SPECIAL ISSUE

Poland at SEA

maritime magazine

REVIEW OF THE POLISH MARITIME INDUSTRY

Plate full of PSV

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Hull for MPSV

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Publisher: TEMAT Ltd., Na Ostrowiu 1, 80-958 Gdansk, Poland.
Contact: Phone: +48 58 307 17 90, fax: +48 58 307 12 56,
e-mail: grzegorz.landowski@portalmorski.pl.

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Polish-Norwegian maritime business relations

Photo: Media4Sea

***Siri Knutsen* converted at Remontowa SA into a well stimulation vessel.**

Partners from the North

Numerous Norwegian and international offshore shipping companies operating on the Norwegian shelf, utilize offshore support vessels, such as PSV, AHTS, diving and ROV support as well as seismic vessels either delivered from Polish yards fully outfitted or at least - built in Norway with partially outfitted hulls subcontracted to Poland.

Partly outfitted hulls

Just one of numerous and the most recent examples is a pair of partially (but to a high extend) equipped, hulls of seismic survey vessels built at Crist Shipyard in Gdynia for Kleven Maritime's Myklebust Verft to be ultimately delivered to Sanco Shipping AS (both being already delivered from Gdynia based yard, *Sanco Swift was* delivered from Myklebust yard in July, while *Sanco Sword* is expected to be delivered in Q1 2014).

Another hull of an interesting ship is being built by nearby, Gdynia based Vistal (hull of advanced Multi Purpose Support Vessel for Simek Shipyard of Flekkefjord and ultimate delivery for Simon Møkster Shipping), described on pages 36.

July 2013 saw first steel cutting ceremony for the partly outfitted 89 m long Platform Supply Vessel being built by Nauta SA, Gdynia, for the Norwegian client Hellesøy Verft AS. PSV hulls for Norwegian yards have also been built recently by Gdansk Shipyard, Crist and Maritim Shipyard.

Steel structures

Numerous Polish companies are providers of more and more complex and sophisticated offshore structures as well as offshore and subsea equipment.

One of the most interesting recent examples is manufacturing of pedestrian and media transport (piping) bridge and a flare tower plus some other structures, including a 1300 ton multifunction platform topsides module and 1700 ton Eldfisk II 2/7S sections for ConocoPhillips Norge operated Eldfisk platform complex, currently being expanded. The customer is Kvaerner ASA (Kvaerner Stord AS yard) and Polish suppliers - subcontractors are Vistal, Energomontaz Polnoc Gdynia and Mostostal Pomorze.

Oil and gas

Polish gas upstream and downstream giant Polskie Górnictwo Naftowe i Gazownictwo SA (PGNiG) is involved in one of most prominent and significant examples of Poland- cooperation in the maritime field (offshore oil and gas sector in this case). PGNiG Upstream International AS, a subsidiary of PGNiG will be selling its share in natural gas output from the Skarv oil and gas field through PGNiG Sales & Trading (PST). Through the company, PGNiG SA holds an approximately 12% interest in the Skarv project. The field is operated by BP Norge (24% interest), and the other partners are Statoil Petroleum (approximately 36%) and E.ON Ruhrgas Norge (approximately 28%). At present, total reserves in the Skarv licenses held by PGNiG Upstream International AS amount to approximately 70.9 million boe. Thus Polish gas company is involved in one of the most ambitious offshore oil & gas development, employing advanced technology implemented in one of the world's largest, most complex and advanced harsh environment floating offshore unit - *Skarv* FPSO.

Shipping

Thousands of Polish seafarers are employed onboard Norwegian owned or operated ships, mainly officers, including some captains. However, it is not only manpower that is provided to Norwegian shipping industry. Norwegian capital established several ship management companies and manages fleets from Poland. Just a few examples of such companies are Green Management Sp. z o.o. and Vestland Marine Sp.z o.o.

Partially outfitted hull, built at Crist yard, of Sanco Swift - seismic survey vessel completed at Kleven's Myklebust Verft AS.

Photo: Media4Sea

DET NORSKE VERITAS

Klasyfikacja | Weryfikacja | Doradztwo techniczne | Certyfikacja
Rozwiązania w zakresie oprogramowania | Szkolenia

Zapraszamy do odwiedzenia naszego stoiska na targach Baltexpo 2013
Centrum wystawiennicze Amber Expo | 3-5 września
Stoisko nr 3.01 | hala A

MANAGING RISK

Photo: Media4Sea

Norwegian vessels are frequent visitors at Remontowa S.A. Multi Role Service Vessel *Simar Esperanca* (ex. *Seven Sisters*) was serviced in 2013 likewise a couple of the AHTS type vessels owned by Siem Offshore.

Ship design services

Also some Norwegian ship design companies, such as Skipkonsulent / Vik & Sandvik (now incorporated in Wartsila Ship Design) has established large subsidiary offices and divisions in Poland many years ago now, taking advantage of readily available, well educated, experienced and highly qualified naval architects and marine engineers.

Some examples of Polish divisions of Norwegian companies as well as Polish originated companies with some Norwegian interests include Midcon Designer associated with LMG Marin and Inocean. There are many projects making Polish and Norwegian companies join their efforts and capabilities to provide top quality and competitive services on the markets outside Norway, Poland and Europe, eg. in new huge and developing offshore oil & gas market - Brazil. Cooperation of Gdansk based RMDC ship design and consulting company with LMG Marin in the project of designing advanced drilling vessels to be built in Brazilian yards for Brazilian operator is a model example.

No wonder, either, that Det Norske Veritas has established one of its major competence centres initially in Gdansk, at the ship and offshore technology faculty of local technical university and currently maintains large office, including ship surveyors training centre with excellent 3D virtual reality facilities.

State-of-the-art ship's & fishing gear

Norway's ship's gear industry has developed alongside the steady growth of the Norwegian fleet and shipyards. Ship's gear manufacturers offer a vast range of state-of-the-art products - from deck winches and vessel lighting solutions to the most advanced electronic cargo handling and stability systems.

Lots of these top class marine equipment items and systems are manufactured in Poland. Just for example: manufacturing facilities of Norwegian companies in Poland include Noreq (recently associated with Umoe Schat-Harding under Herkules ownership) in Solec Kujawski, Jotun in Gdansk region and Scana Zamech / Scana Industrier ASA in Elbląg. Rolls-Royce service centre has been established quite recently in Gdynia. On a project to project basis numerous companies have been manufacturing marine equipment for TTS. Also Ulstein has interests in Poland with ship sections manufacturing and structural design carried out here.

Seafood industry

For the past three decades, the Norwegian aquaculture industry has been at the forefront of global developments. Interesting case of Polish-Norwegian business ties in seafood industry would be Morpol. Founded in 1996 in Ustka on the Baltic coast of Poland, the company employs over employs over 4000 people in nine countries, including Japan. Sales, processing and packaging activities are managed from Ustka. Salmon farming is done in Norway. Morpol is the world leading processor of salmon and the market leader in smoked and marinated salmon.

Completely equipped ships

Taking into consideration the volume of sales to Norwegian market, especially in some sectors, one Gdansk, Poland based company deserves to be shown here in a wider picture - REMONTOWA Holding S.A. (former REMONTOWA Group, consisted of two shipyards and several other equipment manufacturers as well). It is a major contributor to Norwegian-Polish trade volume with yearly sales on the Norwegian market amount to over EUR 150-200 million.

REMONTOWA Shipbuilding S.A., being currently the largest Polish shipbuilder highly values its Norwegian customers, so far mainly in car and passenger ferry sector and among LNG fuelled ferry operators. The shipyard constructed 32 ferries for Norwegian owners in its history. Recently REMONTOWA Shipbuilding has acquired further

valuable orders - for advanced cable lay vessels and LNG fuelled PSV(details on pages 9-10).

The shipyard has also built a 7500 cbm cargo capacity versatile LNG powered gas carrier ordered by Dutch owner for Norwegian company. *Coral Methane* entered service in May 2009 under a 15-year charter with the Norwegian energy company Gasnor AS. She was meant for operations mainly in the Baltic and North Sea carrying various gases, but also along the Norwegian coastline for regional LNG distribution.

