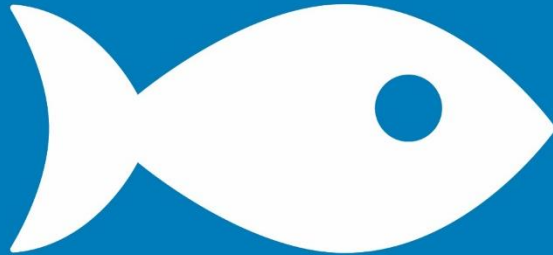


**#BWTS #BWMS #installation #projects
#2022 #compliance #modern #shipyard
#Action #Realaction #lifebelowwater**

14 LIFE BELOW WATER



Ballast Water Management Systems

The international Convention for the **Control and Management of Ships' Ballast Water and Sediments** is in force.

For Implementation in due time, we are getting closer to 2024.

QUALITY
ON-TIME
ALWAYS

The Ballast Water Management Convention

FACT The BWM Convention is in force since 8. September 2017.

FACT Any vessel carrying out a Special Survey, including IOPP Certificate renewal, is required to install an approved BWTS prior to certificate renewal.

FACT FAYARD offers **Turnkey Retrofit Installations** for most types of BWTS/BWMS with strong focus in shortening the vessel out of operation required time for installation of the Owner selected BWTS/BWMS.

Location of the new BWMS in the vessel, and Interfacing to the existing Ballast Water System, are subject to vessel type and construction.

FAYARD HAS THE SOLUTIONS FOR EFFICIENTLY INSTALLING THE BWTS TO CLASS REQUIREMENTS

IMO/USCG/ATEX APPROVED BALLAST WATER TREATMENT MODULE

Ballast Water Treatment Solution
Ready for efficient installation

- Well defined interfaces
- IMO & USCG approved as Deckhouse
- ATEX or Non-ATEX option
- Std. 20' or 40' container footprint
- 20' up to 1000m³ BWT unit/ Module
- 40' up to 2000m³ BWT unit/ Module

Engineering: TechConsult
Procurement, Construction and
Installation of BWMS in Deckhouse &
Commissioning: FAYARD A/S

Installation in Vessel: Owner's choice





The FAYARD BWTS Deckhouse Solution Offers:

- Compliance to Ballast Water Convention upon redelivery of vessel from yard.
- Vessel operation made free advanced pre-booking of yard.
- Secured on-time-delivery of Commissioned and Class Approved fully equipped BWTS Deckhouse.
- Simplicity and standardization in the interfacing offer shortest possible yard stay.
- Clarity in Roles, Responsibilities and Interfacing.
- Recognized, Proven and Approved Solution.
- Peace in mind in the Dynamic Maritime.

