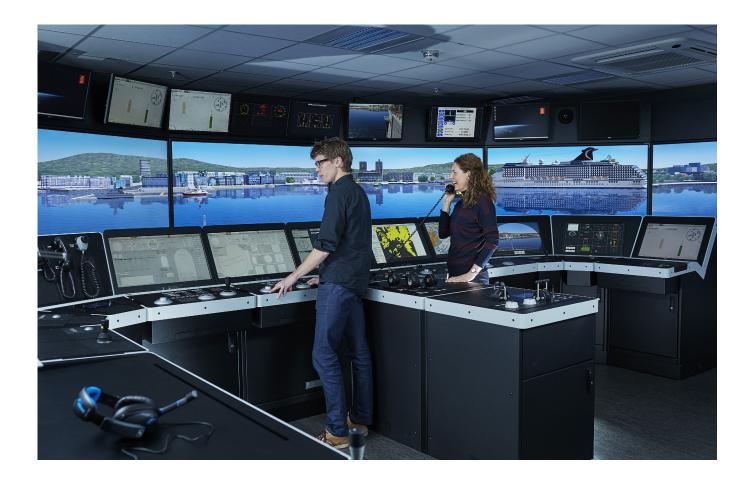
OUR MISSION

We shall earn the respect and recognition for our dedication to provide innovative and reliable marine electronics that ensure optimal operation at sea. By utilising and integrating our technology, experience and competencies in positioning, hydroacoustics, communication, control, navigation, simulation, and automation, we aim to give our customers The Full Picture. The Full Picture yields professional solutions and global services that make a difference enabling you to stay ahead of the competition.

KONGSBERG MARITIME LTD THERMOPYLAE HOUSE, PROSPECT ROAD WESTHILL ABERDEEN AB32 6FE

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KONGSBERG MARITIME TRAINING EXPERIENCE AND PROUD HISTORY

We have a network of global training centres and we develop the skills of around 2000 people every year. If you require training in a specific region we will do our utmost to deliver it there.



In addition we offer a wide variety of high-end, customised packages on request, for instance:

- Vessel specific courses
- Operation specific courses
- Scenario courses
- Emergency Response Courses
- Onboard/Onsite Training
- Remote Training
- · Advisory services

The Kongsberg group has existed since 1814 and we delivered our first maritime products in 1946. With more

than 30 years of expertise in maritime training and learning services and a network of global training centers, we

develop the skills of around 2000 people every year. We have a network of global training centres and if you require training in a specific region we will do our utmost to deliver the training there.

Our mission is to help our customers world-wide in your efforts towards predictable, safe and un-interrupted operations throughout the lifecycle of our delivered products. People are the bridge between advanced technology and optimal operations - investing in developing their abilities is the key to efficient operations as well as preventing interruptions and loss.



About Aberdeen Training Centre

Aberdeen is considered both the Oil Capital of Europe and a Subsea Centre of Excellence, with a global reach for advanced technology and solutions. Our purpose built training centre in Aberdeen, offers the full portfolio of both operator and technical Kongsberg training courses, including:

- Automation Training K-Chief 700 & 600 Products
- Dynamic Positioning Operator & Maintenance Courses
- AUV and Subsea Survey Training
- Position Reference Systems Courses including Seatex products
- Radar and Navigation Courses including ECDIS

From customised courses to refresher training, we provide the full picture of Kongsberg training courses. If you are unable to find a course or date that meets your needs, please contact us directly so that we can find a solution for you.

The combination of deep system knowledge, operational competence and the instructors' ability to educate, results in very powerful learning experiences for our customers.



ABERDEEN

K-SIM

The K-Sim® offshore training simulator greatly enhances and benefits the overall learning experience of both our DP Training Schemes. In advanced offshore operations, sophisticated equipment and highly trained crew are extremely important. Practicing standard procedures and emergency situations prior to a mission is crucial to ensure safety and efficiency during often complex operations. While training on actual vessels can be too costly, risky or impractical, simulation training provides the best solution to ensure your crew performs with the precision and high standards required.

The most advanced level of simulators used for DP training is K-Sim®, which is a full mission type designed for demanding offshore vessel operations to test procedures, increase competence and to minimize errors, and ultimately the cost of incidents during DP operation.

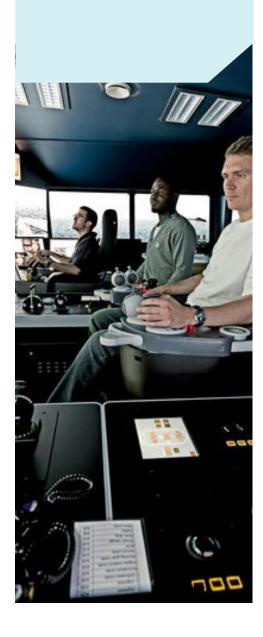
Test Tank Facility

We are now using our state-of-the-art test tank for our subsea courses. These courses, aimed at the survey industry, benefit from a practical element designed to give participants hands on experience of KONGSBERG products, in order to improve their learning experience.

