

Ship Building i n d u s t r y

Zwerver III

OFFSHORE WORKHORSE

Vital Systems

CONTROL & AUTOMATION UPGRADES

Dominant Behaviour

ANALYSING INTERACTING SYSTEMS



Motion Scan

Sustainable Future Ahead



MOTION SCAN

BUILDER
OWNER
YARD NUMBER

Peters Shipyards
Canada Feeder Lines
903

Even for those who witnessed the eleven launches of newly built CFL ships during the last five years at Peters Shipyards, the Motion Scan launch on that clear day in September 2011 was a spectacular sight. The vessel was christened by Laura Laue, spouse of Hans Laue of Gisholt Shipping and both good friends of CFL's managing partner Kees Koolhof. Smoothly, the 10,000 DWT Sole-type one-hold ship drifted sideways into an arm of the river IJssel near the Dutch city of Kampen.



Seven weeks later Motion Scan was officially handed over. After having carried out successful technical sea trials the ship was ready for her maiden trip. Under the command of captain and CFL-commodore Martin Remeeus and with an experienced crew the vessel set sail for a 40 day trip down under. Her first destination was Uddevalla, Sweden — where she picked up a full load of cargo destined for Port Alma and Newcastle in Australia. The vessel crossed the Atlantic Ocean, sailed through the Panama Canal and continued on her journey through the South Pacific. Precisely on schedule, Motion Scan delivered her cargoes, for the first time in what will surely be a successful seagoing career of the youngest CFL-fleet member.

Ambitious Plans

The Motion Scan launch is the latest step in CFL's ambitious plans. It is the twelfth ship built and has been designed in close collaboration with Dutch shipbuilder Peters Shipyards. Previously, nine vessels of the 6,500 DWT Jumbo types 1A and 1B were delivered and successfully managed. Two other Dutch-built Soles are already in full service, working for Danish partner Scan-Trans.

In many ways, CFL's relatively young history shaped its market position and its fleet of short sea eco-vessels. The Dutch-based shipping company sailing under the Dutch flag was founded as Canada Feeder Lines in 2006 by Kees Koolhof and partners. Originally, the company focussed on operation in

North America, on the Great Lakes and the Hudson Seaways. These are ecologically vulnerable and challenging areas, so from the beginning the CFL-ships were designed to be multipurpose, fuel efficient, ice-proof and as sustainable as possible in every sense.

Multipurpose

Due to an early economic downfall in the region, CFL decided to refocus its market strategy and eventually adopt a new name. The company's initial focus, however, has given its fleet a competitive advantage ever since. Every CFL-vessel is designed to transport special project cargoes. The vessels must be able to carry dry bulk and containers and operate in regions with strict environmental regulations and primitive infrastructural facilities. Since the demand for sustainable marine transport solutions is growing worldwide, CFL's decision to design and build a fleet of multipurpose eco-vessels becomes more and more of an advantage.

"We strongly believe the short sea segment in international maritime transportation will grow", comments Kees Koolhof. "Our aim is to be a cradle-to-cradle company in 2016, and the combination of a sustainable business proposition and a focus on niche cargo segments such as special-size project cargoes will bring CFL better yields, so that its destiny is easier to define."

Groningen-based CFL works together with partners Peters Shipyards and Scan-Trans, the leading Danish operator of project cargo vessels. CFL holds





a twenty percent stake in Scan-Trans and puts a great effort in the design and continuous improvement of the ships. “The innovations are the result of the combined commercial and technological experience of the partners,” claims Geert van Voorn, Managing Director of Peters Shipyards. “Currently we are working together on a third type of vessel, based on our experiences with Jumbo’s and Soles. The Caranx promises to be the ultimate green and flexible eco vessel and CFL intends to build six in 2014 and 2015. These ships are to be operated by Scan-Trans.”

Fuel Efficient Workhorse

Motion Scan is the third in a series of six Sole 10,000 ships. She succeeds Momentum Scan, built and delivered in 2010 as well as Marvel Scan, built in 2011. Mr Koolhof highlights: “This type of ship is designed to be a fuel efficient workhorse among seagoing vessels. She can hold voluminous project cargoes without the need for dismantling, has a 426 TEU container capacity and can transport all kinds of dry bulk.”

At first sight, the most striking features of the newly built Sole are the straight bow instead of the more common bulb and the wheelhouse built on a slanted pedestal. Since its position is aft of the ship, the box-shaped hold is extremely long. Situated below main deck the crew accommodation was designed by yacht interior designers with a keen eye for space and comfort. A Sole requires a crew of twelve.

