

Ballast Water Management An Operator Perspective: Technical Issues, Hurdles and Costs

Marshall Islands Registry April 1st 2014

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Who are we?



World's largest outsourced ship manager, part of V.Group, a major provider of a wide range of marine services which include:

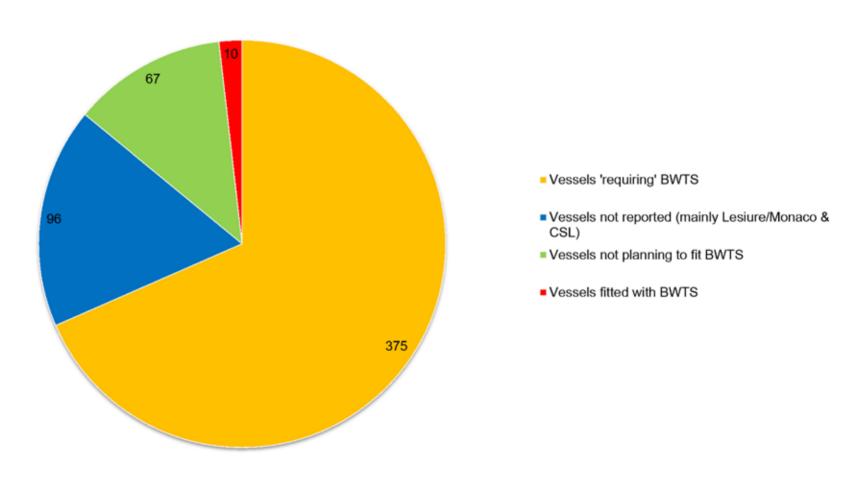
- Technical management and support to over 1,000 Vessels
- Personnel recruitment, management and training
- Marine services and technical support
- Ship supply chain management
- Commercial and financial services

Vessel Types in Full Technical Management (Spring 2014) 600+			
Tanker & VLCC	129	Self Unloading Vessel	34
Bulk Carrier	162	Cruise Vessel	26
Chemical Tanker	85	Container Vessel	50
Yacht	38	Gas Carrier	21
Product Tanker	15	Other	58

How ready are we?



VGroup SMD Technically Managed Fleet - (548) Sept 2013



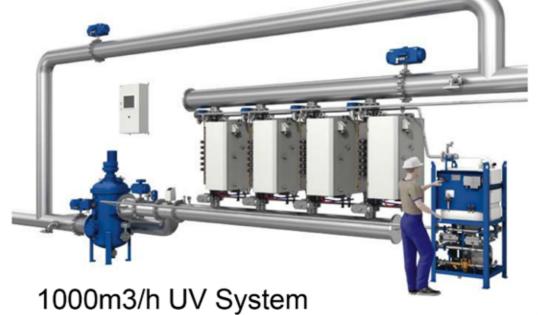
Technical Issues: Where do we stand on Ballast Water technology



We recognise any Type Approved Ballast Water Treatment System (BWTS) as a potential solution, and at a high level categorize them as follows:

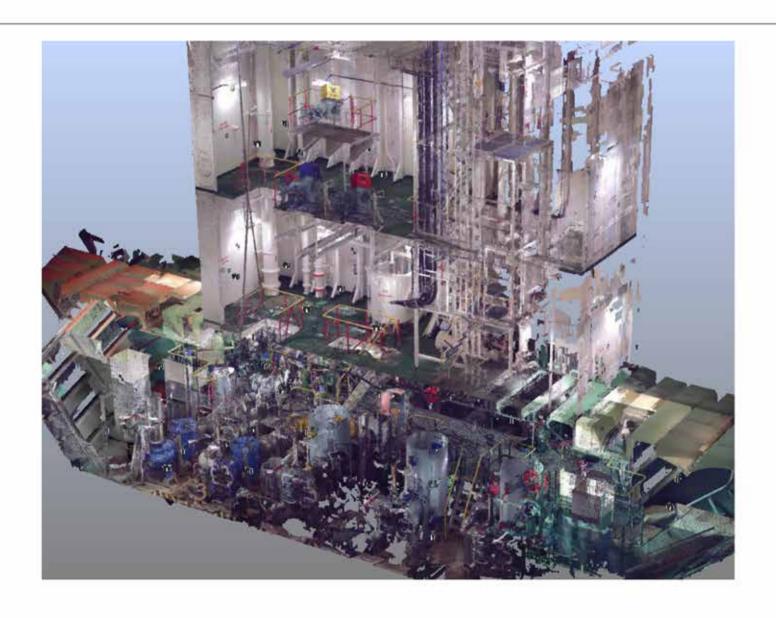
- UV, neat and tidy, good for smaller systems, higher power
- Chemical, more complex, great bug killer, lower power, good for larger systems

In-tank de-oxygenation, a solution that treats in the BW Tanks



Technical Issues: Where's it going to fit





Technical Issues: Laser Survey





Hurdles: Countering fear and despondency



Regulatory confusion creates the excuse for inactivity

We recognise there are no performance guarantees, however it's Type Approved equipment so if:

- we have installed a Type Approved BWTS and it is functioning correctly
- we operate the BWTS in the types of water for which it is 'certified'
- we have a Ballast Water Management Plan and Record Book on-board
- our crew are trained and use the Plan, Record Book and BWTS correctly

Then we should be protected from prosecution

Educating ourselves: V.Ships BWM web portal



