

# ARISON MARITIME CENTER

THE WORLD'S MOST PROGRESSIVE MARITIME CENTER OF ITS KIND



**Carnival Corporation & plc's employees are the heart of the company's operation.** We have training centers located in a number of geographical locations worldwide, and they are an essential component of our training strategy. One of these training centers is the Arison Maritime Center, the new home of the Center for Simulator Maritime Training Academy, also known as the CSMART Academy. This center opened in 2016 and honors the legacy of the Arison family, who founded and grew Carnival Corporation & plc into the world's largest cruise company.

The new 75 million euro facility is located in the Netherlands. The centerpiece of the seven acre campus is a new and more than two-times-larger CSMART Academy that began operations in 2009. With its new scale, technology and equipment, and innovative training approach, the new facility is the most progressive maritime center of its kind in the world for training and continually improving industry-wide safety and excellence.



## THE NEW CSMART ACADEMY

The new CSMART Academy features state-of-the-art equipment and instructional tools to provide deck, engineering and environmental officers with a superior maritime training experience that will foster critical thinking, problem solving, decision making and confidence. The CSMART Academy offers four full-mission bridge simulators, eight part-task bridge simulators, four full-mission engine rooms with 12 virtual engine rooms and 24 part-task engine simulators. Additionally, there are 16 full-service instructional classrooms and eight de-briefing rooms of various sizes. The simulators provide a wide array of programming and simulated exercises for various maritime scenarios. Next to 12 cruise ship models, the simulators contain 60 sailing areas and ports around the world, including Los Angeles, New York, Miami, Singapore, Stockholm and Glacier Bay, Alaska that are specific for our cruise vessels.

## BRIDGE SIMULATORS

The CSMART Academy's new full-mission bridge simulators are modeled after the newly designed bridge of the *ms Koningsdam* ship from our Holland America Line brand, which began sailing in 2016. The 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.

## ENGINE ROOM SIMULATORS

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. The full-mission engine room simulators are based on actual ship layouts and systems, scaled to size and representing a diesel electric engine room comprising six diesel generators and two propulsion motors, along with ancillary and auxiliary equipment. These simulators allow trainees to navigate their way around 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. Engineering Officers also work on the all-important communications with the Chief Engineer overseeing the team in the engine control room.

## PROFICIENCY TRAINING AND ASSESSMENT PROGRAM

The new Arison Maritime Center provides the additional space needed to implement the industry's first Proficiency Training and Assessment (PTA) program. Launched in 2017, the weeklong program is based on a specially developed curriculum that annually refreshes and then evaluates each of the maritime officers from each of our brands.

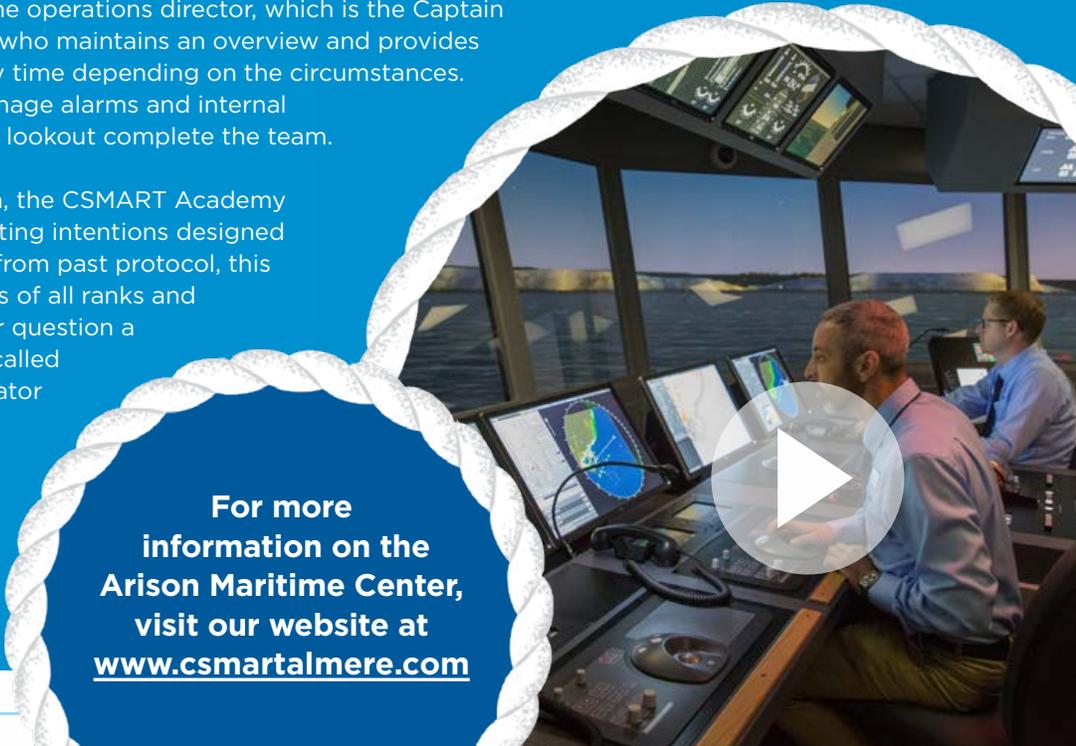
The PTA program is a new concept in the cruise industry. In other safety-critical industries such as aviation and nuclear power, similar programs have been in place for some time. The program is ultimately designed to ensure that officers are kept well-informed of emerging changes to best practices, equipment and regulations while they are also assessed on the knowledge required for the performance of their duties.

## PIONEERING THE TEAM-BASED APPROACH

Referred to as function-based bridge and engine room management, the approach is based on roles rather than ranks, with the officers operating as a coordinated team, with each officer assigned a role for specific functions. The system builds on the airline industry model by using navigator and co-navigator roles. The navigator, who is steering the ship, is required to verbally communicate intentions to the co-navigator, who has prior experience in the navigator role and whose tasks include monitoring, cross-checking and supporting the navigator.

As needed, they are supported by the operations director, which is the Captain or his or her highest ranking officer, who maintains an overview and provides guidance and who can step in at any time depending on the circumstances. There is also an administrator to manage alarms and internal communications. A helmsman and a lookout complete the team.

As part of the team-based approach, the CSMART Academy introduced new ways of communicating intentions designed to reduce confusion. In a departure from past protocol, this includes encouraging team members of all ranks and seniority to speak up to challenge or question a decision. It also includes a concept called "Thinking Aloud," used by the navigator to verbalize intentions, reasons and expected outcomes.



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information on the  
Arison Maritime Center,  
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