Single Hold

A special feature of this 116m handy-size ship is the construction of a single hold. The hold measures 70.50 m long, 11.79 m high and 15.20 m wide. Normally, ships with a length of 150 m or more feature comparable box holds. The innovative construction has a special Lloyd’s registration and is highly suitable >





for transporting first-rate project cargoes with irregular dimensions, such as wind turbine parts, electricity masts and vessel parts. The parts can be transported below deck without the need for dismantling. Using the tweendeck partition, a continuous deck surface of 85 m was created, with a maximum load of 2.6 t/m². The cargo hold can be subdivided into compartments for the handling of different kinds of cargoes. The front part of the hold, which can be separated by grain bulkheads, is suitable for the transport of vulnerable and potentially dangerous cargoes.

A striking design innovation are the overhanging deck hatches. This construction has an increased deck cargo surface of fifteen percent, which means that exceptional project cargo, such as yachts or hulls can also be transported as deck cargo. Just like her sister vessels, Motion Scan is geared with two NMF deck cranes on port side, each with a SWL of 80 t and a radius of action of 14 m. Due to her extremely shallow draught of 7.90 m, only Motion Scan can make a port call to almost any destination in the world – even in environmentally delicate areas with poor infrastructure.

Ecological Sustainability

Its design is innovative, but the Sole 10,000-series distinguishes itself most for its energy efficiency and ecological sustainability. “Motion Scan is no exception”, emphasizes shipbuilder Geert van Voorn. “Because of its relatively low weight, low resilience and favourable sailing characteristics a 4,000kW

Piracy Awareness

Experience gained from Momentum Scan and Marvel Scan has led to further detail improvements to Motion Scan. Apart from the innovations mentioned earlier, CFL’s project manager Björn Knopper points at an observation post on the forward part of the ship: “This is essential when there is a high cargo on deck. Also, a wireless camera

system can be mounted for maximum visibility. Compared to earlier Soles, the navigation mast is one meter longer. An electric ventilation system is installed in the paint shop, and especially for sailing in piracy-sensible areas a removable high voltage fence can be easily fitted for optimized protection. And these are just a few of the improvements the partners under the CFL flag continuously take on.” Geert van Voorn of Peters Shipyards: “It is a challenging task to build such a series of innovative eco-vessels for CFL. Each ship is custom built for the expected market requirements in its specific life cycle. Motion Scan is another great example.”



medium-speed MaK main diesel engine suffices. At an average speed of 14 knots, fuel consumption is 16 t/day of IFO 380cST, which is a 20-30 percent lower rate than vessels of comparable size and speed. NOx and SOx emissions are also lower than average. Apart from that, the ship is completely asbestos-free and its designers have applied recycled materials and components wherever possible. Compared to her predecessors other distinguishing features of Motion



Rescue Mission Continues

On its maiden trip on 16 January 2011, Motion Scan's sister ship Momentum Scan rescued a large number of Afghan boat refugees in the Adriatic. In stormy conditions off the Greek Corfu coast, captain Remeus and his crew took in 228 people from a sinking fishing vessel. Unfortunately 22 people went missing. Remeus and his crew were later rewarded the IMO certification of commendation for 'Exceptional Bravery At Sea'. The story, however, did not stop there. CFL realized that shelter and help for the traumatized refugees in Greece was limited and took the initiative to create a relief organization to help – Stichting Momentum (Momentum Foundation). The first donations were used for shelter and medical assistance. At the end of last year the foundation began a remigration programme. Its main goal is to give the women refugees a chance to build up a new life in their home country. At present, 22 women who were widowed, physically disabled or estranged from their families, follow courses to learn how to earn a living and to create a life for themselves and their children. The first results are very promising and CFL intends to keep supporting the foundation. If you are interested in donating, donations can be made to the Momentum Foundation, bank account number 1044.35.909 of Rabobank Groningen.

Scan includes LED lighting throughout the accommodation and an improved fuel efficiency."

