CONOSHIP INTERNATIONAL B.V.

NEWSLETTER 2016 – 1

New Format - New Style - New Concepts

It has been a while since our last Newsletter and much has changed since then. Not only the Newsletter got a new format and a new style, but also Conoship was "re-styled". Last year our team of designers and naval architects was substantially extended, which has significantly enhanced our capabilities. What hasn't changed is our ambition to provide ship-owners or shipyards with the best possible designs and engineering packages. This has once again resulted in a large number of innovative designs and developments, of which a small number are highlighted in this Newsletter. Projects vary from extremely fuel efficient General Cargo Vessels, to an effective Walk-to-Work vessel, up to dredgers operating on LNG. When the presented concepts or developments interest you, don't hesitate to contact us.

The Conoship team. Ready to realise your vision

CONOSHIP TRADERS

Jan Jaap Nieuwenhuis

A couple of new concepts designs were added to our family of eCONOlogy Traders.

The eCONOlogy Traders are all equipped with the ConoDuctTail technology which provides a high fuel efficiency and a good performance in harsh weather conditions. One of the most recent additions to the family of eCONOlogy Traders is the eCONOlogy Trader 2800, developed in close co-operation with Barkmeijer Shipyards.

The "2800" is available with a movable wheelhouse for a low air draft, or with a fixed wheelhouse. Currently the "2800" is the smallest eCONOlogy Trader, however the technology as used in the eCONOLogy Traders is suitable for a wide range of ship dimensions and can be applied and customized to meet your specific preferences.

eCONOlogy Trader 2800	
Lpp:	84.82m.
B:	11.45m.
T:	4.58m.
Deadweight:	2989Ton.
Hold:	130460cu.ft.
Design Speed:	10kts.
Fuel Consumption:	<3.0 t/day

Table 1

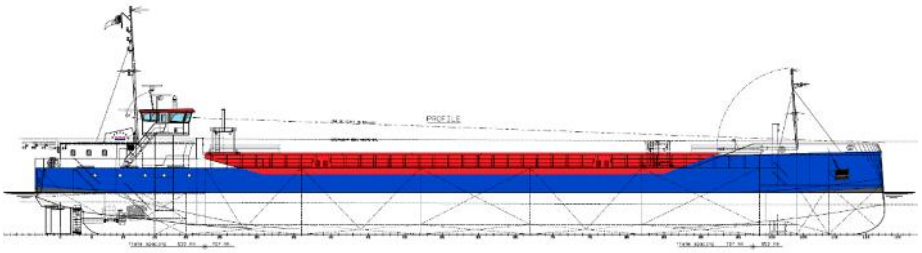


Figure 1

CONOSHIP W2W VESSEL DESIGN

Guus van der Bles

Hull Optimization of Conoship Walk-To-Work vessels for workability and habitability

Early this year the Walk-to-Work (W2W) Vessel MV Kroonborg was delivered in The Netherlands by shipyard Royal Niestern Sander to Royal Wagenborg. This innovative Conoship hull design is a new type of Offshore Maintenance Support vessel, specifically designed to service unmanned oil/gas platforms of NAM & Shell UK in the Northsea, no longer based on offshore helicopter operations. The new design is focused to improve efficiency, safety and sustainability of the NAM/Shell UK operations. Obtaining the best possible seakeeping behavior, comfort and habitability levels on board is important to keep the technicians as fit as possible, to improve the efficiency of the maintenance process.

Design Optimization of W2W (Walk-to-Work) vessels

For the design of the W2W (Walk-to-work) vessel *MV Kroonborg*, Conoship took care of the optimization of main dimensions and hull form design, based on the same principles as applied for the design of the successful Pilot Station Vessels, *MV Polaris, Pollux and Procyon*, delivered by Barkmeijer Shipyards to the Dutch

Figure 2

Figure 3

Pilot Organization in 2012 – 2014. We focused on the integral optimization of seakeeping behavior and (damage) stability issues, considering the specific sailing area. For the determination of the main dimensions it was important to realize which functions and goals should be combined in one optimal design; a hotel function for people that are not trained to be at sea for longer periods, storage functions for chemicals for offshore platforms, workshops for maintenance on the platforms, heave compensated crane capacity, and more. All seakeeping calculations were verified (supported by) with extensive model tests.

