

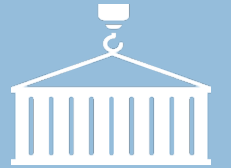


BWM CONTINGENCY MEASURES AND PRACTICE AT PORT

港口压载水管理应急措施的实施和实践



PORT SOLUTION
港口解决方案



Sino-Danish
Workshop on
Maritime Industry
8 May 2018
中丹海事对话
2018年5月8日

Panel 1: System
installation and
operation
系统安装与运营

WHAT TO DO IF ONBOARD BWMS HAS A FAILURE OR NOT INSTALLED?

如果船载压载水处理装置故障或者未安装，怎么办？



- Discharge anyway?
- 卸载压载水？
- No, ballast water cannot legally be discharged when a vessel has a failure in it's ballast water treatment system
- 不行，当船舶压载水处理系统故障时，压载水不能合法排放。
- Discharge to permanent reception facility?
- 卸载到岸上固定设施？
- If available yes (not the case as of today) - probably expensive and not flexible on location
- 如果岸上有设备的话可以(目前并没有)-设备昂贵并且位置固定
- Alternative: Operators in Ports can have the BAWAT Port Solution available in order to provide assistance and the required redundancy for ship owners to stay compliant avoiding costly delays.
- 备选方案：港口运营商可以为船东提供BAWAT港口解决方案，不仅可以让船东遵守法规还能降低昂贵的船期延误。

BAWAT PORT SOLUTION

BAWAT 港口解决方案



- The BAWAT Port Solution is fitted in a standard-sized container.
- BAWAT港口解决方案安装在一个标准集装箱里。
- It can be transported like any other shipping container and be put on any floating vessel, truck or simply on land. This ensures maximum flexibility!
- 它可以和其他任何集装箱一样放在任何船舶、拖车上运输，或者就放在陆地上。这确保了灵活性！
- The BAWAT Port Solution can be used as a mobile contingency system and with an optional built-in generator not depending on power supplies or other infrastructure
- BAWAT港口解决方案可以做为一个移动的应急系统和一个可选的内置发电机，而不用借助电力供应和其他基础设施。

