



# The Prince arrives...

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Polish media awarded us for contribution to green shipping

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## Second life for *Petrobaltic*

*Remontowa Shiprepair Yard has converted the Petrobaltic offshore platform for LOTOS Petrobaltic, the sole company conducting hydrocarbon exploration and production work in the Polish economic zone of the Baltic Sea.*

*The company's licenses for exploration and prospecting of mineral deposits cover 3 areas with a total surface of 3177 sq km. They are in the eastern part of Poland's marine basin.*

*According to LOTOS Group, the conversion has been a key for the implementation of the company's CAPEX projects associated with hydrocarbon production in the Baltic Sea which is to increase domestic oil production. By increasing oil production from its own resources, LOTOS pursues the program of diversifying oil supply, thus strengthening Poland's energy security.*

*The B8 field is located in the Baltic, approx. 70 km north of Jastarnia. The field's production potential is estimated at 3,6 million tonnes of crude oil and 432 million cbm of gas. According to LOTOS Petrobaltic's estimates, it should yield some 250 000 tonnes of oil per annum.*

*The project involved the conversion of a mobile jack-up drilling rig to an offshore platform for oil production, to be permanently installed in the extraction zone.*

*The Petrobaltic rig, built in 1980, was previously being used by LO-*

*TOS Petrobaltic for drilling in search of hydrocarbons under the Baltic Sea. Now, after the conversion the platform has been adapted for production work, as drilling equipment and systems have been dismantled and replaced by oil and gas production and separation equipment. The conversion project also included replacement of the platform's legs, expansion of the pontoon and hotel facilities, as well as construction of new process modules.*

*In September 2019, the Petrobaltic platform converted to a marine production centre was towed over to the B8 field. Ultimately, she was to take over the mining from the Lotos Petrobaltic platform operating there (the jack-up rig purchased by the LOTOS Group from Transocean in December 2013 and mobilized to Poland in early 2014).*

*It's worth mentioning, that for the first time, Remontowa Shiprepair Yard, which has had a dozen or so offshore platforms converted or modernized for leading players worldwide, carried out such a project for a Polish company.*

*At the time, when the oil & gas industry is still suffering decline and across the globe, large parts of the offshore fleet are laid up, the project stands out on the world's market.*

**Grzegorz Landowski**  
Editor-in-Chief



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**REMONTOWA**  
HOLDING



Piotr Soyka with the award for the top maritime industry company in the TOP 100 economic ranking.  
Photo: Sławomir Lewandowski



Polish media awarded us for contribution to green shipping

# All credit to ship owners!

**During the XX International Maritime Exhibition Baltexpo 2019, a ceremony of handing over TOP 100 awards took place.**

The awards have been granted in the competition organized by the „Baltic Journal” („Dziennik Bałtycki” Polska Press Group) – the largest and most opinion-forming daily newspaper in the Pomeranian region and on-line news available across Poland. The winners have been selected from the best companies listed in the TOP 100 economic ranking published by the newspaper in co-operation with PwC.

Remontowa Shiprepair Yard won the maritime industry accolade for the greatest contribution to the development of

modern maritime economy and pioneering solutions in the conversion of ship propulsion systems into ecological ones.

The award was accepted by Piotr Soyka, the owner and chairman of the Remontowa Holding capital group, to which the shipyard belongs.

– First of all, we owe this success to ship owners who entrust the execution of such pro-ecological projects to us. I would also like to say a few words about the crew of Remontowa Shiprepair Yard and the employees of the entire Remontowa Holding

group. It was your work that brought this award – Piotr Soyka said to the audience present at the ceremony.

– Our pro-ecological solutions are to contribute to the reduction of environmental pollution. One over 400-metre container ship sailing across the Atlantic emits as much exhaust fumes as several hundred thousand cars per hour! It is also important that we draw for many young people in our group a wonderful idea of life, serving others and leading to the design and construction of ships. This is very important and we have many such people. The fact that I am standing on this podium today will be a certain encouragement for them, that they can win these awards and that the shipbuilding industry, although it seemed to be in a lost position, is now enjoying triumphs. This is also possible thanks to the Baltic Journal and this competition, because everyone has heard about it. Congratulations! – emphasized Piotr Soyka.

A well-known international company PwC is a substantive partner of the TOP 100 competition.



Large conversion  
of the *Petrobaltic*  
offshore platform

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# Marine Production Centre

In less than two years, Remontowa Shiprepair Yard converted the *Petrobaltic* drilling platform into an offshore production centre. The platform has left the shipyard and is currently operating on the Baltic B8 field.