References of installations

– Ballast Water Management Convention

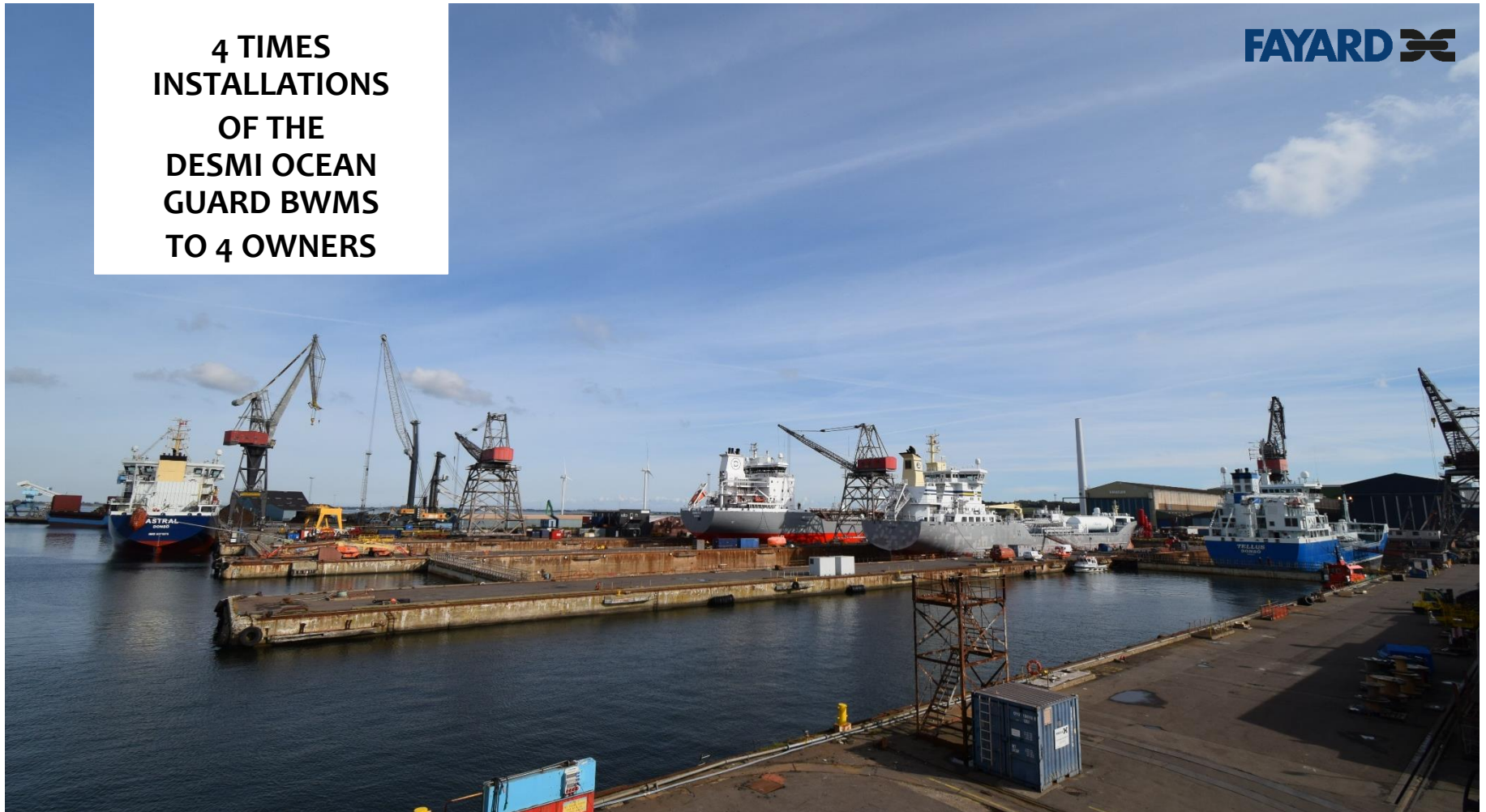
Installed BWMS systems per 31-12-2021:	89
BWMS Principle:	Filter+UV most frequent
BWMS Capacity:	135m³/hr – 6000m³/hr
BWMS location:	Engine Room, Pump Room, Bow Thruster room, Pipetrunk, Type Approved Deckhouse
Average installation time:	Average of 89 units is 14 days/vessel inclusive Yard's commissioning
Vessels segments:	All
Vessel Sizes	72m- 285m
lengths:	
Beams:	13m - 50m

Selected Case Stories

Of BWTS Installation projects

**4 TIMES
INSTALLATIONS
OF THE
DESMI OCEAN
GUARD BWMS
TO 4 OWNERS**

FAYARD 



**INSTALLATION OF
OWNER'S OWN
DEVELOPED BWTS
AT FAYARD
THE KBAL
2 X 3000M³/HOUR**



**TURNKEY
BWMS PACKAGE
FOR ENTIRE FLEET**

FAYARD 



BWTS DECKHOUSE CASE STORY



BWTS DECKHOUSE CASE STORY



Approvals

IMO
USCG
ATEX
Lloyds Register

Capacity

1000m³

Footprint

20-foot container

Vessel

Hafnia Libra

Engineering

TechConsult Aps

Construction

FAYARD

FAT

FAYARD

BWTS DECKHOUSE CASE STORY



Approvals

IMO
USCG
ATEX
Lloyds Register

Capacity

1000m³

Footprint

20-foot container

Vessel

Hafnia Libra

Engineering

TechConsult Aps

Construction

FAYARD

FAT

FAYARD

BWTS DECKHOUSE CASE STORY



Truck ready for departure to yard/port anywhere.
Height in transport package allows to pass under all major bridges in Europe