With the recent addition of the MUNIN AUV to our rental pool in Aberdeen, we can now offer AUV training courses. These courses have been designed to ensure that those working with MUNIN (or HUGIN) AUV operations gain a greater understanding of its capabilities, mission preparation, vehicle launch and recovery, and data monitoring and verification.

FEATURES

- Hands-on training using the latest Kongsberg technology and equipment
- Training for both operator and technical personnel
- State-of-the-art facilities providing the most realistic environment for operational scenarios
- World-class instructors and programmes tailored to your individual needs
- Cost-effective solution save time and money by training in one convenient location.



Our Course Offerings

K-Chief 700 Operator Course After the course, the successful participant is able to explain the basic principles of the K-Chief 700 system and Operate the K-Chief 700 system. Target group is bridge personnel on DP vessels who will operate the automation and safety system. K-Chief 700 Step 1 – System introduction After the course, the successful participant is able to explain the basic principles of the K-Chief 700 system and operate the K-Chief 700 system. This course is the first level in the K-Chief 700 training program, targeted for both operator and maintenance personnel on any vessel with K-Chief 700 system on-board. K-Chief 700 Step 2 – Maintenance RBus After the course the successful participant is able to explain the functionality of the K-Chief 700 system including main system components and hardware modules as well as perform maintenance and fault finding on the K-Chief 700 system. The course is intended for electronic technicians, electricians, and maintenance personnel on-board. K-Chief 700 Step 2 – Maintenance SPBus After the course the successful participant is able to explain the functionality of the K-Chief 700 system. The course is intended for electronic technicians, electricians, and maintenance personnel on-board.		
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After the course the successful participant is able to explain the functionality of the K-Chief 700	3.5	6
system including main system components and hardware modules as well as perform maintenance and fault finding on the K-Chief 700 system. The course is intended for electronic technicians, electricians, and maintenance personnel on-board.	3.5	6
K-Chief 500 Technical Course After the course, the successful participants will be able to explain the basic principles of the automation system; hardware design and location of hardware components. They will also be able to perform fault-finding and maintenance.	2	6
K-Chief 600 Basic Course After the course the successful participant will be able to explain the basic system design of the K-Chief 600 system and operate the K-Chief 600 system.	2	9
K-Chief 600 Operator & Maintenance Course This combined operator and maintenance course is delivered over 3 days and is designed for technical users of the K-Chief 600 system such as electricians and chief engineers.	3	6

	Days	Max delegates
AUTOMATION SYSTEMS		
K-Safe Maintenance Course Provide participants with a basic understanding of the K-Safe system. The participants will be able to operate Autronica Fire Central, and use it as a tool to troubleshoot the fire loops and detectors. The participants will have the knowledge and the hands-on practice on detectors testing.	3	6
Kongsberg Networks Course This Networks course gives an in-depth understanding of the Kongsberg networks used with the K-Pos, K-Chief and K-Thrust Systems.	0.5	6
K-Safe Operator Course Provide participants with a basic understanding of the K-Safe system. Participants will be able to operate the K-Safe system to evaluate alarm situations and avoid false alarms when engineering work is being undertaken. By the end of the course, participants will also be able to differentiate detector faults from fire and gas detections.	1.5	6



	Days	Max delegates
DYNAMIC POSITIONING		
DP Induction Course – NI or DNV GL Training Scheme After the course, the successful participant is able to define the principles of DP, understand the relationship between vessel movement, position reference systems, sensors, computers, and propulsion units as well as understand the concept of redundancy, DP modes of control and power supply. The course is according to IMCA's M117 (rev. 2) recommended course guidelines, and is targeted at navigators, DP operator trainees and other users of DP systems who would like to start an approved DP Operator Certification Scheme.	5	8
DP Simulator Course – NI or DNV GL Training Scheme This course will provide participants with further insight, experience and confidence in performing offshore operations under DP control. Fulfils the requirements for certification according to the 'Simulator' training required by IMCA and the Nautical Institute/DNV GL Training Schemes. Training will be conducted on our NEW Kongsberg K-Sim full bridge simulator with 260° display.	5	6
DPO Revalidation - NI Approved This course is intended for those who have already been issued a DPO certificate from The Nautical Institute but are unable to revalidate their DPO certificate due to insufficient DP sea time.	5	6
DNV GL Advanced Operations Course This specialised course is specifically designed for training future DPOs on-board a large number of offshore vessels performing both surface and subsea operations, utilizing auto-position, autotrack and follow target functionalities. The course objective is to provide the candidates with knowledge and skills as preparation for DNV DPO Advanced Operations exams and certification.	4	3
DNV GL Advanced Operations Certification Exam This specific examination tests the requirements within the competence standard for Dynamic Positioning Operators (DPO) performing Advanced Operations. At this stage experienced and certified DPOs can also enter the scheme to attain or renew a DNV GL DPO certificate.	1	3
DP Seatime Reduction - NI Approved After the DP Sea Time Reduction Course, the successful student is able to carry out offshore operations of light to medium complexity under DP control, with due regard to operational safety analyse operations and suggest points of improvement. If the trainee DPO is following the DP Offshore Training Scheme from Nautical Institute, he has to be completed successfully until Phase C (DP Simulator Course + online examination).	5	3
DP Introduction Course (Familiarisation) Aimed at onshore and offshore personnel including client reps, project engineers, diving supervisors and shore based management, this course will give participants a basic understanding of dynmaic positioning and the advantages/limitations in which DP control offers. This course follows the recommendations contained in the International Marine Contractors Association (IMCA) guidelines. After the Course, the successful participant is able to understand how a DP system works, its uses and functions. They will also understand the requirements for DP vessels and IMCA guidance relating to the use of DP systems offshore.	2	9