The converted *Petrobaltic* platform assisted by four tugs left Remontowa SA on September 20, 2019.  
Photo: Marcin Koszałka

The drilling rig belonging to the LOTOS Petrobaltic was docked for the first time at Remontowa SA in January 2017. According to the contract concluded with LOTOS Petrobaltic in 2016, the scope of tasks during the first stage of the conversion (January–June 2017) concerned steel works. Among other works, a renovation of spud cans, i.e. the bases of the platform legs, and modernization of some of the columns was carried out.

The platform was docked on the *REM-Lift 25000* submersible unit. Since *Petrobaltic* is a jack-up rig, to increase the stability and steadiness of the platform – dock system, its docking required increasing the free side (waterline) of *REM-Lift 25000* submersible barge by adding special hull structures (sponsons). Due to this, the desired stability parameters were maintained. Placing the platform on the barge deck was completed within the assumed centimetre tolerance.

The platform was undocked after 6 months. The shipyard fulfilled the contract ahead of schedule. The *Petrobaltic* platform returned to Remontowa SA on 11 October. Then the second stage of the conversion began, which was concluded in August 2019.

It consisted of completing the assembly of foundations for the modules, execution of armaments, and assembly of a support structure of the flare, i.e. the part in which natural gas extracted with oil is burned. The scope of work also included the construction of a frame supporting the superstructure and equipment of the entire pontoon, including engine room, foundations, pipelines in the pontoon and on board.

The superstructure itself, which was originally made for a standard vessel by the Dutch shipyard Keppel Verolme and did not comply with the provisions applicable to offshore vessels, required a thorough reconstruction. The modifications included, among others, reconstruction of entire staircases and replacement of doors and windows.

After one year, the shipyard performed all works related to the construction of the platform hull. Completed works on platform elements included a construction of the flare, the spider deck (aft structure), supporting structure of the superstructure, and the superstructure itself. The foundations for the modules and the modules were also installed.



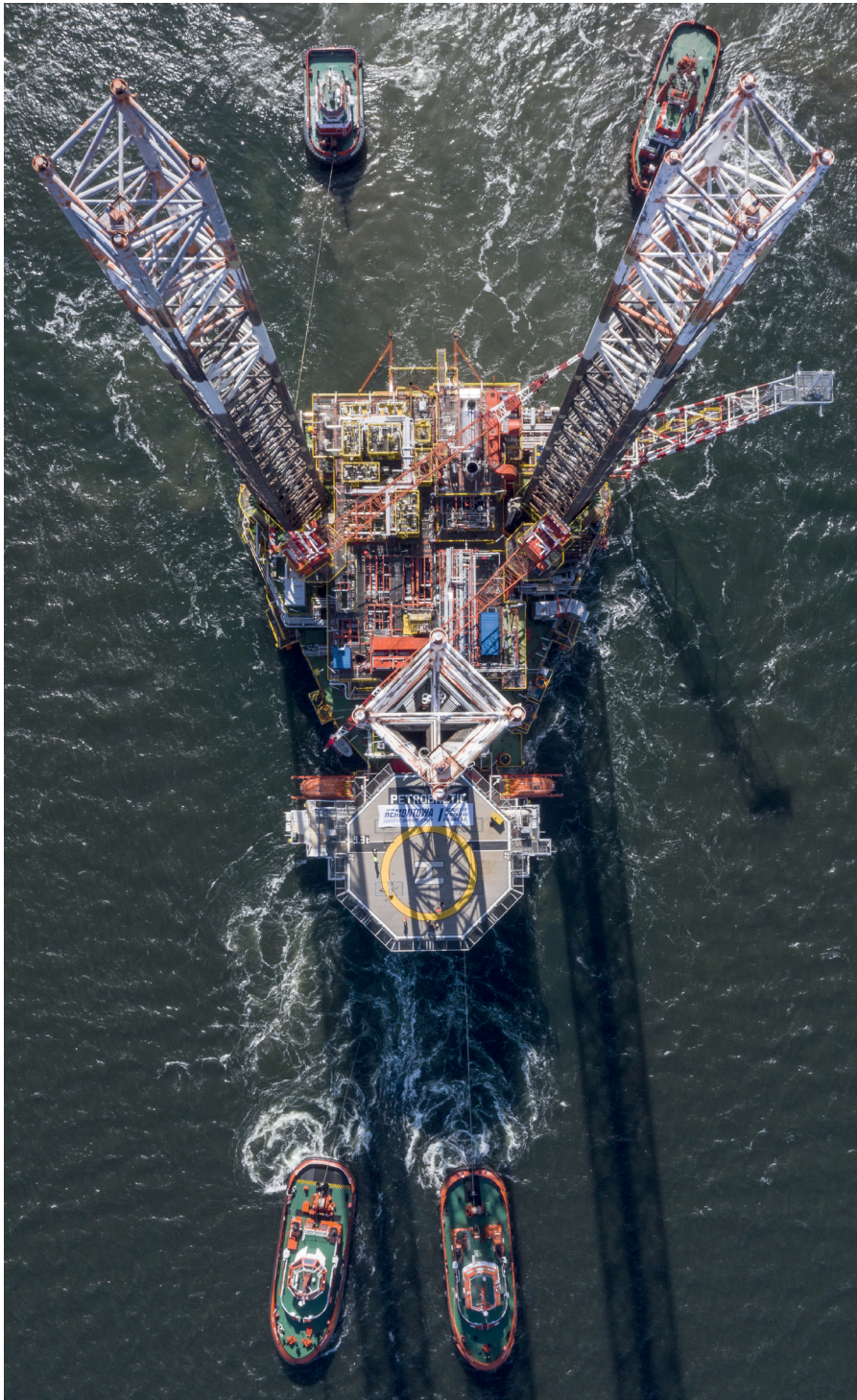
The last stage was the integration of all parts and systems, connecting and testing the operation of the entire platform.

