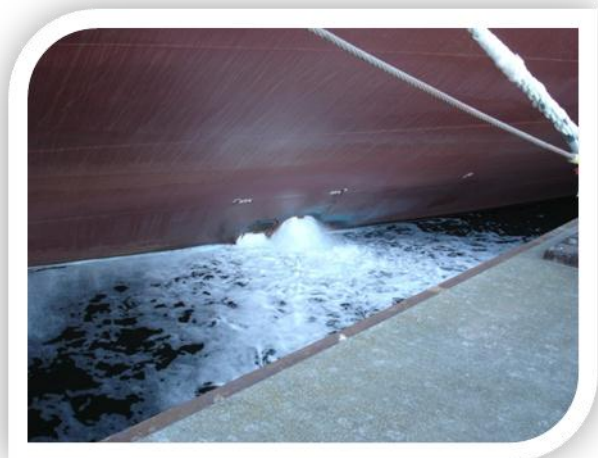


## Ballast water treatment at ttz Bremerhaven

Ballast water treatment is a challenging topic from the technical and ecological perspectives. The development of global markets has brought an increased maritime traffic and with it, the responsibility of the freight companies to adhere to international standards has become a priority.



Ambitious treatment technologies are required in order to meet the exigent standards set by the IMO Ballast Water Convention. ttz Bremerhaven has a vast experience gathered in various national and international projects where different treatment technologies have been developed and tested, from lab scale up to industry scale.



**Our area of expertise**

- Pre-treatment methods
  - Mechanical Filtration
  - Hydrocyclone
- Secondary treatment methods
  - Treatment systems using active substances (i.e. Ozone, Electro-chlorination etc.)
  - Systems without use of active substances (i.e. UV-Treatment, Ultrasonic etc.)





### Our services

- Applied science at laboratory, pilot and industrial scale
- Technical and scientific steering of research and development projects
- Chemical analyses of disinfection by-products
  - Active substances (oxidation potential, acids)
  - Halogenated Methanes
  - Halogenated Acetic acids
  - Halogenated Acetonitriles
  - Halogenated Amines
  - Neutralisation products
  - Ions (i.e. Metal ions)
- Biological Microbiological analyses
- Advice and support for the certification process following IMO convention and national regulations
- Optimisation of existing treatment systems
- Fundraising



### **Our Clients**

System providers, component manufacturers, shipyards, ship owners



### **Your Contact**

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