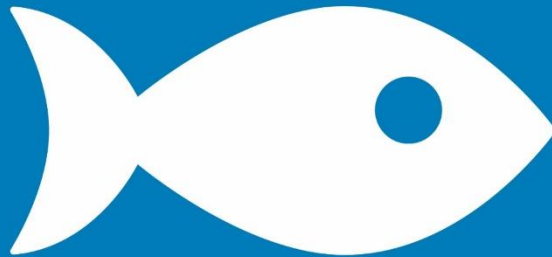


**#BWTS #BWMS #installation #projects
#2024 #compliance #modern #shipyard
#Action #RealAction #lifebelowwater**

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,
remember the compliance deadline
7. September 2024.**

We also carries out System Exchanges
to a newer and fully compliant BWMS-version.

**QUALITY
ON-TIME
ALWAYS**



Key Facts

- 138 BWTS/BWMS systems commissioned (31DEC2023)
- From 1 x 135m³ to 2 x 3000m³
- Average installation time: 14.8 days
- 39 BWTS/BWMS systems by The DECK HOUSE Solution
- BWTS/BWMS systems in orderbook for 2024
- Private Owned & Private Managed shipyard,
- Founded by the Andersen family in 1916.
- Located centrally in Denmark, Northern Europe.
- Large, modern and efficient repair yard with
 - 4 large dry docks
 - Superior cranes
 - Plenty of quays and workshops to meet any requirements on maritime vessels, jack-ups and semi-submersibles
- 120-130 vessels in for service, yearly average.
- More than 1,275 dockings in present facilities in Munkebo
- Fast and efficient workflow.
- Highly skilled Workforce
- High-Capacity yard
- 10% of our workforce are apprentices – by purpose!
- Certified Management Systems: ISO 9001, 14001 & 45001

108 years of being On-Time

The Ballast Water Management Convention

FACT The BWM Convention's milestone for installation is **until 7. September 2024.**

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 or Exchange** 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.

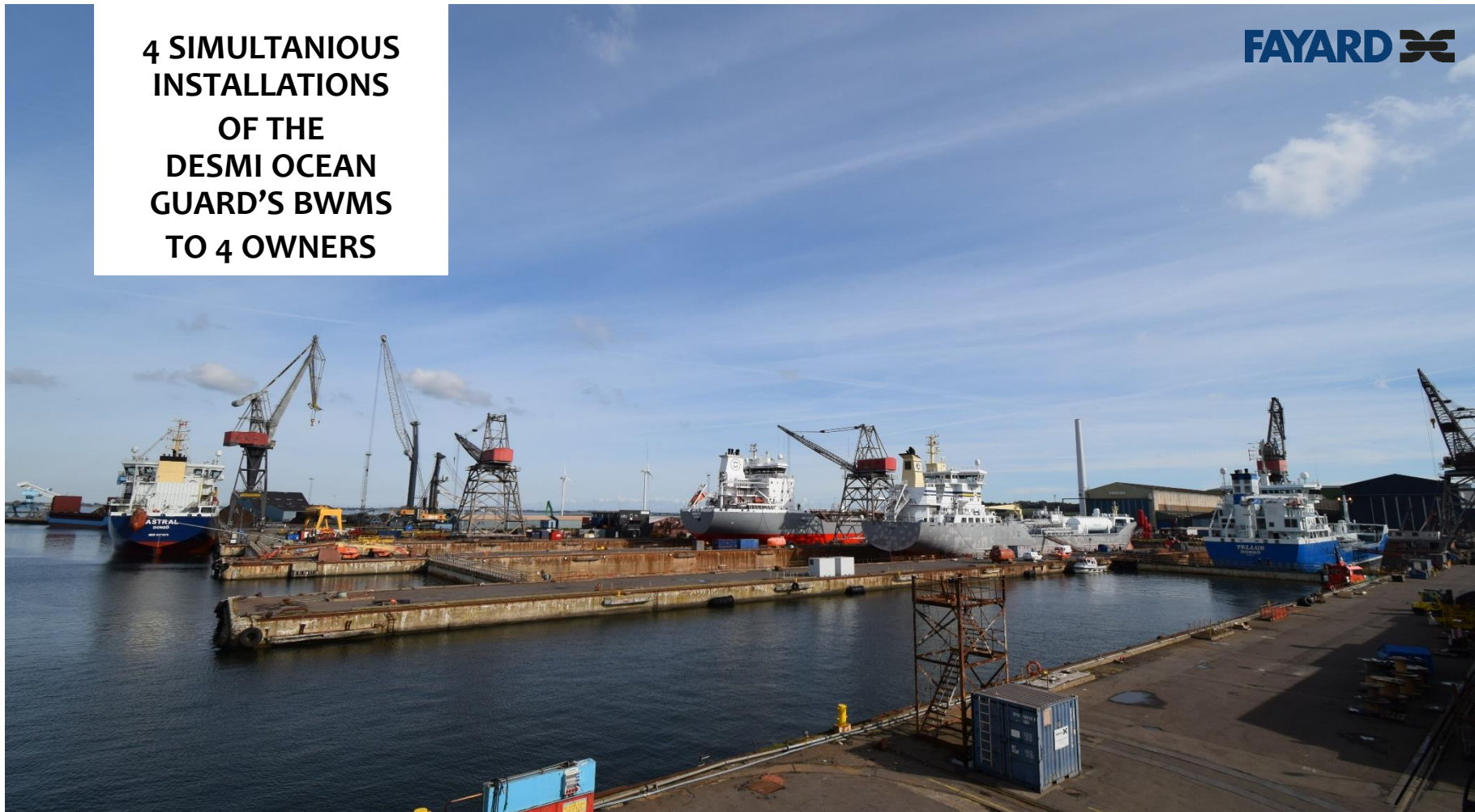
FAYARD HAS THE SOLUTIONS FOR EFFICIENTLY INSTALLING THE BWTS TO CLASS REQUIREMENTS