The technical reconstruction of the platform was a challenge for engineers and builders due to the high-quality requirements of EEMUA (Engineering Equipment Materials Users' Association).

The small surface of the hull with the high structure of the platform and the associated centre of gravity meant that many technical operations could not be carried out simultaneously. Another difficulty was the limited transport capacity. Due to its

design, the platform could not be moored to the quay, but was moved away from it by nearly 15 m, which hindered access to it. Much of the work related to the transport and assembly of key structures was made possible by the use of the REM-220 floating sheerleg.

Crucial for the whole undertaking was sliding, weighing several hundred tonnes each: crude oil separation system, gas compression and export system, water injection system, and energy system, the heart of which is a turbogenerator using separated gas as fuel to power the platform.



Flares, processing systems, residential module with a helipad and many other equipment were installed on the platform.  
Photo: Marcin Koszałka



After several days at anchor and 30 hours of towing, the rig was placed in the Baltic B8 deposit (on the left).  
Photo: LOTOS Petrobaltic



The next step was the installation of support for the residential module and gas burners, i.e. flares. Then the residential module with a helipad with a weight of approx. 550 tonnes was transported extremely precisely through the shipyard canal using barges. An equally complicated operation was the subsequent placement of this module on the platform.

In March 2019, the platform heeling test was carried out to determine its centre of gravity and weight and to verify de-

sign parameters. It consisted of a gradual load transfer (transferring 40 tonnes of water between tanks in eight stages) from one side to the other and back. It was carried out deep in the turning basin in front of docks 5 and 6. The test itself lasted 8 hours, but it was preceded by several months of preparation, including preparation of appropriate documentation and its approval in the Polish Register of Shipping and by a representative of the insuring party (Marine Warranty Surveyer).

After less than two years of intensive work on mechanical completeness carried out by the shipyard, completing tests, and preparation for launch of general ship and production systems, the unit was ready to leave Remontowa SA.

The project's executive documentation, based on the technical documentation received from LOTOS Petrobaltic and prepared by the Italian Rosetti Marino office, was prepared by Remontowa Marine Design & Consulting from the Remontowa Holding group.



In September 2019, the *Petrobaltic* platform was towed over to the B8 field located in the Polish economic zone of the Baltic Sea approx. 70 km north of Jastarnia. Ultimately, it was to take over the mining from the *Lotos Petrobaltic* platform operating there.

The conversion of *Petrobaltic* is one of the B8 oil and gas deposit development projects. The first phase of the programme is to end with stable production from four production wells. The second phase assumes a further development of infrastructure on the B8 field in order to increase the volume of oil and gas extraction by adding further production wells to operation, a stable gas transport to Władysławowo through a pipeline built in 2018, and stabilization of the field's operation through water injection.

The drilling rig docked onto the *REM-Lift 25000* submersible barge in January 2017.  
Photo: Jerzy Uklejewski



Conversion of the first ship  
for CLdN completed as scheduled

# Mazarine project

The Belgian shipowner Cobelfret from Antwerp has entrusted Remontowa Shiprepair Yard SA with the conversion of at least three ro-ro vessels. The conversion of the first of them – *Mazarine* – has already been completed. With the new extra trailer deck added, the ship's cargo capacity has increased from 2907 to 3678 lane metres.