Repair and conversion

Many of Gdansk Shiprepair Yard Remontowa S.A. clients (including Norwegian ones) are the world leaders in their respective market domains, such as Odfjell AS in chemical tankers operation, Knutsen OAS and Teekay Shipping Norway AS in shuttle tankers as well as Prosafe in the area of accommodation units.

Over the recent years numerous Knutsen OAS owned tankers have been converted into shuttle tankers and have had KVOC (Knutsen Volatile Organic Compounds recovery systems) installed at Remontowa.

In 2013, shuttle tanker *Siri Knutsen* was prepared for a pilot project that she would carry out for Statoil and partners on the Snorre offshore oilfield. In fact, she was converted into a new role by Remontowa SA. She has become what might be called the world's largest well stimulation vessel (WSV) so far, while retaining its shuttle tanker capabilities.

The shipyard has also upgraded and converted semi-submersible drilling rigs *WilPhoenix* and *WilHunter* for Awilco ASA, and quite recently jack up accommodation unit *Safe Esbjerg* and semi-submersible platform *Safe Caledonia* for Prosafe, among others.

Remontowa SA also delivered a FPSO unit to Norwegian company for use offshore Brazil already in 2007. Teekay Petrojarl ASA operates FPSO *Petrojarl Cidade De Rio Das Ostras*, converted from a tanker, on the Siri Field in Brazil for Petróleo Brasileiro S.A. (Petrobras).

And last, but not least, long-lasting fruitful co-operation has to be mentioned, between REMONTOWA Holding companies and DNV (Det Norske Veritas) - one of the leading international classification societies, being also the safety, quality assurance as well as maritime and offshore industries services and know-how provider and competence centre.

Appreciation

Business relations between the companies of REMONTOWA Holding S.A. and Norwegian ones has been appreciated by representatives of Norwegian government.

In June 2013, Karsten Klepsvik, the Norwegian Ambassador in Poland, paid a visit to Gdansk and nearby Sopot and Gdynia. The ambassador met with the Remontowa Holding management and employees at REMONTOWA Shipbuilding S.A., where he inspected the advanced, innovative LNG only fuelled double ended fjord ferries for Norled.

Two years earlier REMONTOWA Holding S.A. had also a privilege to host a visit from Norwegian Prime Minister Jens Stoltenberg, who attended the ceremony of first steel cutting for the construction of innovative, environmentally friendly, LNG powered ferry for Norwegian Owners Torghatten Nord at REMONTOWA Shipbuilding. He also visited Gdansk Shiprepair Yard Remontowa S.A. which has been repairing, refurbishing, upgrading and converting Norwegian ships and offshore units for many years.

Photo: Media4Sea

Transport bridge and flare tower from Vistal for Eldfisk platforms complex expansion project.

Diversity is our strength!

"It is not only a slogan. It is the strategy strongly implemented by REMONTOWA SHIPBUILDING S.A. for many years" told us Chairman of the Shipyard – Mr. Andrzej Wojtkiewicz.

REMONTOWA SHIPBUILDING S.A, member of REMONTOWA Group is the biggest shipbuilder in Poland. Belonging to the Group allows to offer the most sophisticated products – from design to fully equipped vessel.

During last years REMONTOWA SHIPBUILDING proved that they are not scared even the most difficult tasks successfully building modern vessels of different types and parameters such as: car-passenger ferries, offshore support vessels, multipurpose vessels, cargo vessels, technical ships and others.

In December 2012 REMONTOWA SHIPBUILDING completed construction of the series of four gas powered "green" ferries built on order of Torghatten Nord AS.

Ferries LANDEGODE, VÆROY, BODØ, and LØDINGEN operate in difficult weather conditions beyond the polar circle, serving the local communities, tourists and the industry. Operating in such conditions defines high demands to the vessels. Each of the ferries can accommodate on board 390 passengers and take 120 cars.

The ferries were applauded by the public, appreciating their high standard, architecture and outfit. All ferries are successfully operated and received recognition of the Owner and passengers. First of the series - LANDEGODE won ShipPax Award for the innovative environmental design including LNG propulsion concept.

Currently, there are being built another two gas powered ferries.

Contrary to previously delivered ferries using diesel or gas power, these ones will be driven only by LNG and emergency CNG gas. Such solution enables reduction of harmful emissions into the atmosphere. The vessels will be the biggest ones in their class.

In March 2013 the new contract for building modern, double–ended, car–passenger ferry with Gas-Electric propulsion was signed. It is the result of winning the tender announced by SAMSØ Kommune, located in Denmark, in the region of Jutland Peninsula.

Selecting of REMONTOWA SHIPBUILDING was caused by high quality of offered vessels as well as experience in construction similar gas powered ferries.

Construction of innovative gas powered ferries meeting restrictive, ecological rules has become one of the main specialties of REMONTOWA SHIPBUILDING S.A.

This specialization was appreciated by the Owners from Denmark, Norway and United Kingdom.

"The next, very important area of our activity is building of modern, multipurpose offshore support vessels for Owners from different countries" – stressed Mr. Andrzej Wojtkiewicz.

A PSV vessel built at Remontowa Shipbuilding S.A. for a Singaporean owner.

Last year, two multipurpose Platform Supply Vessels "LEWEK ANDES" and "LEWEK AQUARIUS" were delivered to the Owner from Singapore – EZRA Holding.

The vessels were equiped with hybrid propulsion which enables most cost efficient exploitation, reduction of fuel consumption and low emission of NO_x and SO_x to the atmosphere. The vessels meet highest operation demands with the most cost efficient solutions. The vessels are designed for regular supply services between shore base, drilling sites and other ships, handling of anchors and mooring lines consisting of wire and chain. Vessels are equipped with IMO Class 2 dynamic positioning system and destined for world wide services. More over the vessels are equipped for Fi-Fi 1, Safety Standby Rescue missions (up-to 300 survivals) and Oil Recovery operation. Actually, vessels are operated on the West Coast of Africa.

Currently, next nine offshore vessels are being built in REMONTOWA SHIPBUILDING for well-known clients such as Edison Chouest Offshore and Gulf Mark Offshore.

A ferry recently contracted by Remontowa Shipbuilding S.A.
See details on pages: 16-18.

First five vessels of this series have already left REMONTOWA SHIPBUILDING, next, are expected to be delivered in the sequence of three months.

The vessels will be equipped with Diesel – Electric power system and will fulfill the general demands of the offshore industry as carriage of liquid mud, dry bulk, and special products like methanol, pipes and other general cargo on open deck.

New Platform Supply Vessels are destined for use in all sea areas, regardless of weather conditions.

Long - term cooperation with the largest Owners of the offshore fleet - confirms the undisputed position of REMONTOWA SHIPBUILDING S.A. as a market leader in construction of the vessels for the offshore industry.

New offshore sector orders for advanced LNG driven vessels

Breakthrough

Recently Remontowa Shipbuilding S.A. signed two new contracts for the construction of the most technologically advanced vessels ever built in Poland.

Cable Lay Vessel

The first order signed on 29 of April 2013 is for the construction of an advanced dynamically positioned Cable Lay Vessel (CLV) with delivery scheduled for April 2015. The ship will be built for one of the leading Norwegian offshore fleet owner and operator - Siem Offshore.

The contract is not only very important for REMONTOWA Shipbuilding S.A., but constitutes an important milestone for the whole shipbuilding sector in Poland as well. It is the most technically advanced vessel to be built by Polish shipyard so far. The vessel will be entirely constructed in Gdańsk - starting from workshop documentation through the construction of the hull with innovative shape to the outfitting with modern navigation and ship control, handling and station keeping systems including DP 2 class dynamic positioning system, the diesel - electric propulsion as well as the cable handling and laying system.