NEW BUSINESS OPPORTUNITIES

新的商业机会

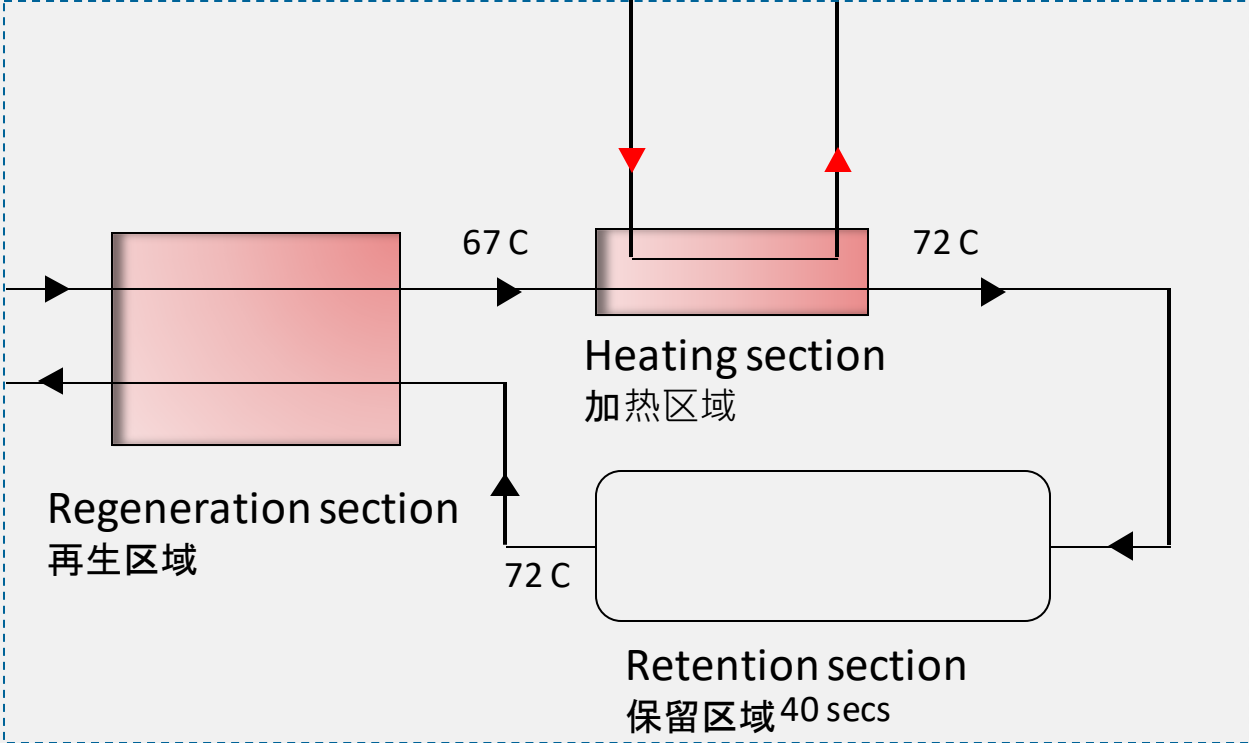


The BAWAT Port Solution offers new business opportunities and value added services for ports, terminals, shipyards and service providers, allowing them to: BAWAT港口解决方案为港口、码头、造船厂和服务提供商提供了新的商业机会和增值服务，允许他们：

- service those vessels that are either too old to take retrofitted systems, or else do not require the capability on a frequent basis or