The converted *Mazarine* ready  
for departure at Remontowa SA.  
Photo: Marcin Koszałka

Preparatory works for the conversion of the second ship in the series – *Palatine* – which entered Remontowa SA on October 18 this year, had been completed before the ship's arrival. At the same time, prefabrication works were also carried out in relation to the conversion of the third vessel – *Vespertine*, whose arrival was planned for the beginning of 2020. The prefabrica-

tion of steel sections for the construction of blocks was completed, and work was also underway to prepare the first sections of the new deck for the ship.

The conversion project involves equipping the ships of CLdN with new additional cargo decks to be located from the superstructure towards the bow and installation of a hydraulic entry ramp. This way the







Part of the new deck surface is made as slip-resistant.



The new trailer deck has been fitted with wheel stops/parking blocks.

ships gain an additional 1000 tonnes (including pipelines, the new ramp and other equipment and components).

The prefabrication of steel structures of the new deck for *Mazarine* began at Remontowa SA many months before the ship's arrival in Gdańsk. All the above-mentioned elements were ready for assembly when *Mazarine* entered the shipyard. With the help of the REM-220 floating sheerleg, all six sections were transported by water from the deck of the REM-LIFT 25 000 submersible barge to the *Mazarine* vessel.

After installing the additional deck and ramp on the ship, *Mazarine* was brought into the dock for renovation and painting. While the vessel was in the dock, the full range of mechanical work was performed. It concerned, among others, an inspection and repair of both tunnel thrusters – bow and stern, general repair of the controllable pitch propeller hub, disassembly of the rudder blade and rudder stock with replacement of the liner.

The scope of maintenance and painting included sandblasting the entire under-

The existing car deck has also got new equipment e.g. lighting fixtures.  
Photo: Sławomir Lewandowski





water part of the hull, to which silicone paint was applied. The entire superstructure was refreshed from the outside with new sections, which at the prefabrication stage were painted and armed with the necessary equipment only on the inside. New decks and enclosed spaces in which works were carried out during the conversion were also subjected to maintenance.

After the steel works had been completed, pressure tests of piping systems and tests of electrical systems were carried out, followed by delivery and commissioning tests.

In the final phase of the project, over 300 employees were involved in the ship being converted, mainly from the steel, pipe, electrical, maintenance, and painting industries. Despite the unfavourable weather (strong wind blowing for several days and continuous rainfall) which hindered the work in the open air, thanks to the very good organization, the implementation of the conversion went according to the schedule.

*Mazarine* departed from Remontowa on October 16, 2019.

New access ramp for the additional deck has been installed at Remontowa SA.





We have equipped the next ships  
of the Grimaldi Group with scrubbers

# *Grande Tema and Grande Abidjan*

**Remontowa Shiprepair Yard has equipped another two ships out of six contracted to be completed this year with Exhaust Gas Cleaning Systems (EGCS).**

After the *Grande Lagos* and *Grande Dakar* ships, on which we had previously installed scrubbers, next container/ro-ro carrier vessels belonging to the Grimaldi Group from Naples which came to Remontowa SA for this purpose were *Grande Tema* and *Grande Abidjan*. Both ships have also undergone special surveys.

During the implementation of the EGCS installation project on these ships, employees of all shipyard specialties and faculties – hull, pipeline, electric, outfitting and mechanical – were involved.

The *Grande Tema* and *Grande Abidjan* ships, just like the previous two vessels, were fitted with the U-type Wärtsilä EGCS.

The system operates in an open loop utilising seawater to remove SO<sub>x</sub> from the exhaust gases. Exhaust gas enters the scrubber and is sprayed with seawater in three different stages. The sulphur oxide in the exhaust reacts with water and forms sulphuric acid. Chemicals are not required since the natural alkalinity of seawater neutralises the acid.

Wash water from the scrubber is treated and monitored at the inlet and outlet to ensure that it conforms with the MEPC 184(59) discharge criteria. It can then be discharged into the sea with no risk of harm to the environment.

The purity of exhaust gases leaving the scrubber is checked using a flue gas ana-

*Grande Tema* departing from Remontowa SA equipped with scrubbers.  
Photo: Marcin Koszałka







*Grande Abidjan* in the largest dock of Remontowa SA.  
Photo: Marcin Koszałka



lyzer (CEMS) located on top of the scrubber. Thanks to the three-way valve in the exhaust gas system, it is possible to return them to the scrubber, or directly to the atmosphere, when they meet the required emissions standards.

The works were carried out according to the previously developed way. Installing the scrubber, like most of its components such as Venturi unit, electric switchboards, three-way exhaust valve, pipes, and other large-size elements, was carried out using wharf cranes.

Both *Grande Abidjan* and *Grande Tema* are “scrubber ready” ships – designed and built so that in the future it could be equipped with an Exhaust Gas Cleaning System, for which free space was left.