The CLV has been designed in close cooperation with VARD Design (formerly STX OSV, now Fincantieri group member) and will have an overall length of 95.30 meters, a breadth of 21.50 meters, max draught of 7,10 m, usable cargo deck area or 350 sq m, cable payload of 4,250 tons and an accommodation for 60 persons (type designation Vard CLV 01). Most of this complement will be engaged in the operations of laying and connecting cables. The vessel will meet the most stringent requirements and highest standards of environmental protection and safety of navigation, as for "CLEAN DESIGN" class notation and will sail under the most reputable Norwegian flag.

The CLV will be equipped with a state-of-the-art diesel-electric propulsion system consisting of four main generators providing power to two azimuth propulsion thrusters, two tunnel thrusters and one retractable thruster, ensuring excellent station-keeping capability as well as environmentally-friendly and fuel efficient marine operations.

The focus for the design of the CLV has been to meet the challenging requirements of the installation, repair and maintenance of medium and high voltage submarine cable systems within the offshore renewable energy and offshore oil and gas markets.

Design and part of technical documentation of the new CLV for Siem Offshore will be prepared by Norwegian

Cable Lay Vessel to be built at Remontowa Shipbuilding S.A.

consulting naval architects VARD Design - as mentioned earlier, while workshop documentation will be made by design office Remontowa Marine Design & Consulting Ltd. The vessel will be built under the supervision of classification society Det Norske Veritas.

Platform Supply Vessels

However, cable layer will not be the only vessel to be built for Siem by Gdansk based yard in the coming years. On July 5, 2013, REMONTOWA Shipbuilding SA signed a contract for the construction of two specialist vessels intended for supply service and support of oil drilling and production rigs. They have already been contracted for maintenance of a Norske Shell oil and gas fields in the North Sea, mainly Draugen and Ormen Lange developments.

New ordered LNG powered Platform Supply Vessel.

REMONTOWA Shipbuilding vast experience in building of two types of ships: offshore support vessels and LNG fuelled vessels (mainly fjord ferries) will now be implemented in one ship - an LNG fuelled PSV. These vessels will be the first ones to be built in Poland.

The ships will be fully constructed in Gdansk - starting from preparing workshop documentation, going through building of the hull and ending up with complete outfitting and performing of sea trials before turn-key delivery. The REMONTOWA built vessels will be equipped with state-of-the-art navigation systems including an advanced dynamic positioning system DP2, gas-electric propulsion, fire-fighting system Fi-Fi 2 and facilities for containing of oil spills.

The 89.20 meter long, 19.00 m wide, 9 m deep ships with a deck area of 980 sq m will be capable of carrying up to 5,400 tons of cargo. They will be served by a 25-man crew. The vessels is designed to meet the highest standards of environmental protection and safety of navigation "CLEAN DESIGN" and will sail under the most reputable Norwegian flag.

The VS 4411 DF design LNG PSV ships' concept and technical documentation will be prepared by Norwegian Wärtsilä Ship Design office, while the workshop documentation will be done by Remontowa Marine Design & Consulting, a part of Remontowa Group. The ships will be built under the supervision of DNV classification society.

Photo: Remontowa Shipbuilding

Remontowa Shipbuilding continues successful offshore support vessels product line

Plate full of PSV

***Highland Defender* constructed for GulfMark Offshore during sea trials.**

Over the recent years two major product lines at Remontowa Shipbuilding SA are ferries (including LNG-fuelled ships) and offshore support vessels. The yard is occupied with orders for advanced, high-specification platform supply vessels being under construction for renowned owners - Edison Chouest and GulfMark.

In the last year the shipyard delivered two similar PSV units (*Lewek Andes* and *Lewek Aquarius*) to Singaporean owner EMAS (Ezra Holding).

A series of eight for Edison Chouest

Currently, Remontowa Shipbuilding is executing two contracts for the construction of further PSV-s. The units of differing designs are being built for Edison Chouest Offshore (ECO) and for GulfMark Offshore.

The names chosen for the ECO PSV ships are: *Bongo, Kudu, Sable, Oryx, Eland, Gemsbok, Springbok* and *Wildebeest*. The first four units from the series have already been delivered, the last one - at the end of August. All the remaining units from the series being at various stages of construction and outfitting are expected to be delivered successively until the 3rd quarter of 2014, in the approximately three months intervals.

This series of vessels is being built for one of the American leaders in the offshore industry. The company is one of the industry's largest, most diverse and dynamic marine transportation solutions providers, which also runs its own shipyards, so it knows the shipbuilding trade and knows well, which external shipyards may provide good quality ships. ECO currently supports the majority of the US Gulf deepwater operations and a rapidly expanding share of the global market with its fleet of over 200 highly specialized new generation offshore service and supply vessels.

Remontowa Shipbuilding enjoys cooperation with this Owner lasting for some five years now, previously resulting with delivery - two years ago - of three AHTS units: *Waterbuck*, *Reedbuck* and *Bushbuck*, built according to successful NED 8167L design developed by NED (currently Remontowa Marine Design and Consulting Ltd.).

The vessels from the new series (currently under construction) represent modern design platform supply vessels (PSV) to serve offshore industry. They

are designed with diesel-electric propulsion system. Such power system enables most cost efficient operation, reduction of fuel consumption and lower emission of NO_x and SO_x to the atmosphere. However the design does not utilise a standard type of diesel-electric propulsion, to be seen commonly onboard diesel-electric driven ships built so far. Instead, it is equipped with an innovative medium voltage (4.16 kV) electrical network, and novel technologies for electrical frequency control for propulsion drives utilized "Current Source Inverter". Application of these technologies puts Remontowa Shipbuilding at the forefront of modern shipbuilders in Europe and worldwide.

The vessel are able to fulfill common requirements of the offshore industry, such as carriage of liquid mud, dry bulk, and special products like methanol, as well as pipes and other general, break-bulk cargo and offshore containers on open deck.

The vessel, being built under supervision of American Bureau of Shipping and according to the design (MMC 887 L) elaborated by MMC Ship Design & Marine Consulting Ltd from Gdynia, Poland, will rank among the largest ones in her class. Deck area of some 1050 sq. m capable of taking load of 10 t / sq. m allows for carriage of goods in the range of well above 2500 tons, while dangerous goods may be carried in tanks under the deck with the vessel achieving a total deadweight capacity of some 5500 tonnes.

The vessel is to be equipped with advanced control systems, dynamic positioning (DP2 class) as well as fire-fighting equipment (FiFi-1 class) and equipment for oil recovery operations.

GulfMark trio

Another contract related to advanced platform supply vessels, that Remontowa Shipbuilding is currently occupied with, is the one signed in August 2011 with renowned offshore support fleet Owner and Operator GulfMark (Houston-based GulfMark Offshore, Inc. is listed on NYSE as GLF). The vessels are being built for one operation under the banner of Gulf Offshore N.S. from Aberdeen belonging to US based GulfMark Offshore.

The three units, coming in two designs, are scheduled for delivery by the end of this year with the initial MMC887CD type vessel (yard no. B850/01, featuring 1000 square meter deck area) expected to be delivered in the second quarter of 2013 and the second vessel of the same design along with somewhat smaller MMC879CD vessel (featuring deck area of over 800 square meters) expected to be delivered in the third quarter of 2013. The two larger vessels will be more versatile, being - by design - prepared for other roles as well rather than offshore supply duties alone. The conceptual design and all technical documentation for the trio is provided by Polish design office MMC Ship Design & Consulting Ltd., Gdynia.

The names chosen for the ships are: *Highland Defender*, *Highland Chieftain* and *Highland Guardian*. *Highland Defender* (newbuilding no. 850/1), after delivery from Gdansk based yard, passed through Kiel Canal shortly before mid-July heading for its first deployments on the North Sea, including support operations for the *Ocean Nomad* semi-submersible drilling rig. Following

delivery, the ship arrived to Aberdeen base port on July 15.

Highland Chieftain (yard no. 853/1) was undergoing sea trials late August, nearing delivery, as we went to press.

