



# GAC Training & Service Solutions

powered by **National Maritime College of Ireland (NMCI)**

## **Simulation training, port research & design**

Overlooking beautiful Cork Harbour is the \$100 million National Maritime College of Ireland (NMCI) – one of the world’s most advanced maritime academic facilities and home to one of the largest suites of marine simulators.

Just a 45-minute flight from London Heathrow Airport, it is perfectly located to meet the global shipping community’s growing training needs.



Delivering your strategy.





GAC Training & Service Solutions (GTSS) combines the NMCI's ultramodern facilities with GAC's global reach and over sixty years of experience to provide cost saving, innovative and customised training solutions for seafarers as well as shipping and commodity operations personnel.



#### Experts in maritime training

GTSS supplies a broad range of educational services for the maritime industry, catering for both the merchant navy and the non-military training needs of the Navy service. The NMCI campus is equipped and designed to train navigation and engineering personnel who work on board all types of vessels.

#### Navigation & communication simulators

The simulators feature multiple instructor stations where exercises are controlled and monitored. Individual performances may also be recorded for later analysis. Interaction between tugs and mooring lines can be deployed with simulator operations. What's more, faults can be introduced into the scenarios to increase reaction. The facility also simulates environmental conditions (wind, visibility, weather, tide, current, wind and swell waves) which can be infinitely varied to provide realistic conditions for the study of vessel berthing.

Various ship models can be used in different geographic locations and underwater topography with varying environmental conditions to create different and challenging scenarios in panoramic 360° and 270° bridges. Engine models can be connected to ships bridge simulators to simulate realistic onboard operating conditions.

- 360° full-mission bridge simulator with enhanced control hardware for azimuthing propulsion
- 270° full-mission bridge simulator
- Three auxiliary 150° bridge simulators, two of which have enhanced control hardware for azimuthing propulsion
- Two GMDSS simulator rooms
- Vessel Traffic System simulator with up to three operator positions
- Desktop bridge simulators for ECDIS, Radar/ARPA and basic navigation training



**Educational network**

The NMCI is part of Munster Technological University, a multi-campus technological university with six campuses across the South-West region in Cork and Kerry, and a student body of 18,000.

# An unrivalled suite of marine engineering facilities



## State-of-the-art engineering simulators

#### Engine room

The marine engineering facilities at NMCI include a full-sized working ship's engine room, a 1140 kW MaK 6M20 medium speed diesel engine, two Caterpillar alternators (i) 3406 in line (ii) 3408V-type, a fully instrumented ship's engine control room and welding, electrical and mechanical engineering workshops. There is also a full mission engine room simulator with low and high-speed diesel engine models and 20 student workstations for engine room systems simulations.

#### Liquid cargo handling simulators

The NMCI has chemical carrier, product carrier, VLCC double hull, LNG and LPG cargo handling simulators (CHS), all meeting the requirements of STCW section A-II/1, A-II/2, A-II/3, A-III/1, A-III/2 and A-V/1 which state

the requirements for planning and ensuring safe loading, care during the voyage and unloading of cargoes, as well as maintaining seaworthiness of the ship regarding trim, stability and stress. The simulators are designed to meet the demands for basic training of cadets as well as advanced training of deck officers in the understanding and handling of the ship loading and discharging equipment.

The liquid CHS models are based on real ships and the liquid cargo handling and damage control simulators are available for 10 students per workstation. The instructor station includes facilities to build scenarios, debrief, evaluate and replay exercises, and debriefing equipment includes large screen projectors.



# A range of courses to meet your maritime training needs



For a detailed quotation for any of these or other GTSS courses, just send us the details (numbers, days, frequency, time) of your simulation study or course requirements.

Prospective clients may also visit the NMCI to view our facilities in person, subject to simulator availability.

## Replenishment at Sea (RAS)

This general outline of a course covering all aspects of alongside operations can be adapted to individual customer requirements. Company-specific in-house procedures can be incorporated into the delivery. The course can also cover key areas of RAS operations, such as alongside operations, maintenance towing, line astern refuelling and emergency scenarios such as breakdown towing. A variety of environmental conditions are used in simulations to give participants a realistic training scenario.