Approvals
IMO
USCG
ATEX
Lloyds Register

Capacity
1000m³

Footprint
20-foot container

Vessel
Hafnia Libra

Engineering
TechConsult Aps

Construction
FAYARD

FAT
FAYARD



BWTS DECKHOUSE CASE STORY



Approvals
IMO/USCG/ATEX
Lloyds Register

Capacity
1000m³

Deckhouse Footprint
20-foot container

Vessel
Hafnia Libra

Engineering
TechConsult Aps

Construction
FAYARD

FAT
FAYARD

Vessel Installation
Besiktas

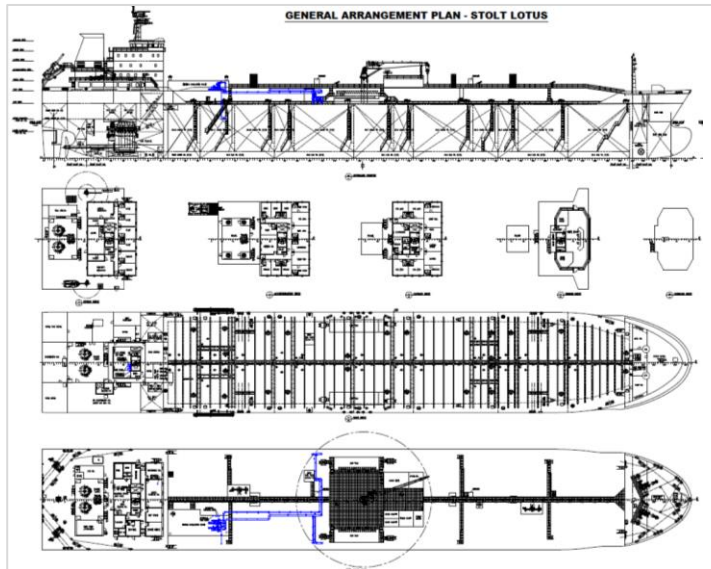
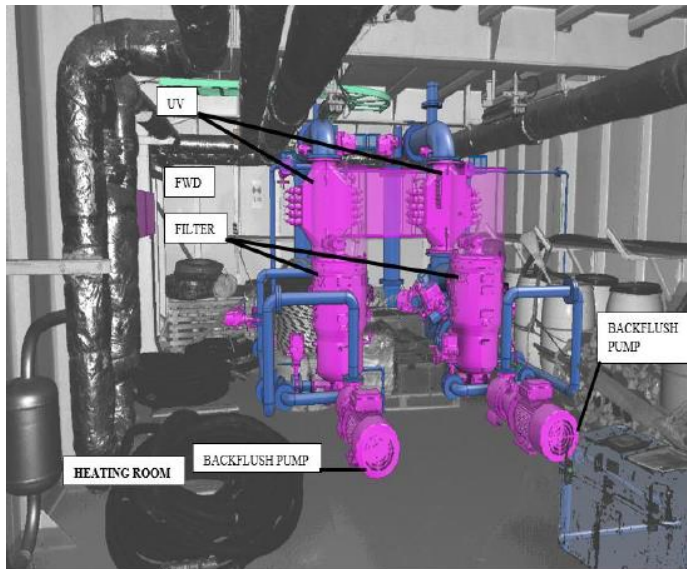
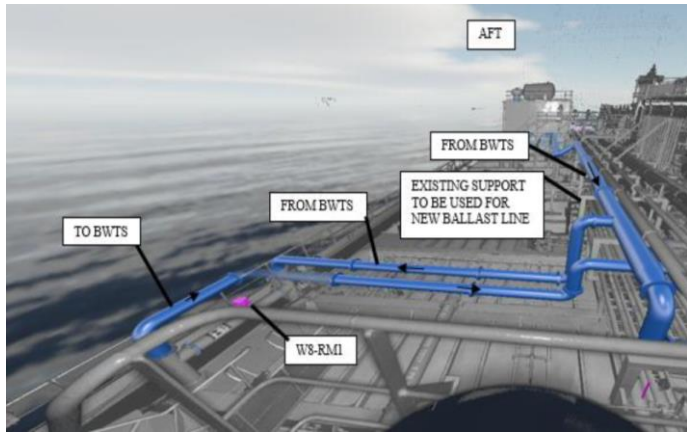
How FAYARD handles BWTS projects

...efficiently!

BALLAST WATER MANAGEMENT SYSTEM

VESSEL: STOLT LOTUS
TYPE: DESMI OCEAN GUARD CC500M3
TECHNOLOGY: FILTER AND UV
FLOW: 50M3/H-500M3/H
 FROM UV TRANSMISSION OF 42%
POWER: 54KW - 75KW





Stolt Lotus:
Desmi Ocean Guard
Compact Clean 500

Stolt Nielsen
- Engineering
- Purchase and
delivery of
BWTs system

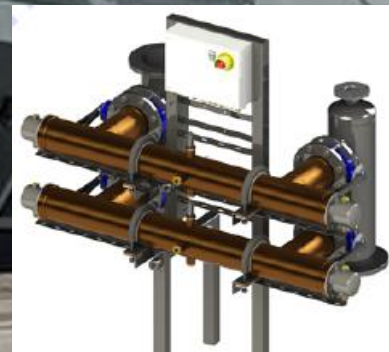
Desmi Ocean Guard
BWMS – System &
Commissioning