Both ships (*Defender* and *Chieftain*) were christened at one occasion - during a ceremony held on July 6, 2013. *Highland Defender* was christened by godmother *Elizabeth Warren*, while *Highland Chieftain's* godmother is Suzanne Fowlie. The last ship of the trio to be delivered will be the *Highland Guardian* (yard no. 850/2)

The larger vessels will be able to fulfill the general demands of the offshore industry as carriage of liquid mud, dry bulk and other general cargo on open deck. The vessel of this type is designed for typical supply services between shore base, drilling sites and other ships as well as for fire-fighting and oil recovery operations. Over 1000 sq. m working deck area as well as deadweight of 5100 t, ranks this unit between the biggest platform supply vessels.

These modern vessels will be equipped with diesel-electric propulsion consisting of four main generating sets supplying total of 6800 kW. IMO Class 2 dynamic positioning system allows for operations even in the most difficult weather conditions. Another contractual feature will be the speed of 14.3 knots.

The vessel will provide up to 40 places in accommodation consisting of 28 cabins. She will meet the highest standards of classification societies required for operating in the North Sea. The vessel will also feature "clean design" certificate and class notation along with so-called "green passport" - the document confirming the environmentally friendly origin of materials used for vessel's construction.

It is worth recalling that Remontowa Shipbuilding has already been building ships for GulfMark. In 2010 two in-house Remontowa designed (of successful NED 8167 L design), 70 m long, 7600 kW propulsion power, 120 T bollard pull AHTS units *Sea Valiant* and *Sea Victor* were delivered.

Gulf Offshore provides marine transportation services to the UK Offshore Energy Industry. In addition to transporting drilling materials, supplies and personnel to offshore facilities, the ships from Gulf Offshore fleet move and position complex offshore drilling installations. With a modern, and technologically advanced fleet, Gulf Offshore is able to provide a full range of marine services in one of the most challenging environments in the world, including the North Sea (historically the most demanding of all offshore oil and gas exploration frontiers due to harsh weather and sea conditions, the North Sea was GulfMark's original geographic focus), but the company is also present in the Mediterranean and Africa as well as Middle East and India markets. The company has the capability to serve all three North Sea sub-markets - exploration, production platform support, and field development, including subsea services, however the Gulf Offshore fleet is primarily oriented toward support vessels operations.

Photo: Media4Sea

Oryx built for ECO seen in the Gdansk Port channel.

The whole year throught

ACTiV
marine interior

ACTIV Sp. z o.o. (Ltd) is based in Pszczółki, about 30 kilometres away from Gdańsk. Currently the company employs nearly 180 people in its two locations: the main factory next to the Head Office and the Outfitting Department in Gdańsk, close to the shipyard area.

Head Office:

Activ Spółka z o.o., ul. Bałtycka 4,
83-032 Pszczółki, Poland
Phone: +48 58 6920 523
Fax: +48 58 6928 022
info@activship.com

More LNG ferries for Norway and Denmark from Poland

Illustr: Remontowa Shipbuilding

The ferry will be the first LNG driven vessel navigating the Danish domestic waters.

Full steam ahead on green power!

A pair of innovative LNG fuelled ferries is under construction at Remontowa Shipbuilding. Both hulls have already been slipped into the water and are currently under outfitting.

Following the signing, in February 2012, of the newbuilding contract by REMONTOWA Shipbuilding and Norled AS of Stavanger, Norway, regarding SKS 165 type double-ended car and passenger ferries destined for Stavanger-Tau route, the construction of the first unit from the new series of gas powered car and passenger ferries began, marked by the first steel cutting on July 25, 2012. The first steel for the second unit was cut late August in the same year. Then, on the last day of October 2012, the first keel laying ceremony was performed, with the symbolic keel being in fact two bottom, central sections of the hull.

Double ended ferries

The first hull was launched on March 8, while the hull of the second Norled's LNG ferry was being assembled and

partially outfitted prior to its launch scheduled for May, this year. The second ferry was launched, similarly to the first unit, with a spectacular splash on May 14, 2013.

The vessels are destined for one of the largest public transport providers In Norway. Positive experience from the operation of previously delivered ferries as well as good reputation, which REMONTOWA Shipbuilding enjoys on the Nordic market have made it possible to convince the Owner once again to order construction of modern fjord ferries from Gdansk based yard.

The ferries will serve public transport routes along Norwegian coast. The ferries' area of operation and today's environment protection culture as well as regulations require usage of innovative technology enabling to reduce emissions of NO_x and SO_x to the atmosphere. The vessels, powered exclusively by natural gas (with no marine diesel oil fuelled engines installed), and with CNG back-up fuel supply in case of emergency, will be the world's first of this kind as well as among the largest ones in their broader class of "green ships".

The duo of ferries, currently under construction for Norled, each taking 165 cars onboard, will replace three smaller ships with 110 car capacity. The higher service speed will also increase the Owner's transportation capabilities. The propulsion will be diesel-electric with four generating sets fueled with LNG, two of which will be supplied with fuel from CNG tanks in emergency.

It is also worth to note that ferries, at about 124 m in length, are designed and will be equipped for operation by reduced crew comparing to ships in operation nowadays. It will be made possible owing to the most modern automation systems applied, lead to significant reduction in operational costs.

The two ferries will be built to LMG Marin basic design, however - following the agreement between the Yard and the Owners - RMDC (Remontowa Marine Design & Consulting) received from Remontowa Shipbuilding (RSB) an order for detailed documentation for these vessels while LMG Marin, Bergen, entrusted RMDC with part of the classification design, namely electrical drawings.

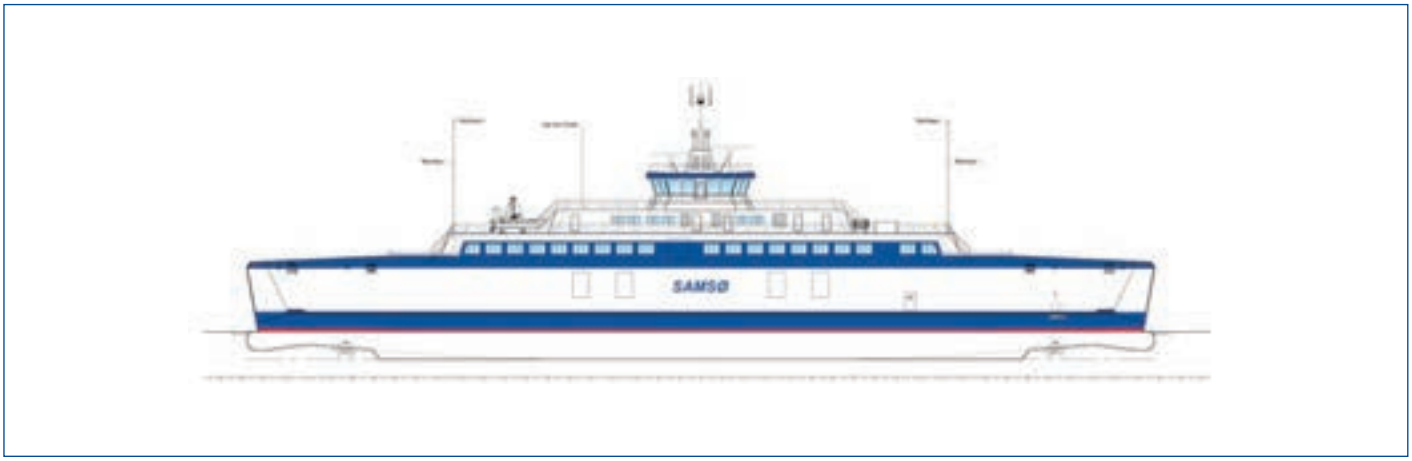
The ships are being built under supervision of classification society Det Norske Veritas (DNV) and Norwegian Maritime Authority (NMA).

It is also noteworthy that the pair will be the biggest gas powered ferries built so far at Remontowa Shipbuilding SA also belonging to the biggest ones in their class which are operating in Norway.