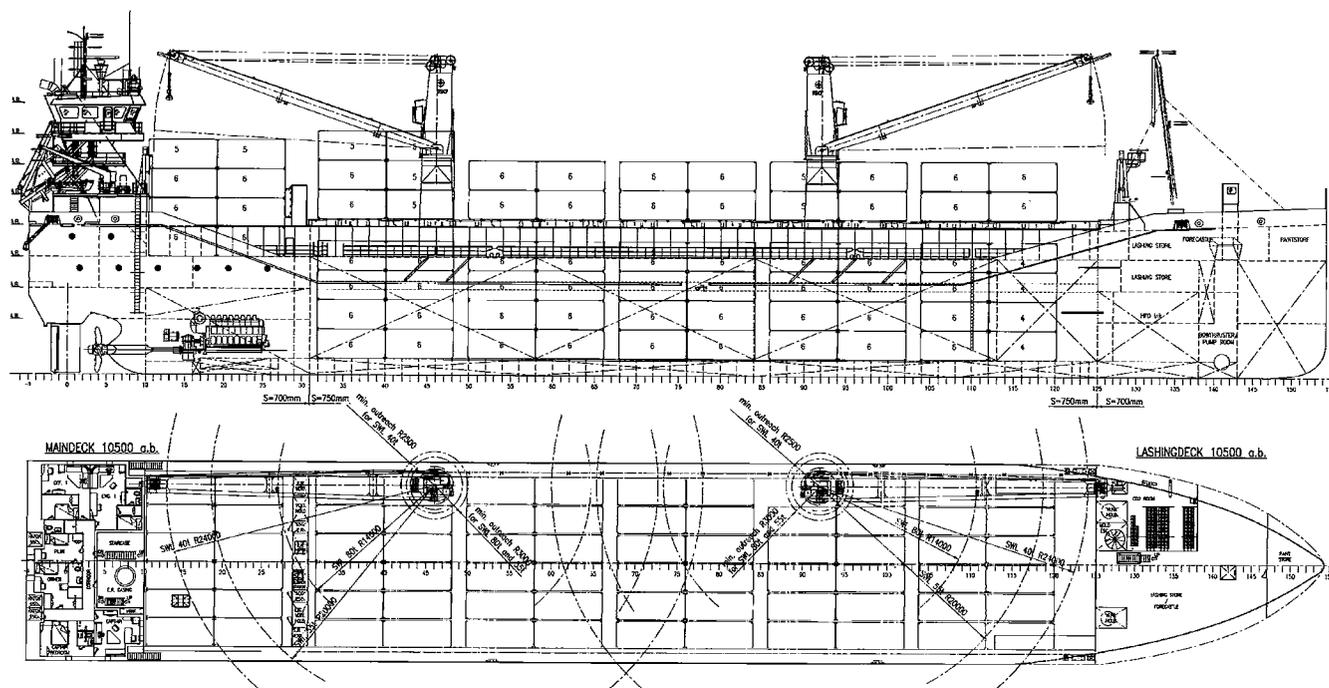
Ideally Equipped

"Motion Scan is surely one of the greenest ships on the international seas," claims Kees Koolhof. "And this is not just a trendy claim, but a sound investment from our part. The market for sustainable shipping is growing fast. Especially in the project cargo segment."

Scan-Trans founder Lars Juhl further underlines this point: "Worldwide investments in renewable energy sources, such as wind and solar parks, are an urgency. Most of the construction takes place in remote and ecologically sensitive areas. A vessel like Motion Scan is ideally equipped to operate in these vulnerable surroundings, since it was granted the Clean Ship Notation by Bureau Veritas, like Momentum Scan before her. This recognition works two ways: it gives us a favourable position with our clients, and it means that we are welcome in any port in the world. And we all know that port authorities become more and more strict about environmental regulations for ships."

According to Lars Juhl, heavy lift project cargo shipping from Singapore to Manaus in Brazil by Momentum Scan is a fine example of the fact that Soles ships can operate in shallow and ecologically vulnerable waters. Momentum Scan successfully delivered cargo to Manaus – located approximately a thousand kilometres inland, up the Amazon river, while Marvel Scan effectively transported windmill equipment to a very isolated part of the Cape Verde Islands. Both ships operated without disturbing the sensitive eco systems of their respective trips.