**TURNKEY
BWMS PACKAGE
FOR ENTIRE FLEET**

FAYARD 



**4 SIMULTANIOUS
INSTALLATIONS
OF THE
DESMI OCEAN
GUARD'S BWMS
TO 4 OWNERS**



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



IMO/USCG/ATEX APPROVED BALLAST WATER TREATMENT DECK HOUSE

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	FAYARD A/S
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.

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

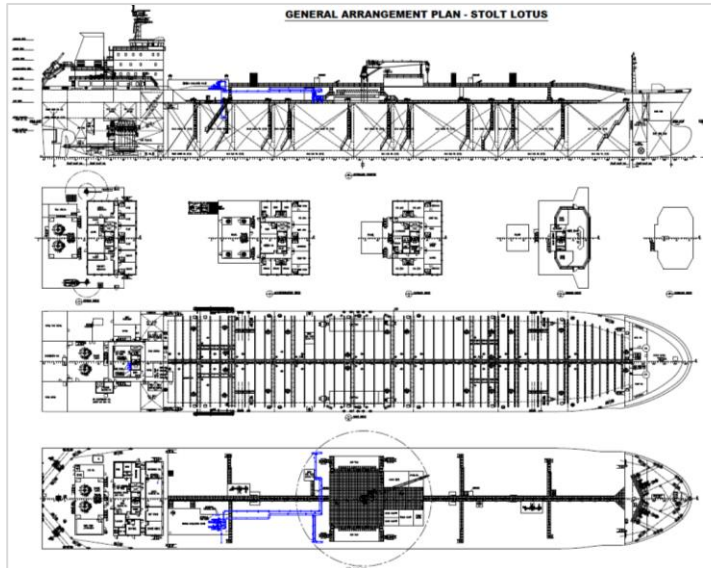
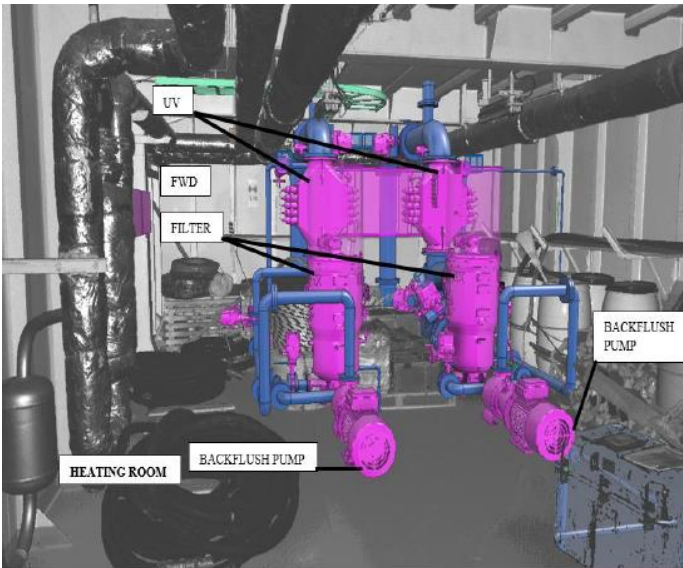
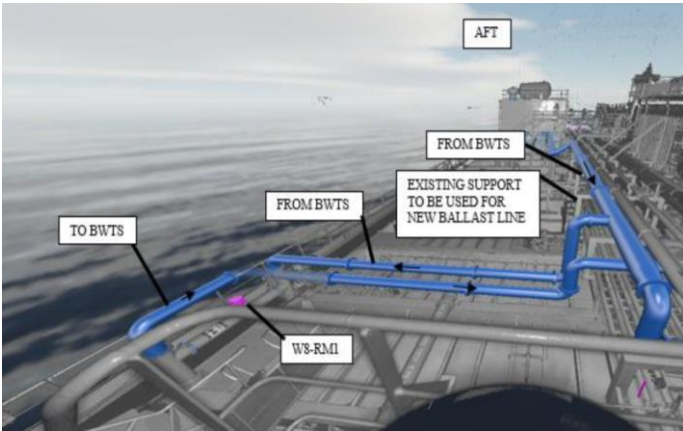
How FAYARD handles BWTS projects