Denmark sails on LNG

Remontowa Shipbuilding, extremely experienced in construction of short- and medium-distance ferries, including double-ended fjord ferries mainly for Norwegian operation, is now entering another market area: Denmark.

On March 18, 2013, representatives of the board of Remontowa Shipbuilding SA signed new contract for the construction of modern, double-ended, car and passenger ferry with gas-electric



propulsion. This resulted from winning the tender, with a deadline set on the end of January 2013 and announced in September last year by Samsø Kommune, located in Denmark. Contenders included four European shipyards, including German Meyer Werft. The tender won by Remontowa was carried out in accordance with EU-tender procedure.

Earlier Samsø invited offers for running the ferry service from 2014 on, however the lowest valued offer for ferry link operation was more expensive by some 10 million DKK yearly than the island's Municipality own calculations and estimates for the six year contract. The City Council has therefore taken decision to establish a municipal company and build a new ferry on their own. This led to shipyard tender won by Remontowa according to decision of Samsø Council taken on March 13, 2013.

The contract value of the ship is understood to be slightly under DKK 200 million and its commercial life expectancy is at least 25 years. The operation of new ferry is expected to commence in September 2014 and the delivery is scheduled for September 15, 2014, with 1 October 2014 being the date set for the ferry's first journey between the island of Samsø and Jutland on the Danish mainland. By this date, the ferry berthing infrastructure in Hou will be also modified to fit the new ferry. The first steel cutting for the ship construction is expected at the turn of summer and autumn 2013.

In 1997, Samsø was selected to become Denmark's first renewable energy island. Focusing on renewable energy and environmentally friendly solutions, Samsø achieved that goal in 2003 and is today a net exporter of green power. Thus, Samsø authorities put strong emphasis on environmental protection. Almost 100 percent of island's electricity comes from wind power. In accordance with generally accepted pro-environmental policy, the ordered ferry will also meet high requirements related to environment friendliness, so the Remontowa built ferry will certainly contribute to the Island's "green" image.

The ferry will be not only environmentally friendly, but also cheaper to operate due to its LNG fuel available at prices competitive to that of traditional marine diesel fuel. Ferry's main power plant will consist of four units of Wärtsilä 20DF dual-fuel gas engines running, however, mainly on liquefied natural gas (LNG).

The vessel is designed for year-round service in local car and passenger traffic between island (Samsø) and the mainland (Jutland), namely on the route Sælvig - Hou.

She will be able to take up to 160 cars and 600 passengers on board. The vessel, at 100 meter length and speed of 16 knots, will be one of the largest gas powered ferries built at Remontowa Shipbuilding so far. At the same time it will be the first domestic ferry in Denmark to sail on LNG.

The initial / concept design was developed by consulting naval architects and marine engineers OSK-ShipTech A/S. The detailed design and workshop drawings are being developed by in-house company of REMONTOWA Group.

This is how the ferry will look like...

Illustr. Remontowa Shipbuilding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Remontowa S.A. purchased two flexible submersible heavy-lift barges

Docks for giants

On August 1, 2013, the large submersible heavy-lift barge, apply named *Giant 2* (140.00 m long, 36.00 m wide and featuring deadweight capacity of 24 060 t), arrived to the port of Gdansk and Gdansk Shiprepair Yard Remontowa S.A.

Similar large barges, used mainly in offshore construction industry, have been brought to Gdansk based yard on a few occasions for repairs and maintenance. This unit, however, will stay at Remontowa S.A. for good. What is more - although not so famous as its near-sister floating structure REM Lift *25 000* (ex *Giant 4*), the newly acquired *Giant 2* will be equally valuable asset, being - similarly to *REM Lift 25 000* - utilized by Remontowa S.A. for ships and offshore platforms docking.

At the final stage of large accommodation and service platform *Safe Caledonia* upgrade at Gdansk based yard, the semi-submersible unit was docked onto the Remontowa's proprietary flo-flo heavy-lift barge *REM Lift 25 000* (ex Smit's *Giant 4* of sunk Russian nuclear submarine *Kursk* hull salvage fame). It arrived to Remontowa S.A. on July 30, 2013, towed from Rotterdam. Afterwards, the construction of the dock-barge has been enhanced with added stability owing to side sponsons installed at Remontowa. Docking of *Safe Caledonia* was the first job of *REM Lift 25 000* at the shipyard. The operation went smoothly on November 21, 2012.

After works had accomplished with *Safe Caledonia* docked up onboard *REM Lift 25 000*, the reverse operation took place. In the deep waters

***Safe Caledonia* lifted up on the *Rem Lift 25 000* (ex *Giant 4*) heavy lift floating barge. Photo by courtesy of Remontowa S.A.**

Photo: MediadSea

Newly purchased by Remontowa S.A. heavy lift barge *Giant 2* has become a new floating dock for ships and offshore platforms.

of the outer Gdansk port (Northern Port), undocking was performed smoothly during January 26-27, 2013.

Now, another semi-submersible offshore platform is up and dry onboard *REM Lift 25 000*. The yard is currently carrying out extensive upgrade of the floating production unit *FPF-1,* including hull maintenance and modifications, carried out by the yard with the unit being docked up.

Giant 4, after interesting career at the sea begins its "second life", this time working for a Polish shipyard as *Rem Lift*. And now, it will be jointed by *Giant 2,* adding extra capabilities and improved shipyard logistics and flexibility of docking facilities, also outside the shipyard.

Large scrubbers installation on the DFDS Seaways ships completed

Photo: Media4Sea

***Magnolia Seaways* with a scrubber system installed, departing Remontowa S.A.**

The pioneering project

Gdansk Shiprepair Yard Remontowa S.A. is at the forefront of environmentally friendly marine technology application. The shipyard has just completed the installation of the first scrubbers in Poland.

Remontowa SA is among the very first shipyards to recognise complex problem facing ship owners and operators in view of new emissions regulations, especially regarding ships operating in SO_x Emission Control Areas (SECA including the Baltic Sea, the North Sea and The English Channel) and is ready to assist owners in solving these problems, similarly to Ballast Water Treatment systems. Gdansk based yard consulted shipowners and suppliers of marine equipment and marine environment protection systems at early stage and thus is ready to come up with solutions and to accomplish scrubber systems retrofitting jobs smoothly.

Around mid-July two DFDS Seaways ships arrived to Remontowa S.A. (the *Petunia Seaways* and the *Magnolia Seaways*, each powered by a MAN 9L60MC-C main engine, providing an output of 21 MW on each vessel), followed - shortly before this information was compiled - by a third ro-ro vessel (the *Selandia Seaways* powered by two GMT Sulzer 9ZA 50S engines, providing a combined output of 21.6 MW), arriving on August 11, all to have scrubber systems installed to keep up with newest regulations (regulation 14 of MARPOL Annex VI, which takes effect January 1, 2015, restricts sulphur and particulate matter emissions to a maximum of 0.1% in sulphur emission control areas (SECAS), which include DFDS' most frequented routes).

Remontowa S.A. installed complex scrubber systems, quite widely distributed aboard each of the three ships, which involved extensive steelwork, machinery systems rearrangement and installation of the scrubber system components themselves. To accommodate main parts

of the scrubber system, structures of enlarged funnel stacks were installed, which were pre-fabricated prior to vessels arrival to Gdansk based yard.

The three roll-on/roll-off cargo DFDS Seaways vessels have been retrofitted with Alfa Laval PureSOx exhaust gas cleaning systems. The installation of PureSOx system at Remontowa will enable the three ro-ro vessels to continue to use heavy fuel oil with a high sulphur content, yet comply with the future sulphur oxides (SO_x) emissions limit.

PureSOx, with a sulphur removal rate of more than 98%, is a hybrid system that can operate on either sea water or fresh water. The ability to operate the system in sea water mode will provide significant savings on caustic soda and fresh water consumption. In areas with low alkalinity the system will switch to fresh water mode. In this mode the water used for cleaning the exhaust gas is circulated in a closed system with zero discharge to the environment. Alfa Laval high speed separation technology is used to clean the effluent to ensure compliance with effluent water discharge criteria.

