



## New system cleans ballast water at a lower price

**The Danish company, Bawat A/S has developed a system to clean ballast water while the ship is at sea. The system is expected to cost about half of the price of existing systems.**

A new convention from the UN International Maritime Organization, IMO, is expected to enter into force in 2014. The Convention requires ships to install systems which can clean ballast water for invasive plant and animal species.

Thus, the system developed by Bawat A/S shows great potential, and the system is currently being tested on board a ship as part of a type-approval by the Danish authorities (the Danish Nature Agency and the Danish Maritime Authority). Last year, the basic function was tested at large scale, supported by the Danish Environmental Protection Agency (Danish EPA) under the Ministry of Environment.

The first of its kind, the Bawat System cleans ballast water in the tanks themselves while the ship is underway from port to port - a method which saves both energy and money:

"The system takes up less space and is more flexible because you have more time while navigating, than when the ship is in port, where the water will typically need to be cleaned within 24 hours. An investment in the Bawat System is 25-50% less than in competing systems," said Jan S. Hummer, founder of Bawat A/S.

### Effective cleaning at sea

The Bawat System was fully developed last year in a multi-purpose project.

Firstly, the existing Bawat technology was supplemented by yet another solution to comply with the IMO requirements for cleaning ballast water.

### Fact box

The Bawat System was tested in a project which is part of efforts by the Danish Ministry of the Environment to promote eco-efficient technology. The system is one of the initiatives in the ballast water partnership being run by the Danish Nature Agency, the Danish Maritime

Secondly, the extent to which the Bawat System works in different types of ballast tanks was determined, as well as whether the system effectively cleans all the water in the tank. Finally, the project examined whether the system could be upgraded from a trial tank to the actual size of ballast tanks on ships.

The results were all positive. Bawat A/S found a solution to clean ballast water partly by physically removing oxygen from the water, and partly through pasteurization. Tests showed that the method is effective and cleans all the water in the tank, regardless of the design of the ballast tank. The tests also confirmed that the solution works on a large scale.

### Great potential

In shipping circles, the market for systems to clean ballast water is estimated to be at least DKK 60 bn. in the period up until 2020, when all the IMO requirements enter into force.

Today there are about 30 systems type-approved to clean ballast water in different types of ships, but the Bawat System is the first to exploit the advantages of cleaning ballast water directly in the tanks, whilst at sea. In addition, the equipment used in the Bawat System is less costly than the hardware used in other systems.

For the same reason, Jan S. Hummer sees great potential in the new product:

"A need has been created, and the system itself, as well as the operation of the system, is less costly than competitive systems. I believe the system will be type-approved by the end of this year and will be marketed immediately after".

Authority and the Danish Shipowners' Association. The partnership organises a number of events focusing on implementation of the IMO Ballast Water Convention in Denmark. Read more at [www.ecoinnovation.dk](http://www.ecoinnovation.dk)