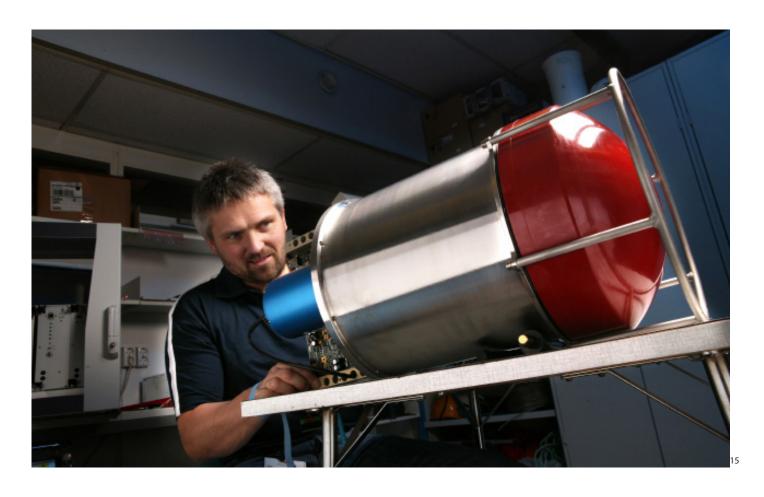
	Days	Max delegates
DYNAMIC POSITIONING		
DP Operator Refresher Course This course is targeted at qualified DP operators who require a refresh on the Kongsberg K-Pos DP system. After the course the successful participant will be able to operate the K-Pos DP system. The scenarios will be run on a redundant DP system in a bridge-like environment connected to an advanced simulator control.	3	6
SDP Maintenance Course This course will provide the participant with the ability to identify and exchange faulty units with spares from stock on-board to bring the SDP system back into operation, perform correct periodic maintenance and communicate with Kongsberg Maritime service personnel when assistance is needed.	4	6
K-Pos Maintenance Course After the course, successful participants are able to Identify and exchange faulty units with spares from onboard stock, to bring the K-Pos system back into operation and perform correct periodic maintenance	4	6
K-Pos Maintenance Stage 1 Course Aimed at personnel involved in activities or decision-making that may affect the integrity of the DP system and operational safety.	2	6
DP Maintenance Refresher Course		
Aimed at personnel who are involved in the maintenance of a vessel's DP System, this two day course provides the technical and refresher training as recommended in the latest IMCA Guidelines (M117 Rev.2). This course is also suitable for personnel who have not worked with a DP system for a long period of time or are due to work with a vessel that has been upgraded from SDP to K-Pos.	2	6
YachtPos/cPos Maintenance Course Introduces the participant to the controller hardware and the human machine interface (HMI). Covers how the sensors, position and reference systems, propulsion and power controls are interfaced to the DP system.	2	6
YachtPos/cPos Operator Course This course is targted at personnel requiring training on the KONGSBERG YachtPos/cPos DP system, but do not need the Nautical Institute DP Operator Certificate.	2	9

	Days	Max delegates
RADAR AND NAVIGATION		
K-Bridge ECDIS Familiarisation Course (E-learning)		
In accordance with the IMO's International Safety Management Code for ECDIS training, Kongsberg Maritime have developed their equipment specific familiarisation ECDIS course. This approved course is designed for watch-keeping officers who have already completed the full ECDIS generic training course. The course will give delegates an overview of KONGSBERG's K-Bridge ECDIS systems.	16 hrs	N/A
K-Bridge ECDIS Familiarisation Course After the successful completion of the course, the participant should be able to understand the K-Bridge ECDIS system overview and operate the system with all available functions in order to navigate safely under all conditions.	2	6
K-Bridge Operator Course including ECDIS Familiarisation		
Aimed at Navigation (Deck) Officers, this course introduces the K-Bridge integrated navigation system and explains its main components and functionality. Successful participants should be able to operate the system with all available functions in order to navigate safely under all conditions.	4	6