The course is designed for Masters and Chief Officers of both support and seismic vessels. The number of participants on each course depends on its duration, to ensure that all participants gain valuable hands-on experience, including a deeper understanding of:

- safe manoeuvring using ship's engines and helm
- natural forces (wind, current, interaction)

and their effect on the behaviour of ships involved in RAS operations

- the importance of assessment and planning and the need for alternative plans
- safe and effective operation management using bridge resource management tools
- efficient bridge procedure management during RAS operations

## Commercial course on Ship-to-Ship (STS) transfers

Mooring masters, senior masters, superintendents and coordinating shore personnel involved in Ship-to-Ship (STS) transfers must be trained in the latest working procedures to ensure safe, efficient and environmentally-sound operations.

GTSS has created a dedicated STS course to meet the demand for up-to-date hands-on training, covering every aspect of the operation and outlining the roles, responsibilities and liabilities of all participating parties – including the mooring master, vessel owner, shipping agent, port and the Oil Companies International Marine Forum (OCIMF). The course provides a comprehensive overview of STS operations and includes simulator experience to give a sense of how operations are performed with real-time scenarios of hazards ship personnel may encounter during an STS transfer.

The STS commercial course is tailor-made for groups and companies with specific STS training needs and can be held over one or two days, depending on how much simulator time is required.

### Key elements:

- Why Ship-to-Ship Transfer (STS) is performed
- Locations where STS can be performed
- The supply vessel and the receiving vessel
- OCIMF
- The role of the shipping agent
- Fenders and other required equipment
- Authorisation to perform STS
- Costs, including Worldscales
- The role of the Mooring Master
- Cargo quality inspection & measurement
- Bills of Lading

## Electronic Chart Display and Information System (ECDIS) type specific

Our two-day Kongsberg type-specific training course provides candidates with the knowledge required to safely operate a Kongsberg specific ECDIS for watch-keeping in accordance with the regulations

of Standards of Training, Certification & Watchkeeping (STCW) and International Safety Management (ISM).

## Pilot training – basic

Pilot training is a specialised course that GTSS has created to provide hands-on ship handling practice in our full mission 360-degree simulator.

### Key elements:

- passage planning
- collision regulations
- master/pilot interchange etc
- ship & propulsion types

## Port research & development

Our in-house modelling capabilities enable us to facilitate manoeuvring studies, based on hydrodynamically accurate data, for any existing port, any proposed port development – large or small – as well as for any proposed new port. In addition to the port database, hydrodynamic models can also be created for existing and proposed ships. These in-house capabilities give us full control of the timescale from initial enquiry to start of the studies, enabling us to incorporate changes during the study, if and when required.

Manoeuvring studies are accommodated in the 360° visual, full mission, bridge simulator. Environmental variables such as wind, current, time of day, etc can be manipulated infinitely and set to operate dynamically during the simulation to create a 'real world' environment.

## Visual & hydrodynamic modelling services

Whether you require area databases or hydrodynamic models to supplement your use of our simulators, or are looking for a source of time/cost effective supply for your own simulation suite (either Kongsberg or Wartsila/Transas), our in-house capabilities can deliver.

# A safety culture for your business



## About GAC Training & Service Solutions

GTSS is part of the GAC Group, a global provider of integrated shipping, logistics and marine services. Emphasising world-class performance, a long-term approach, innovation, ethics and a strong human touch, GAC delivers a flexible and value-adding portfolio to help customers achieve their strategic goals. Established since 1956, the privately-owned Group employs over 7,500 people in more than 300 offices worldwide.

In partnership with the National Maritime College of Ireland, we provide expert delivery of a portfolio of training courses for both seafarers and shore-based shipping personnel.

## The GAC advantage

- World-class professional training available worldwide, delivered by industry experts
- Virtual experiences with R2S digital imagery
- Onsite, offsite or blended learning suited to clients' needs



Compliant with GAC Group's most stringent Health, Safety, Security & Environment policies.

## GAC Training & Service Solutions

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Delivering your strategy.