To minimise the energy consumption of the scrubber, the water flow is automatically adjusted to the engine power. The system is also designed to vary the water flow depending on the sulphur content in the fuel.

Recent retrofitting of PureSOx at Remontowa is probably the single largest scrubber installation project (involving large systems on three ships) worldwide, so far. This order signals a vote of confidence for PureSOx system as well as for the shipyard's expertise and high quality services from DFDS, a leading shipping and logistics company serving northern Europe with routes across the North Sea, the Baltic Sea and the English Channel, being also long-standing Client for ship repairs, maintenance and ferry conversions at Remontowa S.A.

The three DFDS ships, besides one of the industry-wide pioneering installations of scrubber systems, have also undergone quite extensive range of general repairs and especially maintenance works, including docking.

Photo: Z. Andruszkiewicz

In the installation of scrubbers the shipyard - owned sheerleg REM 220 floating crane of 200 t lifting capacity was utilized.

Photo: Media4Sea

***Petunia Seaways* during scrubbers installation. In the background another DFDS Seaways ship while the similar operation was being performed.**

The pursuit of excellence

When people ask me about the key to ROCKWOOL Technical Insulation's success, I always tell them about our constant search for outstanding insulation products and solutions. In this pursuit of excellence we can count on our dedicated people: **experienced experts** who know exactly what they are talking about. Based on their knowhow, continuous training – and ROCKWOOL Group's vast experience amassed over more than 75 years in the business – we offer marine & offshore customers worldwide exceptional stone wool insulation solutions and high-grade technical support.

In the marine & offshore market (as well as the process industry), our **experience, expertise and innovation-driven mindset** make all the difference when choosing the right insulation solution for your installations. And we want you to feel that difference.

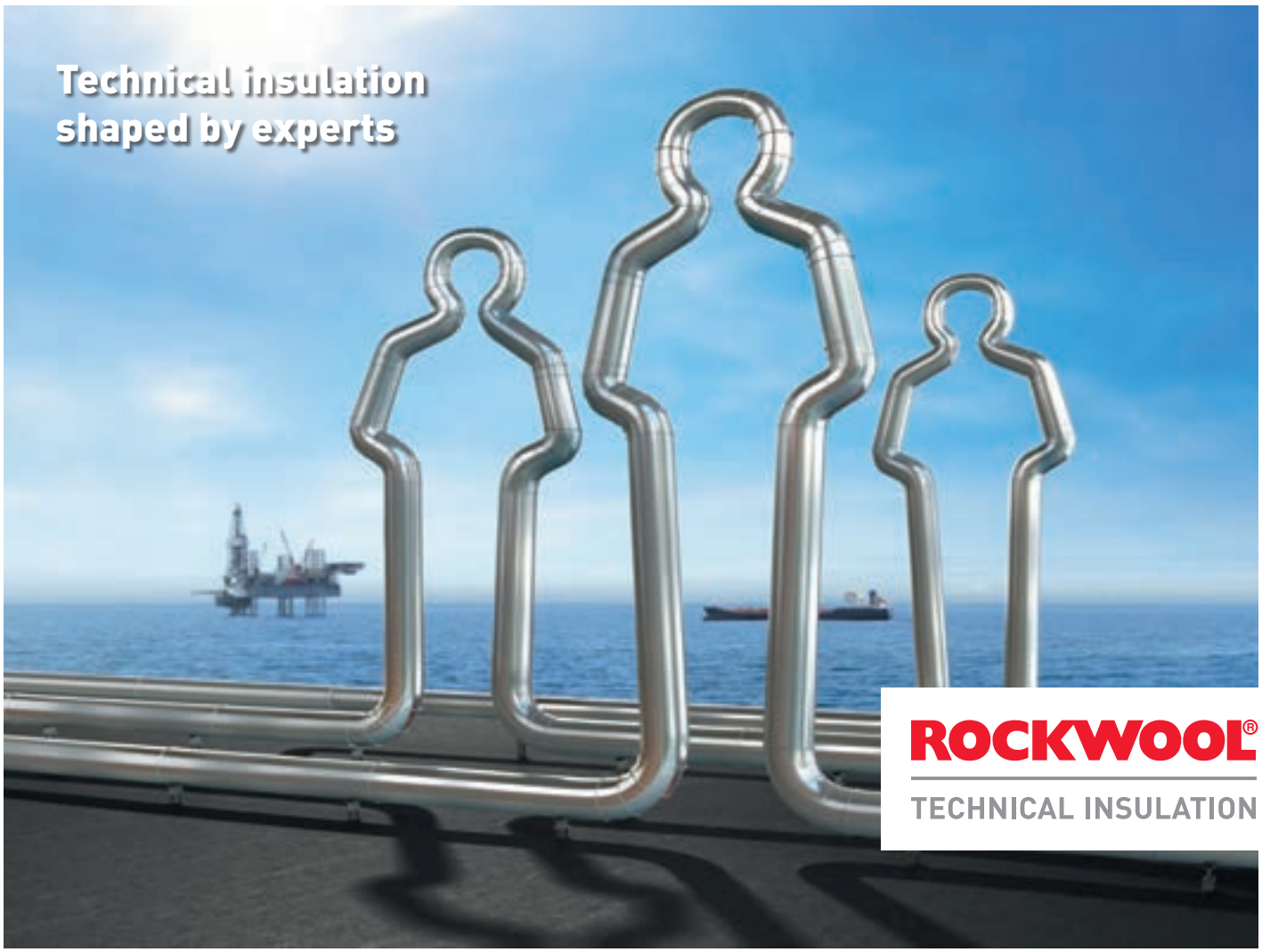
Because our success is measured by your success. That's why our **sales teams** are eager to deliver you personalized service and **share our expertise with you**.

Our pursuit of excellence is typified by the **new SeaRox PFP constructions**, a future-proof product range (in compliance with the latest IMO 2010 FTP Code) **to ensure** you maintain **the highest level of safety** on board. Do check them out.

But we have more than simply reliable stone wool applications for you. Now you can get all required documentation for your next project from a single source. Use the **SeaRox Document Finder** on our website to quickly find the certificates, drawings and datasheets you need.

For more details on this and more, visit rockwool-rti.com. You will see that we draw on our technical insulation expertise to **help shape your installation** to the demands of a world that's changing faster than ever.

Rafael Rodriguez
Managing Director
ROCKWOOL Technical Insulation



REMONTOWA MARINE DESIGN & CONSULTING EXPECTS A VERY GOOD YEAR

INTRODUCTION

Remontowa Marine Design & Consulting (RMDC) is a large and experienced Polish ship and offshore design office employing more than 130 engineers. Till the end of 2011 the company was mainly rendering services to shipyards within Remontowa Group. Year 2012 was the first when orders from outside of the Group became really significant. This reflects the company's strategy to go worldwide and aim towards large projects for offshore and wind farm industries. In the same time RMDC shall continue to support Remontowa Shipbuilding S.A.(RSB) in as far as possible complete designs of vessels up to 120 m in length and Remontowa Shiprepair Yard S.A.(RSY) in detailed engineering of large conversions of offshore rigs and vessels. On the other hand RMDC intends to promote strongly its own concept designs of ships and conversions. For the time being RMDC is focusing its attention to the most promising Scandinavian, UK, German and Brazilian markets.

CURRENTLY REALIZED PROJECTS

LNG Double Ended Ferry SKS165

In February 2012 RSB and Norled, Norway signed a contract for two SKS165 type double ended car passenger ferries according to LMG Marin concept design. Soon after RMDC received from RSB an order for a part of basic design as well as complete detailed design while from LMG Marin an order for a part of classification design including complete basic design of electrical systems. The hull of prototype vessel was launched in the first quarter of 2013. The electric energy for the main propulsion will be provided by four gen sets with all en-

Length, o.a.	123.20	m
Breadth,	mld 17.65	m
Passengers	550	
Personal cars	165	
Trucks	18	
Service Speed	16	kts

+1A1 Car Ferry B R4 E0 Gas Fuelled (NOR) NMD Trade Area 2

gines working exclusively on LNG. In emergency two of the gen sets can also be supplied from CNG tanks.