	Days	Max delegates
POSITION AND REFERENCE SYSTEMS COURSES		
HiPAP Operator Course Teaches the SSBL positioning principles and the use of HiPAP hydro-acoustic positioning system when interfaced to Kongsberg DP systems. Also covers how to maximise hardware performance using the APOS operating software.	2	9
HiPAP LBL Operator Course (SSBL and LBL) Covers basic SSBL and LBL positioning principles and how to maximise system performance using APOS operating software.	3.5	9
HiPAP Technical Course Covers basic acoustic positioning principles, system calibration, basic fault finding and maintenance of the HiPAP hardware and associated transponders.	3.5	6
HiPAP Calibration Course Aimed at offshore surveyors, this one day course will teach participants how to calibrate the HiPAP system correctly, what can go wrong and how to fix it.	1	9
HiPAP Transponder Maintenance Course Aimed at survey technicians and engineers, this one day course will ensure participants know how to maintain the HIPAP Transponders to improve safety and avoid costly repairs.	1	9
HAIN Reference Operator Course Teaches general knowledge of inertial navigation and benefits of using Hydro-Acoustic Aided Inertial Navigation (HAIN) system. Covers setting up and operation of HAIN and ability to identify and handle errors. Can be taught in conjunction with HiPAP courses.	0.5	9
Seatex DPS Operator & Technical Course After the course the successful participant is able to: give an in-depth functional explanation of the DPS system and its display windows; explain the fundamentals of GPS and GLONASS and the use of differential techniques to improve absolute position accuracy; and perform general system maintenance.	2.5	9
Seatex MRU Familiarisation Course This course is aimed at electricians, technical personnel and others who need to know how to change, interface and replace MRUs	0.5	9

	Days	Max delegates
SUBSEA AND MARINE ROBOTICS COURSES		
HiPAP Survey Course Aimed at Offshore Surveyors and Engineers, this course will cover: APOS Operation and interfacing; SSBL and LBL Calibration; APOS functionality and interfacing; Quality control of installation parameters; Transponder configuration and handling; and HiPAP® calibration. This course will include practical hands-on training with our equipment in our test tank facility.	3	6
HAIN Subsea Course This course will: give participants a general knowledge of inertial navigation; provide an in-depth understanding of HAIN, and how it uses its aidingensors; provide thorough knowledge on how to set up and operate HAIN; and give an introduction into post processing and the use of NavLab (optional). The course will include practical hands-on training with our equipment in our test tank facility.	3	9
Basic SIS Operator Course After the course, the successful participants are able to: explain the basic principles of the EM system; demonstrate basic skills in operating the EM system; perform system tests; and display sonar images and set-up data.	3	6
AUV Management Course This three day training course has been designed for project staff, technicians, operators and others who are involved in HUGIN AUV operations and require a greater understanding of this technology.	3	6
AUV Operations Introduction Course This one day training course aims to give delegates an overview of KONGSBERG AUVs capabilities and applications. Oil and Gas clients, operators, and staff officers will benefit from attending this course. Delegates will be introduced to the Kongsberg Maritime HUGIN AUV, together with practical mission planning, pipeline tracking, mission replay and post mission analysis (PMA).	1	9



KONGSBERG MARITIME TRAINING CENTRES

KONGSBERG is an international corporation with strong Norwegian roots. Collaboration with our customers, partners and suppliers, and a commitment to understand the context where our technology is applied, are important driving forces behind the corporation's international development and growth.





GLOBAL AND LOCAL SUPPORT

WE PROVIDE GLOBAL SUPPORT FROM LOCAL SERVICE AND SUPPORT FACILITIES AT STRATEGIC LOCATIONS WORLD WIDE. SERVICE AND SUPPORT WORK IS CARRIED OUT UNDER THE SUPERVISION OF YOUR PERSONAL ACCOUNT MANAGER, WHO WILL ENSURE THAT YOU RECEIVE HIGH-QUALITY SERVICE AND SUPPORT WHERE AND WHEN YOU NEED IT.

YOUR ACCOUNT MANAGER WILL ENSURE CONTINUITY AND WORK CLOSELY WITH YOUR PERSONNEL TO IMPROVE AND OPTIMISE SYSTEM AVAILABILITY AND PERFORMANCE. UNDER THE DIRECTION OF YOUR ACCOUNT MANAGER, AND WITH A LOCAL INVENTORY OF SPARE PARTS, OUR WELLQUALIFIED FIELD SERVICE ENGINEERS WILL BE ABLE TO HELP YOU QUICKLY AND EFFECTIVELY.

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