[i. www.cfl.nl](http://www.cfl.nl)
[i. www.petersshipyards.com](http://www.petersshipyards.com)
[i. www.scan-trans.com](http://www.scan-trans.com)



Facts & Figures

Principal Particulars

Length o.a.	116.26 m
Length b.p.	112.76 m
Beam mid.	17.80 m
Depth	10.50 m
Draught (summer)	7.80 m

Tonnages

Deadweight (summer)	10,000 t
Gross tonnage	6,693 t
Net tonnage	3,441 t

Installed power

Main propulsion	1 x 4,000 kW MaK 8M32C
Auxiliary generator sets	2 x 366 kW Scania/Stamford
Shaft generator	650 kW, 230/400 V
Service speed	14 knots
Fuel consumption	16 ton IFO 380 t/day

Tank capacities

Water ballast	3,898.00 m ³
Drinkwater	95.60 m ³
Fuel oil	568.00 m ³
Gas oil	69.40 m ³

Hold dimensions

Height	11.79 m
Length	70.50 m
Breadth	15.20 m
Capacity	12,358 m ³ (438,550 ft ³)

Tanktop load (max.)	18.00 t/m ²
Deck hatches	70.90 x 17.30 m
Deck hatches load (max.)	2.60 t/m ²
Tweendeck hatches	70.48 x 15.20 m
Load	3.50 t/m ² max.
Hold ventilation	20 x per hour
Grain bulkhead	6 slot positions

Container capacity

Hold	232 TEU
Hatches	194 TEU
Total	426 TEU

Deck cranes

2 x 40 ton SWL at 2.5 - 24 m
2 x 55 t SWL at 3 - 20 m
2 x 80 t SWL at 3 - 14 m

Main Suppliers & Subcontractors

Alfa Laval Benelux Heat exchanger auxiliary cooling water, central CW (LT) heat exchanger, main engine | AMW Marine Renk gearbox main engine | Atlas Copco Compressors Nederland Starting air compressor, air dry unit | Beerens Gangways | Bendit Isolatietechniek Exhaust insulation | Benes Machinefabriek Sterntube | Bolier / MaK Main engine, flexible coupling, starting air bottles | Bremen Shipping Installation Sanitary system, hot/cold water circulation, air-conditioning, ventilation | C-Nautical Winches and mooring systems | Container Technics Container foundations, lashing eyes hold, cargo securing and container lashing manuals | Coops & Nieborg Hatch covers, tween decks | Corrosion & Water Control Impressed current system | Datema Delfzijl Life rafts, life saving and firefighting equipment, personal protective and gas detection equipment, nautical and medical inventory | Desmi K&R Pompen Pumps | Discom Main engine, silencer, auxiliary and emergency generator silencer | Econosto Nederland Leek Valves, air whistle, PE 100 plastic pipes | eL-Tec Electric installation, navigation lanterns, cabinet, distribution forcastle, main source electrical power, main switchboard, shaft generator, emergency switchboard, signal column, cabinet distribution, battery installation, fuse box, ER, propulsion controls cabinet, bow thruster e-motor | GEA Westfalia Separator Nederland FO/LO separator unit, GO separator, LO separator feed pump | Heatmaster Boiler | Helder & May Floors | Hempel Painting system, ballast and freshwater tanks | Impas Piping | Inexa Wall systems | Intersona Noise and Vibration Calculations, sea trial measurements | IVW, Divisie Scheepvaart Inspection | Kroon Alvedoor fire doors, locks & hardware | Lloyd's Register Classification | Minimax Brandbeveiliging Watermist system, CO₂ extinguishing system ER/hold, hold smoke detection system | MIME Group Antifouling systems | NewThex Mooring equipment | Neuenfelder Maschinenfabrik GmbH Cranes | Noordhof Schilderwerken Painting application | Observer Vision Window wipers | Peters Shipyards Shipbuilder, interior, engine room installations | Promac Free fall boat, MOB boat, Davit for store, watermaker | Radio Holland Nautical and communication equipment | Rossmark Waterbehandeling Sewage treatment unit, grease tap, bilge water separator | Sarc Computer & stability program | Sea Bunkering International (S.B.I.)/Exxon Mobil Oils and grease | T&E Engineering Fuel oil booster unit | Technisch Bureau Uittenbogaart Megator sliding shoe pump | Trinnox Windows and portholes | Van der Velden Barkemeyer Steering gear set, electro hydraulic | Van der Velden Barkemeyer GmbH Rudder-Flap type, rudder trunk and stock | Van Wijk Foremast crane | Veth Motoren Bowthruster auxiliary-engines with generators | Wärtsila Nederland CCP installation, propeller, coupling, seals, bow thruster unit | Winel Weathertight and watertight doors | Winteb Deaeration caps | Wortelboer Anchors, chains | WW Euro-Valve Main control panel, actuators/ballast valves