- 服务那些要么太旧而不需要翻新系统的船舶，要么不需要频繁地使用装卸压载水的船舶。
- service ports and shipyards – (commodification of ballast water) - similar to portable water
- 服务于港口和船坞-(压载水的商品化)-类似于便携式水。

BAWAT PASTEURIZATION TECHNOLOGY

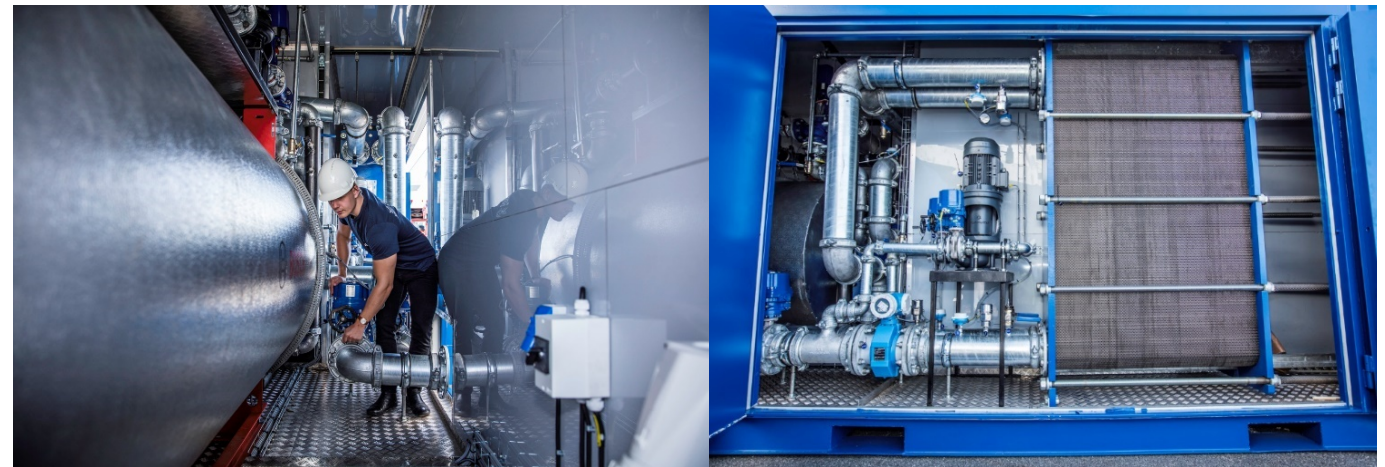
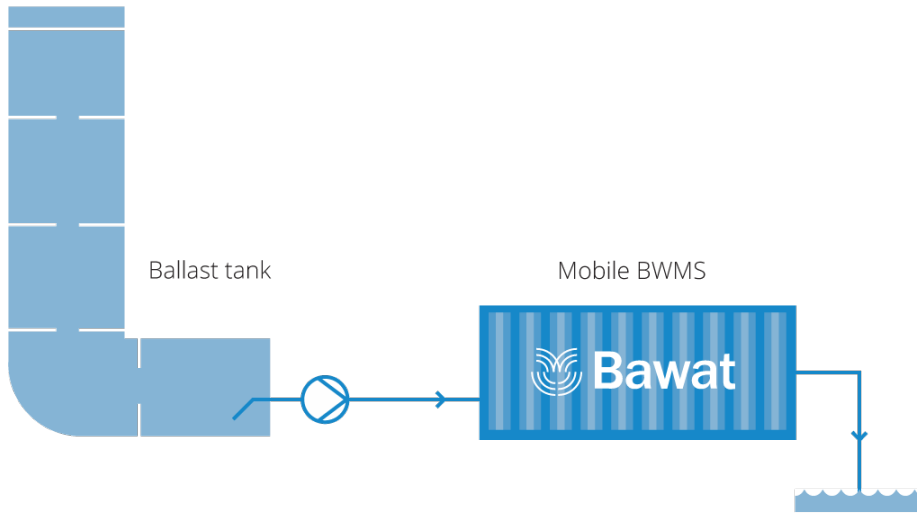
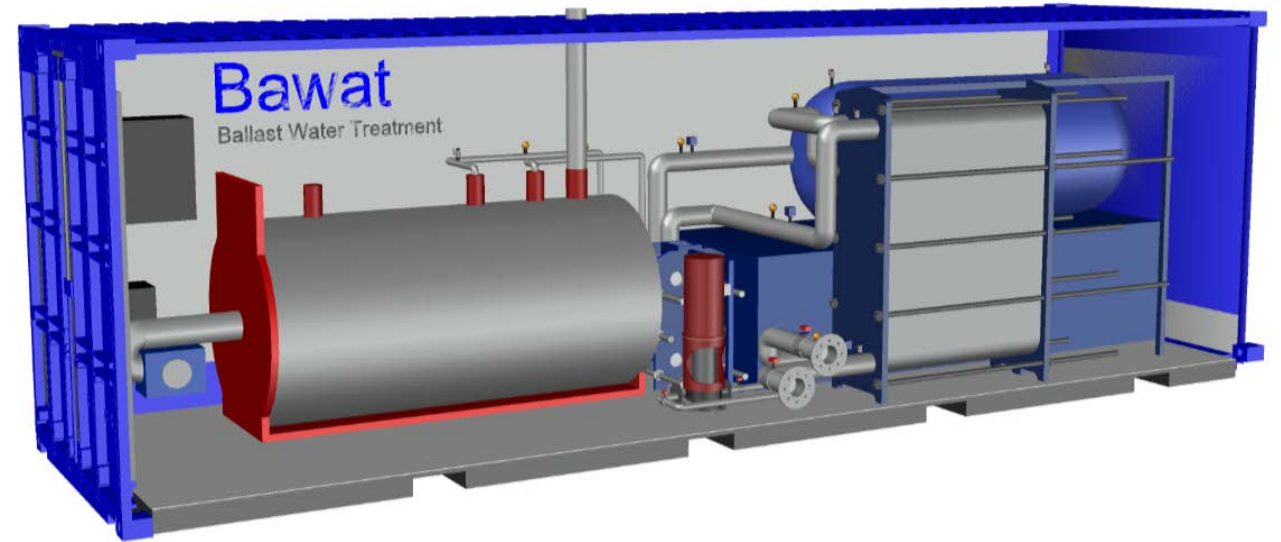
BAWAT巴氏灭菌技术