The EGSC installation project was carried out in many stages. First, in the engine room – by dismantling platform and piping systems – space for the installation of foundations and sea water pumps, new sea water filters, valves, and GRE pipes was prepared, and the floor and existing systems were adjusted for this purpose.

Fitting of GRE pipes between the decks were completed, and holes in the funnel's outer plating for transporting the elements of the exhaust system and the scrubber foundation were burned. The arrangement of the elements of the modified exhaust system and the three-way valve on individ-

ual decks allowed the work to be continued after the funnel was closed.

The next stage was the transport of the scrubber and placing it on the foundation, as well as closing the funnel structure and assembly of the parts of the exhaust system. New cable trays were routed, cabinets and switchboards for the scrubber control system were installed.

Shipyard workers also changed the arrangement of one of the decks, on which air fans and control cabinets were installed, new access platforms were carried out, insulation of the new exhaust system was made, as well as fitting and welding of SMO overboard pipes.

Steel works were carried out in the ballast tanks of the ships, as well as numerous inspections of, among others, boilers, outboard fittings, and main engine air coolers.

The challenge was the maintenance of the ship's hull, especially the underwater part of 1 ha (10,000 m<sup>2</sup>) surface, which was grit blasted to the class SA 2.0 and then covered with a silicone paint.

The fifth ship of this type owned by Grimaldi Group, which entered Remontowa SA has been *Grande Luanda*. Works on the ship started with scrubber installation using quay cranes, afterwards she was expected to be accommodated in the largest dock no. 6



The number of ships equipped with Ballast Water Treatment systems is growing

# Experience that pays off

In the previous issue we wrote about BWT systems installed at Remontowa Shiprepair Yard SA in the second quarter of this year on ships such as *Searanger*, *Nestos*, *Navigator Scorpio* and *Star Trust*. In the third quarter, such projects were carried out on at least 10 other ships, several of which are presented below.

Remontowa SA has been installing ballast water treatment systems (BWT) based on a variety of water treatment techniques since 2007. These systems are usually based on filtration and chemical (chlorine, chlorine dioxide, ozone) or physical (UV radiation, ultrasounds, cavitation) disinfection of the ballast water.

Due to the large amounts of ballast water and the time required for taking that water in or out of the ship, these systems must be efficient and effective. BWT sys-

tems operation consists of filtration of water taken into tanks to eliminate organisms larger than 50 micrometres, and then disinfection, which is supposed to eliminate the remaining smaller organisms from water. During de-ballasting only disinfection is required, so that the drained water meets the convention standard.

The necessity of having a BWT system results from the requirements of the International Maritime Organization (IMO) Convention, which imposes the obligation

*Stena Progress*

Photo: Sławomir Lewandowski





to equip it on every newly built ship and on every currently operated ship during its next class renewal.

## **Safmarine Nomazwe**

The largest ship that we have so far equipped with a BWT system in 2019 is the container ship *Safmarine Nomazwe* (265,84 m of LOA), flying the flag of Hong Kong, property of the AP Moller Maersk. On this ship we installed the system delivered by Alfa Laval.

## **Caroline A**

The last time *Caroline A* was in our shipyard was in 2017. However, the most memorable task of this ship happened in 2014, when we shortened her by 6,6 metres (from the total length of 102,6 m to 96,0 m).

In 2019, the chemical tanker arrived for a class renewal extended with an assembly of a BWT system, based on the operation of a lamp emitting UV radiation. The essential elements of the system were installed in the ship's pump room, where the main modifications were carried out. The prefabrication of pipes and foundation elements had been carried out before the ship arrived at the shipyard, which significantly accelerated the work.

When the ship was docked, anchor windlasses were repaired, steering gears were inspected, and a full overhaul of two main engines with disassembly of pistons and cylinder heads and replacement of seals on the tunnel thruster was carried out.

## **Golden Opal**

Remontowa Shiprepair Yard SA installed the BWT system on this ship within 14 days. To make electrical installations, pipelines and light steel or steel works related to this task, our teams worked in three shifts.

The ship owner decided on the Erma First system. It is a modular system which main elements are mud filters and high-performance electrolytic cell. During ballasting water passes through a filter where organisms and sediments larger than 40 microns in diameter are separated and then discharged overboard to their original habitat.

The filtered water is then put in an electrolysis chamber. The water chlorides at very low concentration (4-6 mg/L) are turned into chloride using electrolysis. The purified water then goes to the ballast tanks.



*Caroline A*  
Photo: Marcin Koszałka

The advantage of the system mounted on *Golden Opal* is primarily its small size which facilitates installation, especially on smaller ships where it is more difficult to make space for additional pipes and devices.

