

# PORT BASED BALLAST WATER MANAGEMENT SYSTEM

- **CONTINGENCY OR SCHEDULED SERVICE FOR VESSELS**
- **CONTAINERIZED UNIT - EASY TO MOVE**
- **ONE-PASS TREATMENT**

## BACKGROUND

The international convention for control and management of ships' ballast water and sediments, 2004 (BWM Convention), entered into force globally on 8th September 2017.

The aim of the convention is to protect the global marine ecosystems, as untreated ballast water carried from one destination to another could potentially introduce new invasive marine species.

Under the convention, all ships in international traffic are required to manage their ballast water and sediments to a certain standard, according to a ship-specific ballast water management plan. By the 8th September 2024 all ships shall meet the ballast water treatment standard, D2.

## INNOVATIVE APPROACH

Bawat's Mobile One-Pass BWMS allows treatment in ports, terminals, and shipyards if the vessel's BWMS malfunctions or no onboard BWMS is installed.

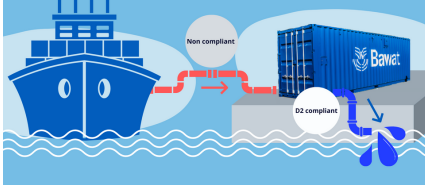
The Bawat BWMS provides the ports, terminals and yards with the ability to offer the vessels a unique contingency or scheduled service, so the vessels are not operationally delayed when they have ballast water to be treated.

All components of the BWMS are installed in a standard high cube container.

## THE BAWAT TECHNOLOGY

The technology used is pasteurization which is a well-known and very efficient process to kill bacteria and plankton. The pasteurization process is a combination of heat and time. Applied on ballast water, the water only needs one pass through the Bawat BWMS. In this process all foreign species are killed and the ballast water is fully D2 compliant in accordance to the IMO criteria for ballast water discharge.

Prior to discharge the excess heat from the pasteurized water is re-used to heat the incoming ballast water and discharged at sea level temperature.



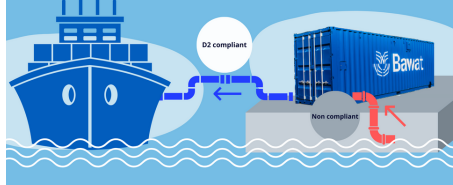
## HOW IT WORKS

Bawat's mobile system is easily connected to the vessel's ballast water piping. The ballast water is pumped through the system by use of the ship's ballast pump or via a booster pump. When the ballast water has passed the Bawat system, the ballast water is in full compliance with the BWM convention and can be discharged in the harbor.

Vessels can also be ballasted with treated water if needed, by taking water from the harbor and pump it through the Bawat BWMS and into the ballast tanks of the vessel. This is only possible because of the one-pass treatment technology.

## THE BENEFITS:

- No filters, meaning no clogging and filter cake
- One-pass system
- No holding time
- No UV bulbs or chemicals
- Independent of water turbidity, salinity, and temperature



- The system is easy to mobilize, connect, operate and simple to maintain
- Composed of proven standard marine components only

## ABOUT BAWAT

Bawat was founded in 2011 and is rooted in the tradition of Danish maritime innovation and offers a cost-effective, environmentally-friendly, approach to ballast water management. Bawat has a deep maritime insight and expertise and an extensive network in the sector.

Bawat is based out of our head office in Copenhagen, Denmark and work closely with local agents and partners covering most of the world to service local needs and expectations.

Bawat's commitment is to make a difference concerning the ecological well-being of the world's oceans by introducing innovative sustainable technology for the maritime industry.