Beside requirements concerning deadweight, required deck area, persons on board, etc., Conoship's main design goals for W2W vessels are:

- ⇨ Optimized 'Habitability' to maximize comfort and wellbeing for the supervisors, owner-representatives, maintenance-engineers and other persons living and resting on board who are not trained seafarers and will be at sea for longer periods;
- ⇨ Optimized 'Workability' to support a good functionality of the Walk-to-Work system (like the new Z-bridge or the Ampelmann transfer system) up to Significant wave heights above 2,5 m, to increase the operational window of the transfer system;
- ⇨ Providing a spacious and safe working deck by placing tanks, workshop-containers and equipment below deck or partly covered if possible;
- ⇨ Providing good and safe on-board logistics (persons and goods) and comfortable accommodation for the required number of persons on board.

Based on the experience with these successful designs, Conoship developed an optimized design for a Walk-to-Work vessel for the Windfarm industry, together with Barkmeijer Shipyards. The 'Lean & Mean' design became a compact, comfortable, fuel-efficient, yet complete vessel, with the potential for low day-rates. The vessel inherited its hull lines and good seakeeping characteristics from the Pilot Station Vessels.

Please contact us for more information about this design or other W2W designs.

MAIN CHARACTERISTICS

Length oa	81,05 m
Length pp	77,13 m
Breadth	14,00 m
Depth to maindeck	8,20 m
Draught (design)	4,85 m
Persons on board	
Crew	14 p
Personel	30 p
Total	44 p

Table 2
(a 60 person vessel is also available)

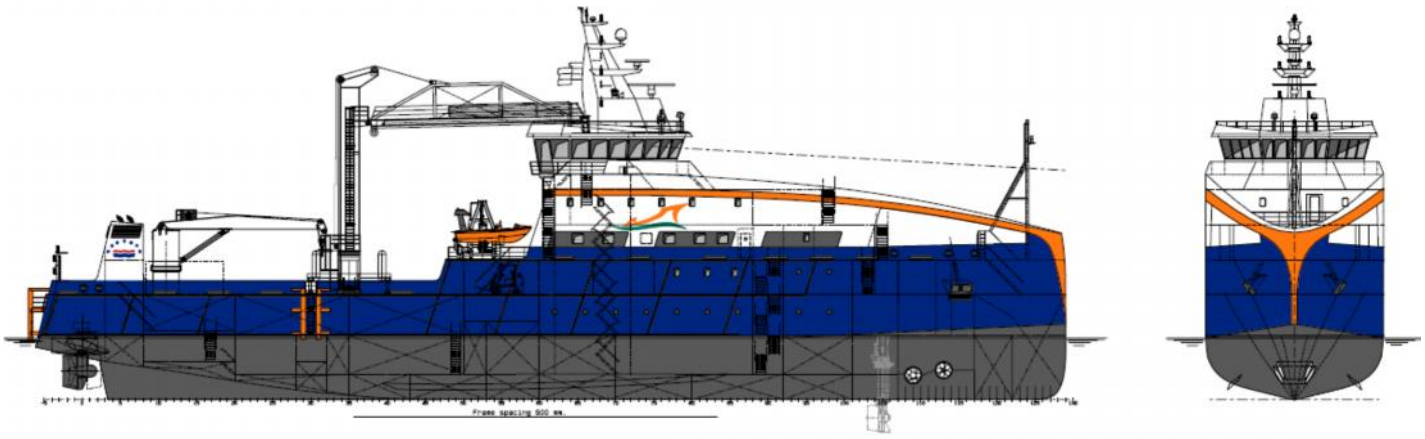
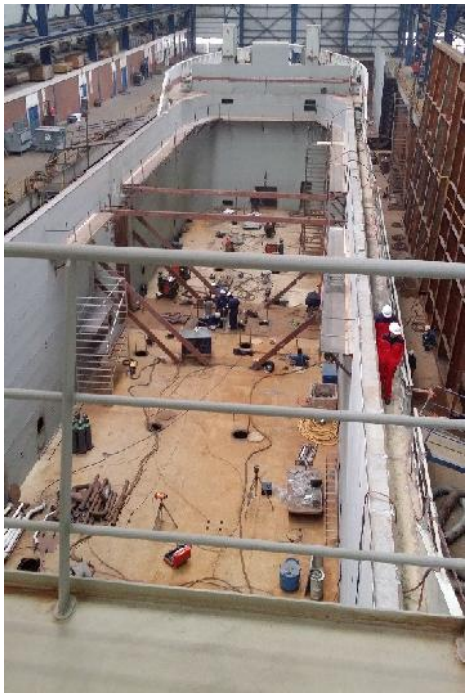