## **Gerakas**

The over 180-metre chemical tanker *Gerakas* entered Remontowa SA on June 15. The tugs put the ship directly from the turning basin to the dock for standard maintenance and steel works in the tank. During docking the ship was prepared for installation of the BWT system. On this ship, all the most important devices monitoring the system's operation have been installed in a deck house.

Typically, such devices are installed in the ship's engine room. However, the solution adopted by the ship owner of *Gerakas* is also used, mainly due to the shorter time of ballast water pumping. Placing the container on board near existing pipelines allowed the pipes dedicated to the BWT system to be integrated into the environment without much interference in the deck space.

In addition to the installation of the BWT system, the shipyard also carried out steel works related to the modification of bollards and fairleads to adapt the ship to the new conditions of passage through the Panama Canal. After modernization, the canal is now serviced by larger locomotives for pulling vessels, which requires adaptation of their mooring equipment to work under higher load.

## **Stena Progress**

Remontowa SA has also retrofitted the *Stena Progress* tanker with a BWT system. The ship belongs to the Concordia Maritime fleet, managed by Northern Marine Management. It is worth mentioning, that the ship has been recognised as one of the „12 best ships of the year” on the list published by the Australian magazine Ship & Shipping.

The Alfa Laval PureBallast 3 system was installed on this ship. This solution combines initial filtration with UV treatment. The filter and UV reactors are inline components, supported by a cleaning-in-place unit, a control cabinet and one or more lamp driver cabinets.

Along with the BWT system installation, a standard class survey was also carried out on the tanker. The scope of work included overhaul of outboard valves, the hull grit blasting and painting, renewal of tail shaft liners, renewal of insulation in some places and renovation of the cooling systems.

An important part of the repair project was also the overhaul of ten cargo pumps, two slope pumps, ballast pumps and one fuel pump including replacement of bearings, seals, etc.

Each of the cargo pumps mentioned above measuring 17,5 metres was transported ashore and repaired in the shipyard's workshop, from where it was returned to the ship. Due to the number of elements to be overhauled, it was a time-consuming part of repair works.

The main engine was also in the scope of repair works. The pistons, cylinder





*Gerakas.* Photo: Marcin Koszałka



*STI Camden.* Photo: Marcin Koszałka



*Sten Skagen.* Photo: Marcin Koszałka

heads and fuel pumps on two engines were overhauled.

Additionally, the ballast tanks of the ship have been cleaned from mud.

## “Seven” Monaco

In 2019 at Remontowa SA shipyard, a series of seven tankers managed by Scorpio Ship Management S.A.M. from Monaco is also undergoing a BWT system installations combined with dock and maintenance repairs for the class renewal.

At the turn of May and June this year shipyard workers completed these tasks on the first tanker – *STI Comandante*. In mid-August, work was completed on *STI Acton*, and in early September – on *STI Wembley*. The next served ship has been *STI Camden*.

Repair works carried out on these ships included overhaul of outboard fittings, Kingston filter maintenance, deck crane tests, repair of cracks in cargo and ballast tanks, hull surface treatment, maintenance of chain lockers, inspection of anchor chains, repairs of electric motors and boiler valves, repairs of hydraulic cylinders of the rescue boat davit and load tests of gangways.

Ecochlor’s BWT system, which is based on a two-stage process of filtration and purification with chlorine dioxide, was installed on all ships. The system eliminates all invasive aquatic species, including zooplankton, phytoplankton, algae, microorganisms, and even pathogens and viruses, regardless of turbidity, salinity or temperature.

The filtration system – most often located near the ballast pumps – removes deposits and larger organisms, and the purification system, can be installed in any convenient place on the ship, eliminates smaller organisms and pathogens with chlorine dioxide.

The installation of the BWT system began with the installation of new rooms in midship and stern and of foundations in the engine room, which were prefabricated before the arrival of ships to the shipyard.

Tanks for acid and alkali (which in combination gives a mixture for the treatment of ballast water) are located in the stern room, while mainly filters were installed midship. Important works were carried out in the engine room, in which new switchboards, pumps, and an additional filter were installed. Individual system elements were connected with new pipelines. There was also a lot of work for electricians and automation specialists, who



completed the assembly and integration of cable installations.

Next ships contracted to install BWT systems in 2019 are *STI Clapham*, *STI Poplar*, and *STI Rotherhithe*.

## Sten Skagen

The owner and operator of the chemical tanker *Sten Skagen* is the Norwegian company Stenersen AS based in Bergen. In 2018 we repaired – at the same time and on one dock – two ships from this ship's fleet: *Stenberg* and *Sten Frigg*.