BAWAT PORT SOLUTION

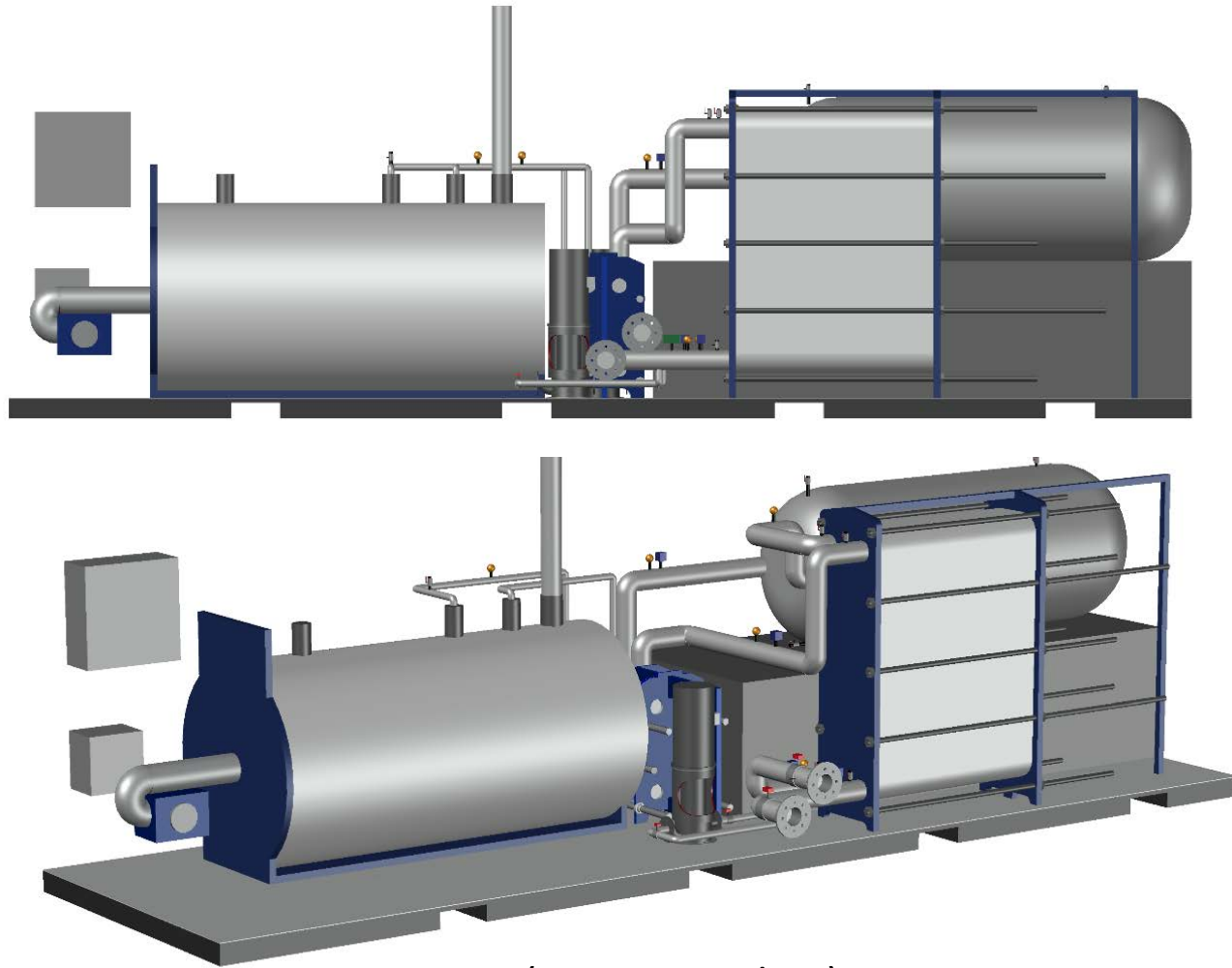
BAWAT港口解决方案

- The system treats ballast water in a one-step process.
- 该系统对压载水进行一步处理。
- There is NO required holding time - this means, whatever ballast water passes through the system it can be discharged to sea in accordance to the IMO D-2 discharge criteria.
- 不需要有等待时间-这意味着，压舱水通过系统过滤后，它可以按照国际海事组织D-2排放标准直接排入大海。



SYSTEM LAYOUT AND CAPACITY

系统的布局和容量



(Patent pending)
(专利申请中)

System layout and capacity is flexible and scalable!

系统的布局和容量是灵活和可变的！

Example

例子

The treatment system can be fitted into a 30 foot high cube shipping container

该处理系统可以安装在一个30英尺的集装箱里

Size: L x W x H: 9.14m x 2.44m x 2.93m.