The design is the third consecutive LNG double ended ferry type built by RSB and designed partly or completely by RMDC. The track record of RSB as a builder and RMDC as a designer is imposing and includes a dozen double ended and bow loaded ferries delivered since year 1999 what indicates that RSB is the unquestioned market leader.

Drilling Ship ESPADON 200 EAS

The most important project started by RMDC in 2012 was the design of a drilling ship. In April 2012 the Norwegian office LMG Marin signed a license agreement with Brazilian shipyard Estaleiro Atlantico Sul, Suape (EAS) for the preparation and delivery of a complete design of drilling vessel according to its concept design ESPADON 200 EAS. As LMG Marin did not have enough capacity to offer complete design it agreed even before this event to join forces with RMDC. In consequence LMG Marin ordered from the office in Gdansk complete detailed design of marine systems as well as basic and detailed design of electrical systems. Later on RMDC received orders for further parts of basic design, procurement assistance, detailed design of utility systems and for a part of drilling systems. In total it can be estimated that RMDC will be responsible for more than 70 per cent of manhours needed to design the vessel. The project is scheduled to take four years and seven units worth $ 500 Mio each are to be built by EAS for Sete, partly owned by Petrobras. The current status is that steel cutting of the prototype unit has been already started.

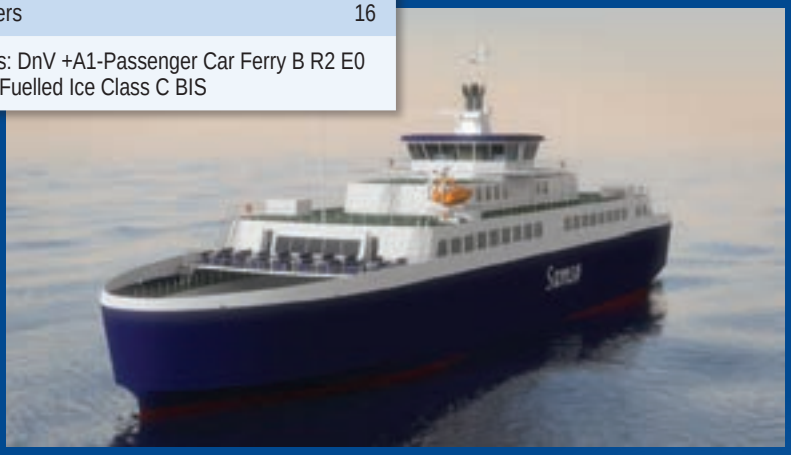
Participation in such a large offshore design is an extremely valuable experience and gives a track record being a springboard for even larger offshore projects like FPSOs or offshore rigs. It also opens the door to the lucrative and large Brazilian market.

Length, o.a.	202.20 m
Breadth, mld	40.00 m
Depth	19.50 m
Draught,	max 12.00 m
Gen Sets	6 x 7200 kW
Class: ABS+1A1 Drillship, +AMS, +ACCU,+DPS-DS, CRC, HELIDK, UWILD	

NEW RMDC CONCEPT DESIGNS

Out of the numerous concept designs developed recently by RMDC and being in different stages of negotiations with potential shipowners one should mention the following most interesting ones:

Length, o.a.	99.91	m
Breadth, mld	18.50	m
Trial Speed	16	kts
Passengers in Summer/Winter	600/405	
Personal Cars	160	
Trailers	16	
Class: DnV +A1-Passenger Car Ferry B R2 E0 Gas Fuelled Ice Class C BIS		



LNG Double Ended Ferry *SAMSØ FÆRGE*

In March 2013 RSB received a contract from Samsø Commune, Denmark an order for one open LNG Double End Ferry SAMSØ FÆRGE. The basic and detailed design was entrusted to RMDC. The ferry will be the first LNG driven vessel navigating the Danish domestic waters. The idea reflects the "green profile" of the tourist attractive Samsø Island. Propulsion will be ensured by four electrically driven azimuth rudder propellers. The main power station will consist of four gen sets with dual fuel LNG/MGO engines.

This order is reflecting the extensive experience of RSB in building and RMDC in designing double ended ferries for Norwegian shipowners. Moreover RSB is among only seven yards in the World which have experience in building LNG fuelled ships. All four types of such vessels built by RSB were partly or completely designed by RMDC.

Seismic Support Vessel

Large seismic vessels are very expensive in operation and thus usually remain at sea as long as possible. Therefore their crews are often changed at sea. Same refers to supply of fuel, oil, provisions and water. The ship dimensions and speed are to be matched to the size and shape of the serviced seismic vessel. Maneuverability and propulsion redundancy are to be high to enable operation in heavy seas and when the main seismic vessel is still advancing. Till today ineffective old vessels were used for this purpose. Therefore a special ship design labeled RMDC 8657 with double skin, two mechanically powered c.p. propellers, one bow thruster and relatively high crew capacity was prepared and agreed with a well known Scandinavian owner.

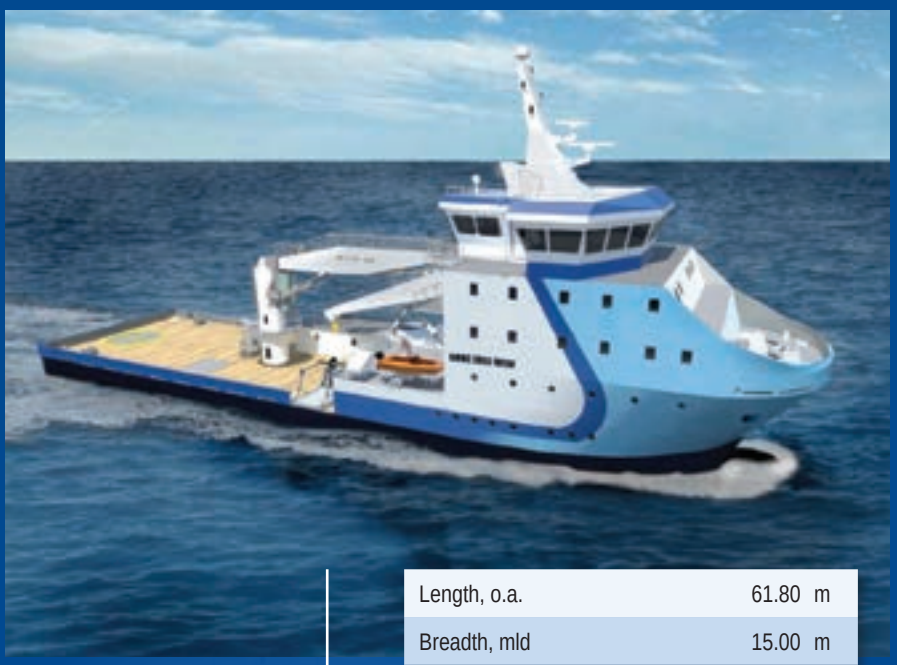
Length, o.a.	57.00	m
Breadth, mld	12.50	m
Deadweight	1500	t
Trial Speed	13.7	kns
Bollard Pull	50	t
Work Deck Area	300	m^2
HFO	880	m^2
MDO	440	m^3
Cargo Fresh Water	125	m^3
Complement	8+37	
Class: ABS + 1A1, (E), Offshore Support Vessel, +AMS +ACCU		

Wind Farm Maintenance Vessel

The Wind Farm Maintenance Vessel design RMDC2855 is the most compact of several similar designs developed by the Gdansk office during the last two years. Currently operated wind farm fields are situated close to the shore and thus maintenance of wind turbines can still be easily performed using small often aluminum craft. Nevertheless major wind farm operators are already ensured themselves rights to build wind farms as far as 200 NM from shore. RMDC believes that when building these farms would start new types of vessels will urgently be needed.