*Sten Skagen* arrived at Remontowa SA for the second special survey and installation of an Alfa Laval BWT system. The system uses ultraviolet lamps. Compared to the systems based on chemical disinfection, its installation seems simpler due to the fewer components. However, in the case of the *Sten Skagen* ship, it was a difficult task due to the installation of pipelines and their location.

It was necessary to first dismantle and remove the existing pipelines in the ballast system and then install new ones – in the ballast tanks, on-board tunnel, engine room, and in the new room of the BWT system. To carry out these works, due to the location of ballast pumps and filters on this unit, it was necessary to cut out some of the plating and structure in the area of ballast tanks.

After opening the plating and full verification of the existing piping system, it turned out necessary to partially modify the previously prefabricated system components. Making a new arrangement together with making new passages was the biggest challenge of the entire project.

In the room intended for the BWT system located on the deck in the shipyard, its components were installed – a filter, a UV reactor, and a cleaning module. The system has been supplemented with two booster pumps, additional fresh water and compressed air supply, as well as a heating and ventilation system for the new BWT room. Electrical equipment was also installed and new equipment connections were made.

In addition to the assembly of the BWT system, the ship underwent a second class renewal. Of the basic works, apart from the standard dock and maintenance repair, the electric motors were repaired, all generators were repaired, the main engine was overhauled and the tunnel thruster was repaired.



*Golden Opal*. Photo: Marcin Koszałka



*Safmarine Nomazwe*. Photo: Marcin Koszałka



*STI Acton*. Photo: Marcin Koszałka



## Another major renovation of a Dutch dredger

# Prince's visit...

**The *Prins der Nederlanden* dredger belonging to Royal Boskalis Westminster b.v. is one of the largest specialist ships repaired in Remontowa Shiprepair Yard in the recent months.**

At the beginning of 2019, the shipyard renovated, among others, the following stone dumping vessels: *Seahorse* (property of Deeprock – consortium DEME / Boskalis), *Tideway Rollingstone* (DEME) and *Rock-piper* (Boskalis).

The repair project of the *Prins der Nederlanden* dredger took more than two months, which was caused by the large range of the contracted works.

The shipyard carried out a general overhaul of dredging systems. 1000 mm self-draining channel pipelines were re-

placed. The pipes of the jet system responsible for flushing the cargo hold, service frames for lowering sliding pieces (which have also undergone a general renovation), and rolls and rope blocks from other systems for raising and lowering dredging pipes were replaced as well.

In addition, over 100 tonnes of steel were replaced in the cargo hold bulkhead and additional pads (doublers) were installed on the hold's slants along its entire length. A bottom door inspection and repair was also carried out, including the

The renewed dredger leaving  
Remontowa SA.  
Photo: Sławomir Lewandowski







*Prins der Nederlanden* belongs to Royal Boskalis Westminster b.v., the Owner who has been cooperating with Remontowa SA for years.  
Photo: Sławomir Lewandowski

inspection of bottom door actuators with the replacement of main strands.

The renovation of *Prins der Nederlanden* did not focus solely on dredging systems.

Maintenance of the deck, superstructure, pump rooms, davits for lowering dredging pipes, deck crane, and hull was carried out, as well as tank cleaning including fresh water tanks maintenance. Inspection of hydraulic systems and valves, steering gears and deck crane was also carried out. The Becker-type rudder has been overhauled.

The last stage of the project consisted of the reconstruction of dredging systems, transport of pipelines to the dredger deck, delivery of works to the owner, and preparation of the ship for going to sea.

*Prins der Nederlanden* was built in 2004 at the Scheepswerf De Merwede BV shipyard. The vessel is 156 m long and 28 m wide.





Repairs with large scopes  
on subsequent DFDS ro-ro vessels

# Danish flowers

Remontowa Shiprepair Yard has been servicing the DFDS fleet for years, both ro-ro ships of the “Flower Class” series (with the names of the flowers on board) and others. In 2019, the shipyard continues to cooperate with the company by carrying out large-scale repairs on more ships.

In August 2019 *Suecia Seaways* joined her DFDS “sisters”.  
Photo: Marcin Koszałka

DFDS is one of the leading operators on the European ferry market. Danish carrier ships sail in the Baltic Sea, the North Sea, and the English Channel area connecting continental Europe with the Great Britain. DFDS boasts, among others, multiple prestigious World Travel Awards, recognized as the “Oscar” of the tourism industry, awarded by the votes of passengers, customers, and tourism specialists.

## ***Freesia Seaways***

Another representative of the “Flower Class” – *Freesia Seaways* – came for a class renewal, extended with the works indicated by the classification society. While her drydocking was still underway, another DFDS “flower” was docked next door – *Begonia Seaways*, which also arrived for a special survey to undergo under the supervision of Lloyd Register.