尺寸: 长x宽x高: 9.14米 x 2.44米 x 2.93米

Weight incl. Container: 13200 kg

含集装箱箱皮的重量: 13200公斤

Capacity: 0 - 200 m³/h

容量: 0-200m³/h

A 300 m³/h would be fitted into a 40 foot high cube container

一个300 m³/h的处理装置可以安装在一个40英尺集装箱里

IN-HOUSE TECHNOLOGY COMBINED WITH OFF-THE-SHELF COMPONENTS 内部技术与现有的组件相结合。

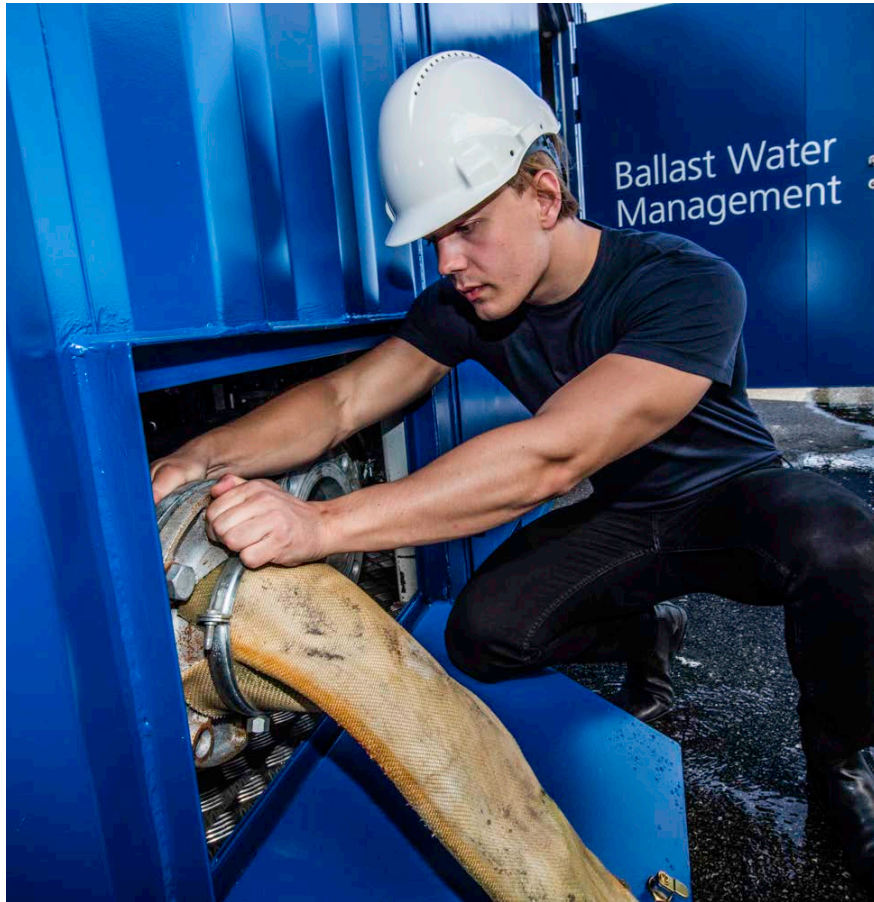


Main components are off-the shelf, high-end components ensuring easy operation and routine maintenance

主要部件放在架子上，高端部件确保操作简单，便于日常维护。

HOSE CONNECTION AND SYSTEM OPERATION

软管连接和操作系统



- Hose connection and system operation is easy!
- 软管连接和操作系统简单！
- Based on the well-known pasteurization principle the innovative treatment approach is monitored, controlled and documented within the Bawat Control Monitoring Unit (CMU)
- 基于著名的巴氏杀菌原理，在 BAWAT 控制监测单元(CMU)中对创新的过滤方法进行监控、控制和记录。
- Tested (IMO certification ongoing) to work with fresh, brackish and salt water – no limitations!
- 在淡水、咸水和盐水环境下测试-都没有问题!(IMO认证正在进行)

BAWAT PORT SOLUTION – FAQ

BAWAT港口解决方案-常见问题

What size of system fits a 40' container?

什么尺寸的系统能装在40英尺集装箱内？

300 m³/h treatment system. If more capacity is needed, multiple containers can be added
300 m³/h的处理系统。如果需要更大的容量，可以将多个集装箱连接。

How is the hose connected to the ship?

软管是如何连接到船上的？

- Via manifold on vessel main deck
- 通过船舶主甲板上的管道
- With vacuum connection to the ballast water overboard line
- 用真空装置连接到压载水舱的干舷外
- Open the WBT manhole cover/direct suction from tank (pump required)
- 打开WBT人孔盖/从压载水舱直接吸入(需用泵)

Can the system also be used to supply treated ballast water?

该系统是否也可以用来供应处理过的压舱水？

For sure yes!

当然可以

How to comply with the Ballast Water Management Convention while in dock?

在船坞时如何遵守压载水管理公约？

A vessel in dock may not be able to use its onboard installed treatment system. Ballast water drained untreated into and out from the dock will then have to be treated or collected as waste. The BAWAT Port Solution can support this process.

船坞里的船舶可能无法使用船上安装的处理系统。将未经处理的压舱水从码头排放出来，然后将其作为废物处理或收集。BAWAT港口解决方案可以支持这个过程。



TECHNOLOGY VALIDATED
BY HARD TO ACHIEVE EU
INNOVATION FUNDING

努力争取欧盟创新融资的技术验证

Bawat is proud to have received funding from the European Union's Horizon 2020 research and innovation program under grant agreement N°756288.

BAWAT自豪地收到从欧盟的地平线2020研究和创新项目N 756288⁹赠款协议下的资金支持



NO UV



NO CHEMICALS



NO FILTERS

 **Bawat**

THANK YOU!
谢谢！

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