

Carnival Corporation's Arison Maritime Center, Home of the CSMART Academy

Carnival Corporation, the world's largest cruise company, owns and operates the Arison Maritime Center, home of the Center for Simulator Maritime Training Academy (CSMART Academy). Originally opened in July 2009 and located in Almere, Netherlands, outside Amsterdam, the CSMART Academy established itself from the start as a world-class training center for safety and excellence in maritime operations. It features the most advanced simulator equipment, technology, instructional tools and curriculum, which provide participants with a superior maritime training experience that emphasizes team-based critical thinking, problem solving and decision-making.

The CSMART Academy sets a high standard for progressive training protocols for bridge and engineering officers with one of the world's most experienced maritime training faculties. The staff and faculty have helped pioneer ground-breaking advances – including Carnival Corporation's function- and team-based bridge and engineering management system, an approach never before implemented on such a large scale.

Building on the CSMART Academy's legacy of training excellence, in July 2016 Carnival Corporation expanded its training operations with the opening of the Arison Maritime Center, a state-of-the-art campus in Almere featuring the CSMART Academy and a 176-room hotel with a full-service restaurant to accommodate officers participating in training. The center is named to honor the legacy of the Arison family, which founded and grew Carnival Corporation into the world's largest cruise company.

The centerpiece of the Arison Maritime Center is the CSMART Academy, which features the most advanced bridge and engine room simulator technology and equipment available – with enough space to complete rigorous annual professional training for about 7,000 deck and engineering officers. With its scale, technology, equipment and innovative training approach, the facility is the most progressive maritime center of its kind in the world for training and continually improving industry-wide safety and excellence.

The CSMART Academy features four full-mission bridge simulators including bridge wings, four full-mission engine room simulators, eight smaller part-task bridge simulators, 16 part-task engine room simulators and a hotel for trainees. At nearly 110,000 square feet, the new CSMART Academy more than doubles the capacity of the original center, enabling Carnival Corporation to train more officers more often, spend more time training on simulators and provide more real-time feedback to officers.

BRIDGE, ENGINE ROOM SIMULATORS PROVIDE AUTHENTIC SCENARIOS FOR INTENSIVE TRAINING

The CSMART Academy's full-mission bridge simulators underwent more than 15 months of intensive development to ensure the visuals and operational characteristics closely model today's technologically advanced cruise ships, providing an authentic shipboard experience for participants to build skills in navigating complex control and automation systems. The simulators can virtually transport officers to 60 ports around the world to gain real-world education and training in the intricacies and challenges of

navigation. The simulators provide a wide array of scenarios and sea conditions including ship traffic, aircraft interference, weather events and wildlife circumvention.

As well as providing education to the company's bridge officers, the CSMART Academy provides engineers with advanced training utilizing the latest in visual simulation technology. The full-mission engine control room simulators facilitate exercises in all phases of engine control room and engine room operation. They also feature four ground-breaking interactive multimodal machinery outstations that represent the systems and equipment critical to engine room operations.

Like the bridge simulators, the full-mission engine room simulators are based on actual ship layouts and systems, scaled to size and representing a diesel electric engine room. These simulators allow engineers to navigate the actual engine room of a ship to operate and repair equipment, with the genuine sights, sounds and even temperatures found in a cruise ship's engine room.

CSMART Academy also features 15 large instructional classrooms with video capabilities to review and discuss exercises conducted in the simulators. The bridge and engineering officers study an intensive 40-hour course, accredited by the United Kingdom's Maritime & Coastguard Agency and the Netherlands' Shipping Inspectorate. To make sure the officers reach the training goals, there is an assessment at the end of each day and at the end of the course.

The CSMART Academy employs a seasoned and diverse staff of professionals as instructors, with an average of 25 years of experience in the shipping and maritime industries. Faculty members have served as officers, ship captains and pilots on ships as well as directors and consultants, and many have served as lecturers at major European maritime academies.

INDUSTRY'S FIRST PROFICIENCY TRAINING AND ASSESSMENT PROGRAM

In keeping with the faculty team's leadership, the Arison Maritime Center provides the additional space needed to implement the industry's first Proficiency Training and Assessment (PTA) program. The weeklong course is based on a specially developed curriculum that annually refreshes and then evaluates each of the maritime officers from each of the corporation's nine cruise line brands.

Designed by the CSMART Academy faculty to meet the complex operations of bridges and engine control rooms/engine rooms on today's modern cruise ships, the PTA program combines recurrent training with measurable assurance that the officers have achieved and are maintaining the training standards that their responsibilities require.

Completing the PTA every year is compulsory as part of the company's Continuous Professional Development matrix, exceeding regulatory requirements and further establishing Carnival Corporation and its nine brands as leaders in safety and excellence. The program is ultimately designed to ensure that officers are kept well-informed of emerging changes to best practices, equipment and regulations while they are also assessed on the knowledge required for the performance of their duties.

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