FAYARD
-Mechanical installation
-Electrical installation
-Commissioning

ESBERN SNARE OPTIMARIN BALLAST SYSTEM

FAYARD
-Turnkey delivery
-Engineering
-Mechanical inst.
-Electrical inst.
-Commissioning

Optimarin
BWTS System



FAYARD 

ARKADIA
ALFA LAVAL
PUREBALLAST 3.1
/1000 COMPACT
FLEX USCG



ISO 9001 - ISO 14001
Management System Certification
BUREAU VERITAS
Certification Denmark A/S





Workshop pre-fabrications



Vessel Installation Works

ARCADIA BWTS RETROFIT

Technology: Filter and UV

Flow: 1 x 195m³ + 2 x 1000m³/h

Full Flow: From 42% UV transmittance

Power: 61kW - 2 x 102kW

Temperature: -2C - 40C

Hold time: 72hrs

ESL Shipping Ltd.

Select & Purchase of BWTS system

Alfa Laval

BWTS – System & Final Commissioning

FAYARD

- Turnkey delivery
- Engineering
- Mechanical inst.
- Electrical inst.
- Commissioning

**A SMOOTH
YARDSTAY
SECURES
COMPLIANT
BWTS PROJECT**



Owner's concerns

- Approvals
- Real life experience
- Efficacy
- Treatment method
- **Installation**
- Investment
- Operation
- Maintenance
- Trading pattern
- Compliance
- Spares availability
- CAPEX
- OPEX

FAYARD's focus areas:

- **Footprint**
- **Access for maintenance**
- **BWTS Power consumption**
- **Power/Energy availability**
- **Piping and Tie-ins**
- **Ballast pump capacity**
- **Pressure drops**
- **Ballast water capacity**
- **Method of ballasting**
- **Integration of controls**
- **Approvals and Class requirements**
- **Compliance monitoring**
- **Compliance documentation**





FAYARD 

EPIC

QUALITY
ON-TIME
ALWAYS

FAYARD's special focus on adapting to your requirements means that we are able to take on any roles that you would like us to.

We co-operate very efficiently with makers and owners in BWTS projects in order to make a clear split of the work in the project in advance, including the following scopes:

- Engineering
- Procurement
- Construction
- Installation
- Commissioning

In doing so, we make sure that you will see your vessel handled effectively and that the project progress is fast, and your assets spends the least possible time in yard.

Naturally, quality, safety, and compliance are warranted by our various systems and work ethics.

FAYARD – Trusted to Perform



Turnkey Solution or Individual Contracts?

OWNER

System or Turnkey

Installation

Teaming Up

MAKER

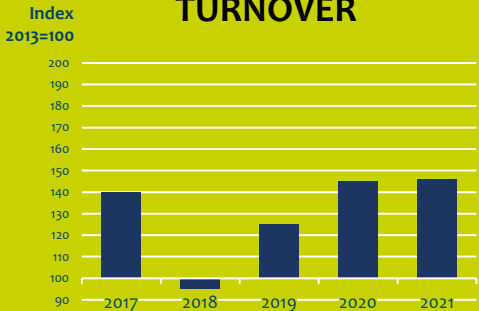
FAYARD

Installation: Yard, Alongside or During Voyage?

EPCiC
System

epCIC
Interface Vessel

FAYARD IN NUMBERS



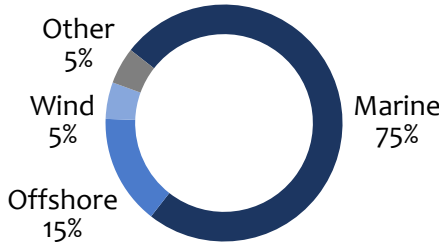
AVG. UNITS PER YEAR

130

AVG. DOCK UTILIZATION



SEGMENTS



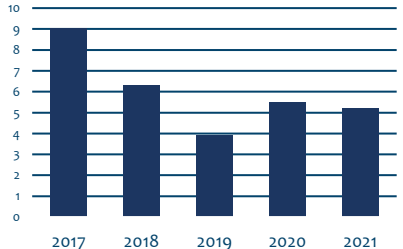
DELIVERED ON-TIME

100%

**PART OF TURNOVER
FROM RETURNING CUSTOMERS**

86%

OSHA TRIR
(the 200,000 hrs benchmark)



**AVERAGE
WORKING
HOURS
PER YEAR**



DOCK AVAILABILITY

100%

Quality - On time - Always



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