...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

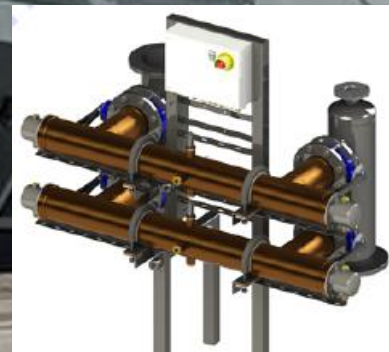
Desmi Ocean Guard
BWMS – System &
Commissioning

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



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 AND
APPROVED
BWTS
INSTALLATION
ON DEPARTURE**



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'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

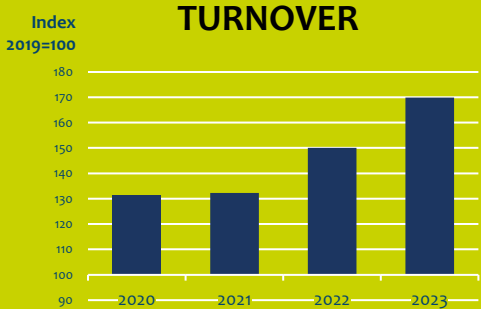
FAYARD

Installation: Yard, Alongside or During Voyage?

EPCiC
System

EPCiC
Interface Vessel

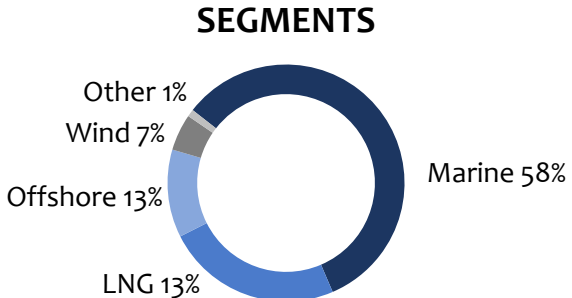
THE NUMBERS



VESSELS PER YEAR (avg.)

121

2023 DOCK UTILIZATION



DELIVERED ON-TIME

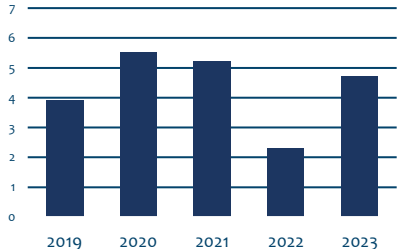
100%

PART OF TURNOVER FROM RETURNING CUSTOMERS

87%

OSHA TRIR

(the 200,000 hrs benchmark)



AVERAGE WORKING HOURS PER YEAR



DOCK AVAILABILITY Meets requested service slot

98%

Quality - On time - Always



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