



## EXPERIENTIAL LEARNING ON ERMA FIRST BALLAST WATER TREATMENT SYSTEM

Right in the heart of Metro Manila, Philippines

### About PHILCAMSAT

The Philippine Center for Advanced Maritime Simulation and Training, Inc. (PHILCAMSAT) was established in 1992. It is the first maritime training center in the Philippines to be certified by Det Norske Veritas (DNV) for Maritime Training, Maritime Simulator Training Services, and ISO 9001:2015.

PHILCAMSAT is also the only institution in Asia certified by the Belgian Maritime Inspectorate (BMI) and the United Kingdom Merchant Navy Training Board (UKMNTB), setting a global standard for training in the region.



### About ERMA FIRST

Founded in 2009 and headquartered in Greece, ERMA FIRST is one of the top manufacturers of ballast water treatment systems (BWTS). The ERMA FIRST FIT BWTS is an advanced modular system that can be installed on both newbuilds and as a retrofit. Covering an extensive capacity range from 50 to 3600m<sup>3</sup>/hr and holding USCG Type Approval, ERMA FIRST FIT BWTS is an ideal solution for all types of ships. ERMA FIRST provides sales, maintenance and training services to its clients via a global network of offices in 46 countries.

ERMA FIRST won the Lloyd's List Technical Achievement Award (2013), the GREEN4SEA Technology Award (2016) and the GREEN4SEA Sustainability Award (2023).





## USING A STATE-OF-THE-ART BWTS SYSTEM AT PHILCAMSAT

Theoretical knowledge build-up • Wet system hands-on training • High-end training results

### ► THE THEORETICAL PART

#### **Ballast Water Management - Legislation**

The Legislation for Ballast Water Management (IMO Ballast Water Management Convention, USCG Ballast water program, EPA compliance) requires ships to properly manage their Ballast Water in order to prevent the spread of invasive species, as well as potentially harmful pathogens. This module covers Discharge standards, creating a Ballast Water Management plan, contingency measures, updating the ballast water record book, and the international ballast water management certificate.

#### **Ballast Water Management - Operation**

Understanding how the ERMA FIRST FIT BWTS system operates, the control philosophy, component functions and how to prepare the vessel for ballast and deballast operations is of the utmost importance to ensure crew can operate the system properly and avoid any potential commercial or operational impact.

#### **Ballast Water Treatment - Maintenance & Troubleshooting**

ERMA FIRST FIT BWTS consists of various components that should be periodically maintained, in order for the system to operate without any problems. Even if the BWTS is periodically maintained, it could still malfunction. Crew need to be able to understand what the alarms mean in such an event and know how to fix the problem to resume system operations and limit the impact on wider vessel operations.

#### **Ballast Water Management - Compliance, Monitoring & Enforcement**

Ships' compliance with the IMO Ballast Water Management Convention, USCG Ballast water program and EPA's VGP is essential to avoid sanctions being imposed on a vessel. Compliance testing requirements, indicative sampling, detailed sample analysis, PSC inspection and preparation of the designated ballast water officer and crew will be discussed in this module.

### ► THE PRACTICAL PART

#### **ERMA FIRST FIT BWTS - Operation, Troubleshooting, Maintenance**

Hands-on training on an ERMA FIRST FIT BWTS and ballast tank arrangement is conducted using a wet system simulator. Trainees will be asked to demonstrate and perform ballast and de-ballasting operations, to identify and rectify active alarms and to demonstrate competence in system maintenance.



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