*Begonia Seaways and Freesia Seaways docked next to each other at Remontowa SA.*  
Photo: Marcin Koszałka

On *Freesia Seaways* a typical class survey extended by the works indicated by the classification society were also carried out. The dock works included grit blasting of the underwater part of the hull, inspection of outboard fittings and tunnel thrusters – two aft and two bow, maintenance of car decks, works on the stern ramp, replacement of seals on pilot doors, engine coolers inspection, scrubber pumps and coolers inspection.

It is worth recalling that during the ship's stay at Remontowa SA in 2014, *Freesia Seaways* was retrofitted with the EGCS system. At that time, we also equipped the twin ship - *Begonia Seaways* with a scrubber.

## **Begonia Seaways**

During the present stay at Remontowa in 2019 the scope of work on *Begonia Seaways* was larger than on *Freesia Seaways*. It included repairs of one tunnel thruster and overhauls of the other three thrusters of this type. Repairs and machining of the rudder blade, the anchor windlass-mooring winch and pumps were conducted, as well as an overhaul of coolers.

The shipyard also replaced the sewage system pipes from the superstructure and

the ceiling slab under the superstructure. Hull maintenance was carried out while the ship was in the dock. Due to the recommended change of the paint system, the underwater part of the hull was entirely grit blasted.

The steel on the hull plating was also replaced in the places of dents. The lighting system wiring on the weather deck was also replaced and actuators from anti-heeling system valves and main engine exhaust were inspected.

On both sides of the ship's funnel, the old shipowner's logo was removed and new one was installed. The rebranding process related to the refreshment of the logo and the introduction of dark blue colours began at the beginning of 2016. Gradually the new identification covers all other ferries belonging to DFDS.

## **Ficaria Seaways**

*Ficaria Seaways* was another DFDS ship repaired at Remontowa. The scope of work on this ferry was similar to the previously mentioned two. The shipyard carried out standard works on the drydocked ship, i.e. overhauls of outboard fittings, tunnel thrusters, anchor windlass, coolers and oil

pumps of the main engine and scrubber pumps.

The four exhausts of the auxiliary engines was replaced and the propeller shaft liner was renewed. As on the previous ships, the ceiling panels under the superstructure were replaced. The hull maintenance which involved changing the paint system was carried out, which required the entire underwater part to be grit blasted. Car deck maintenance was also carried out.

As part of the repair project, minor light steel and hull works were also carried out, which included among others application of the Metal Line paint coating to prevent cavitation on the leading edge of the propeller blade.

As part of the renovation, the shipyard workers also exchanged the shipowner's logo on the funnel on "*Ficaria*", installing the new logo on both sides.

Additionally, in August 2019 *Suecia Seaways* was also serviced at the yard while in November - *Britannia Seaways* is scheduled to enter Remontowa SA. Both ships belong to the so-called "Italian class" of the DFDS fleet.



A ship of the Yang Ming Marine Transport from Taiwan in Gdansk for the first time

# Huge engines of *YM Essence*

**Built in 2014 at CSBC – Kaohsiung in Taiwan,  
the ship is 259,00 m long and 37 m wide.**

During dry docking of the ship, the tunnel thruster, outboard valves, and electric motors were inspected, and the propeller shaft seals were replaced. The ship owner also commissioned measurements of the rudder blade and propeller shaft, polishing and testing the propeller, as well as maintenance and painting of the hull.

In addition, the scope of work included a steel renewal on the port side, renewal and treatment on container guides, and replacement of seals on the cargo hatch covers. To accomplish these tasks, some hatch covers were dismantled and transported to the shipyard quay. Other hatch covers were repaired on the ship.

However, the most important and difficult task was the overhaul of the main engine, which is one of the largest that can be found on ships, in general. The difficulty of the work was related to the size and heaviness of the individual elements, which was a big challenge for the shipyard workers.

The diameter of one piston of the *YM Essence* engine equals 1 metre. A standard cylinder head on a typical ship weighs approx. 1,5 tonne, while on the Taiwanese container ship it is 11 tonnes! Due to the size of the heads, their inspection was carried out on the ship.

Meanwhile the pistons were pulled out through the hatch and transported to the shipyard workshop, where they were overhauled. In addition, an inspection of pistons and crankshaft with liner measurements were carried out in order to evaluate the necessity of their replacement. An inspection of the bearing sets of two units, as well as an inspection of the main engine coolers and one of the two turbochargers were carried as well.

In October this year another Taiwanese vessel - *YM Enlightenment* - from the same shipowner called at Remontowa SA.

*YM Essence* was the fourth longest ship that entered Remontowa SA in the first half of 2019.  
**Photo: Marcin Koszałka**





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