Figure 4

ARTIC JUNIOR

Sebastian Martín Vàsquéz



Recently Conoship was requested by Veka Shipyard Lemmer to carry out a plan approval engineering for the conversion of a 3250 DWT general cargo vessel into a Fish Food Carrier for Norwegian Artic Shipping. Currently under construction at VEKA Shipyard Lemmer, this challenging project involves shortening the vessel by 20 meters in addition to raising the coming and adding of state of the art fish food technology. The vessel will be capable of loading fish food in two different ways: by means of big bags –moved around with forklifts and an on-board crane, either through a hatch or through a side door – and using silos – the food is stored as bulk and offloaded using conveyor belts and an offloader. Works performed by Conoship include amongst others the General Arrangement, stability calculations and structural drawings. To build two new decks, a 6.5 ton side door, foundations for the silos, new, higher coamings and two foundations for a 100tm knuckle boom crane and a fish food offloader.

Figure 5

METSABORG/MAINBORG CONVERSION

Jan Jaap Nieuwenhuis

For Niestern Sander Shiprepair Conoship carried out the engineering work for a bow conversion and the placement of two cranes on board of the Metsaborg and Maineborg, two former 9000 dwt Wagenborg vessels built by Bijlsma, now named Arctica I and Arctica II. Their new owner operates frequently behind an icebreaker which owners do not allow vessels with a bulbous bow.

Therefore the two vessels will be equipped with a traditional Ice Bow. To further increase the operational flexibility of the vessel, two Liebherr CB60 (40) cranes are added. Conoship delivered the construction plans and section drawings for the new bow, the pedestals and the pedestal foundations in the hull.

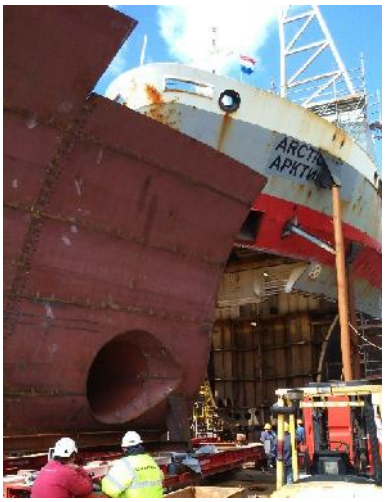


Figure 6

CONOSHIP AND LNG

Wieger Duursema

The last couple of years the use of LNG as a fuel for ships has really taken off. The technology for using LNG on board ships is fully developed and offered by several manufacturers, while more and more ports are developing LNG bunker facilities. Conoship has proactively gained a thorough knowledge of LNG, among others by participating in research projects such as "LNG for SSS" and "Dredging on LNG". In these projects, various LNG solutions were evaluated for a number of ship types, such as General cargo ships and dredgers. These evaluations were performed together with relevant parties from industry, including Class Societies, equipment manufacturers, integrators and shipping companies. A number of lessons were drawn from these research projects:

- A thorough analysis of the operational profile and energy consumption is crucial for the assessment of the economic feasibility. Some ships might be better of with a scrubber, or MGO;
- Basically all type of vessels can be equipped with an LNG-fuel system. However, the right selection LNG system lay-out and a clever ship design are the key-elements for a successful project.

Conoship is able to find the best design-solutions for ship-owners for all kind of vessels including dredgers and General cargo vessels. The current state of play is that Conoship is involved in several design projects in which LNG is intended to be the main fuel.

RIJNDELTA REBUILD

Jan van Zelderen

"Bagger- en aannemingsmaatschappij Van der Kamp B.V" from Zwolle approached Conoship to analyse the possibilities to increase the hopper capacity of their TSHD Rijndelta to 4000 m3. Because the ship was in service for over 50 years, Conoship first determined the current state of stability in an inclining test. Subsequently we elaborated different constructions and their effect on stability, trim and longitudinal strength. After obtaining class approval for the construction, the owners selected Royal Niestern Sander to carry out the conversion. Conoship further executed the inclining experiment and prepared the renewed stability- and longitudinal strength calculations.

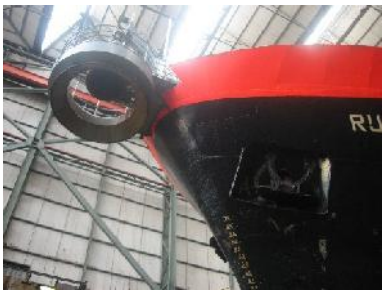


Figure 7

DELIVERIES

- Lady A series; Lady Adele, Lady Ami, Lady Ariane en Lady Ariette.
- Kroonborg
- Hartman 006, 007 and 008, Mv Nordic, Mv Arctic Rock and the Mv Northern Rock.
- Marietje Nora
- Freeway, Strandway and Causeway