

Offshore heavy transport

Energy & Transport Summit III

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Torgeir E. Ramstad, CEO

Who we are



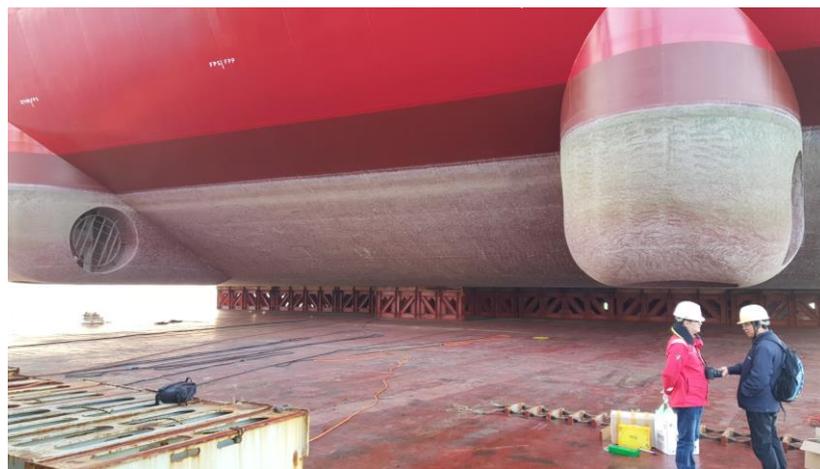
- We provide highly engineered transportation solutions for the most demanding cargoes
- Five semi-submersible vessels in all size classes for cargoes up to 55,000t, the latest having been delivered in 2015
- World-wide operations
 - HQ in Oslo - offices in Houston, Singapore, Dubai and Shanghai
- In-house chartering, engineering, procurement, operations and ship management services
- Full ownership of all assets - zero debt
- Family owned by Arne Blystad (67%) with Grand China Logistics at 33%



What we do

All kinds of floating and non-floating over-sized cargos

- Jack-up's and semi-submersible drilling rigs
- Other floating and non-floating equipment
- Port equipment, including barges, dredgers, cranes
- Modules, ship sections and other pre-assemblies
- Float on/off, roll on/off or lifting



Already involved in
offshore wind

Foundation Transportation

Hywind floating
foundations

- From Ferrol to Stord
- 2 + 1 + 2 in quick succession
- Technip/Statoil

Windfloat Prototype:

- From Setubal to Firth of Forth
- Weight 1,500mt
- 62 x 53.7 x 23.2m
- Discharged in early July 2018
- Cobra Wind/Principle Power



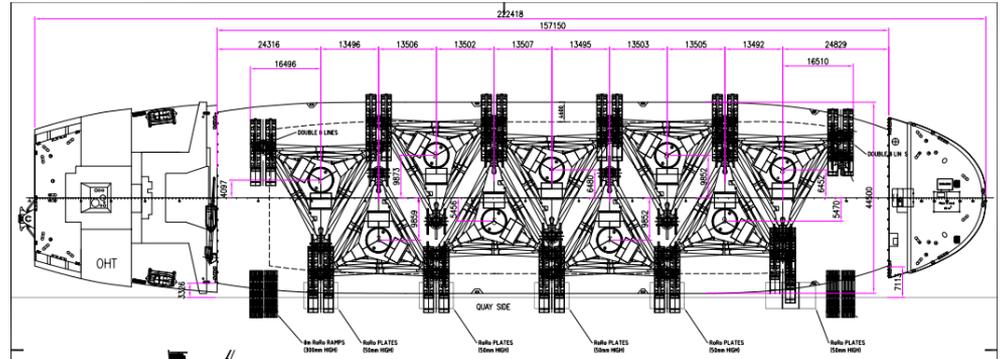
Transportation of Offshore Wind Foundations



As Jacket fabrication moves out of Europe, cost efficient transportation becomes essential

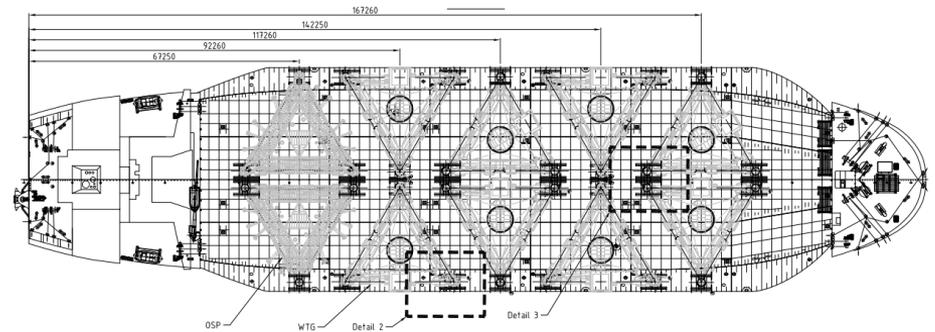
Transportation from Middle East

OHT developed a new solution for grillage and sea-fastening allowing efficient loading with rolling equipment.



Contract award

Based on further refined concept. Project details are confidential.



Installation of Offshore Wind Foundations



The way it is done today is fairly inefficient



Jackup "Innovation"
Max. 3 foundations



Floater "Aegir"
1 foundation



Floater "Bokalift 1"
Max. 3 foundations



A very simple specification for the new installation vessel

May 2016:



Requirements

Install offshore wind bottom fixed foundations:

- Speed: Monopiles in < 1 day (all inclusive)
- Size: Capability to handle dimensions for next gen. turbines (weight/height/diameter)
- Cost: Lower Capex and Opex



Derived implications

- Not a jack-up, need floater
- Fast in transit, efficient loadout
- No offshore mooring, need motion compensated gripper
- Higher sea state limitations
- Need to carry > 10 next gen. foundations per trip

Alfa Lift

A semi-sub. ship design for multiple purposes:

- Primary market: Offshore wind foundations

Designed for installation of

- Jackets (traditional/SBJ)
- Monopiles/TP's
- Mono Buckets (UF)
- Installation in DP mode
- 4-point DP assisted mooring system as back-up



Delivery Q1 2021

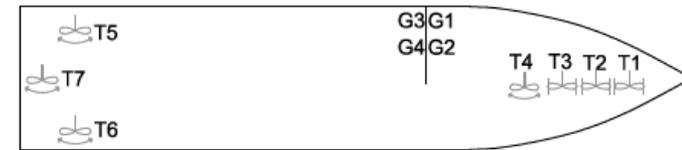
Crane:

- Capacity: 3,000t @30m
- Make: Liebherr

Main particulars

- | | |
|-------------------|---------------------|
| • Length | 216.3m |
| • Breadth | 56.0m |
| • PoB | 100 |
| • Main deck | 8,300m ² |
| • Forecastle deck | 2,000m ² |

- DP2
- Battery Hybrid propulsion
- Prepared for methanol/bio-fuel



Total installed power approx. 29MW

Speed:

- Trial: 14.3kn
- With large cargo: 12kn

The end result

Size matters

The picture shows Island Constructor, a large Well Intervention vessel of 120m length, to the same scale as Alfa Lift.





Balancing Risk Management, Standardization and Innovation



Alfa Lift will deliver

- 50% reduction in vessel time per unit installed,
- 30-70% reduction in Capex, and
- 20-70% reduction in Opex

compared to the competition.

OHT has exclusivity to the concept.