The described design was conceived in order to fulfill the following conditions:

- Safe gangway allowing transfer of maintenance personnel from vessel to wind turbine and back,
- Comfortable accommodation for large number of specialists, Elastic power plant providing low fuel consumption during transit between wind turbines,
- Good maneuverability allowing safe operation of crew handling system.



Length, o.a.	61.80	m
Breadth, mld	15.00	m
Work Deck area	270	m^2
Deadweight	1500	t
Crew	10	
Special Crew	50	
Class: DnV +1A1 Offshore Service Vessel SF E0 DYNPOS-AUTR, SPS Code		

Length, o.a.	91.20	m
Breadth, mld	23.00	m
Deck area 10 t/m^2	600	m^2
Bollard Pull	360	t
Triple Drum AHT Winch:		
One AH drum	500	t
Two towing drums	130	t
Deadweight	6850	t
Class: DnV +1A1 Tug SF E0 DYNPOS-AUTR Fire Fighter 1 Ice -1C SPS Code		

Anchor Handling/Towing Vessel

The AHT360 T BP design bearing RMDC 2881 project No is a continuation of the previous extremely successful own but much smaller design of which 23 units have been built by RSB and delivered to Tidewater and several other world known shipowners. The new vessel is much more powerful because its bollard pull is to be as much as 360 T. With double skin in the way of fuel tanks the vessel is also eco-friendly. Additional features include external fire fighting and oil spill response capacity.

For further information please visit our web site www.remontowa-mdc.com.pl

VARIETY OF INTERESTING DESIGN AND ENGINEERING OFFERINGS FROM GSM DESIGN GROUP

WWW.GSMDG.COM

GSM Design Group was established in 1999. Now they has a significant potential with 55 experienced specialists - naval architects and marine engineers specialized in various disciplines of ship and offshore technology. Company facilities are based in two design offices - in Pruszcz Gdanski and Szczecin.

The main activity of the group is supporting shipyards as well as leading international naval architecture and marine engineering consulting offices in designing both small and large ships and other floating objects. Highly committed and motivated engineers team does complete the work on project with documentation delivery. The company cooperates with shipyards during ship construction and offers support in solving a variety of technical and production process challenges.

For some 12 years GSM Design Group closely cooperates with renowned Papenburg based Meyer Werft, for which the Poland based company develops mainly cruise ships documentation. Another important market for GSM Design Group, utilizing its ships and offshore structures documentation is Norwegian offshore oil & gas related shipbuilding and fabrication industry.

GSM Design Group offer also includes designs and engineering services for smaller, but highly innovative ships, such as special aluminum craft - catamarans, electrical drive ferries, diving support bases, feeding barges for salmon farms, etc.

Recently GSM Design Group has developed interesting concept for a 24-metre catamaran with capability of salmon intake at the fish farming facility and carriage of fresh fish in slush ice in special containers.
The ship has space foreseen available for arranging initial fish processing plant or a laboratory. The vessel is to be equipped with 20 t SWL multipurpose deck crane, which, besides shipboard cargo handling operations may be utilized also in other operations, eg. on a fish farm facility.

In line with the ship's significant power demand, it is designed with flexible diesel-electric propulsion and power plant. The concept design was developed for one of the World's largest salmon producers.

length overall	**23.95 m**
breadth	**12.60 m**
depth to main deck amidships	**4.40 m**
max. draft amidships (SWL)	**2.50 m**
max. speed	**12 knots**

GSM Design Group has also participated in structural design and engineering of another innovative, interesting vessels type, namely newest projects from Fjellstrand AS. This Norwegian Shipyard ordered in GSM Design Group documentation for two very interesting vessels.

One of those is Windserver, which comes in two size variations (overall length of 25, or 35 m) and is a unique concept trimaran suitable for servicing wind farms in rough conditions.

Slender side hulls with integrated motion damping plates provide stability yet significant roll and pitch reduction. The large fore wing provides significant vertical inertia forces and motion damping. The hull thus behaves like a considerably larger vessel, both during transit and in service condition. Careful design of water lines and reserve buoyancy allows for a large freeboard which gives a smooth ride through the waves. The entire superstructure can be configured just about anywhere along the large deck area.

Depending on superstructure location, a wind turbine gangway can be located on both fore and aft deck.
This innovative design with built-in flexibility, featuring unconventional hull shape as well as non-typical internal subdivision and structure put special demands on structural design engineers successfully met by GSM Design Group team.

Second of Fjellstrand project is world's first double ended roll-on roll-off batteries ferry.

GSM Design Group team participated in design and engineering of numerous interesting, often widely trade press publicized vessels. However the company is active not only in the marine sectors. GSM Design Group is also engaged in design and engineering work for Oil & Gas Offshore industry and meets challenges in wide ranging mechanical design.

Each of GSM Design Group designs may be suited and adapted for special applications and owners' requirements during agreeing a common concept for the construction on order. Owing to this floating units developed by GSM Design Group fulfill all the requirements as regards functionality meeting the expectations and needed to accomplish plans and tasks envisaged by owners and operators of GSM Design Group developed vessels and structures.

CAR FERRY POWERED BY ELECTRIC DRIVE SYSTEM

length overall 80m
breadth 20,8 m
Aluminium hull and superstructure
120 Car units PBE- 360 passengers
2 x 450 kW Azimuth thrusters with feathering propellers
1 MWh battery package


Photo: Siemens

CONFERENCE AND EXHIBITION
OFFSHORE
2-3.10.2013 Sheraton hotel, Sopot

Time for offshore wind in Poland

Photo: Siemens

The development of the offshore wind energy in Poland is booming. Although we need several years to commission the first offshore wind farm, the interest in the offshore sector today is substantial. Our geographic location, resources and infrastructure enable offshore wind energy to become the most dynamically growing energy sector within the next several years. In accordance with the renewable energy sources development index created by Ernst&Young, Poland is the 18th most attractive global market for offshore wind investments.

More than 60 location procedures for offshore wind farms in the Polish exclusive economic zone have been launched since the last year's legal amendments. 22 location permits have already been issued, along with connection conditions for two investors (total capacity: 2250 MW). In accordance with a report by Ernst&Young concerning the impact of the offshore wind energy on the Polish economy the country is facing a unique opportunity. Reaching 6 GW in offshore wind in 2025 will entail PLN 73.8 billion value added for the Polish economy. Direct revenues of the public finance sector amount to PLN 14.9 billion, of which PLN 12.2 billion for the central budget and PLN 2.7 billion in tax revenues for local governments. Avoided emissions of approximately 40 million tonnes CO_2 will bring approximately PLN 1.6 billion of savings.

It stems from the PWEA report that orders in related industries will contribute to the creation of 31.8 thousand new jobs in the 2012 – 2025 period. The offshore sector may significantly contribute to the growth of the Polish labour market, in particular in the investment phase. The highest number of jobs may be created in the electro-engineering sector – approximately 5.1 thousand. It is forecasted that the maritime transport and shipbuilding and port industries – sectors substantially affected by the economic slowdown – may gain approximately 5 thousand new jobs. Following the example of the UK it is estimated that each MW under construction contributes to more than 17 jobs (full time equivalents); in the operation phase one MW creates approximately 0.5 – 1 FTE.

It is crucial that offshore wind energy development may boost coastal areas, including ports (transport, construction and maintenance services), storage sites and shipyards (the market suffers from a shortage of manufacturers of offshore wind farm construction and service vessels; for instance, the Polish CRIST Shipyard is building such vessels).

The dynamic growth of the offshore wind energy sector is expected to bring substantial decrease to unit electricity production cost, what may bring to a situation where offshore wind will be one of the most cost-competitive RES technologies. This is primarily caused by the advantageous impact of the sector's learning curve, economies of scale and improving wind farm efficiency. By 2020 the costs may decrease by as much as 40% compared to the 2012 level.

Offshore wind energy development in Poland will be discussed during the IInd Offshore Conference&Ehxibition on 2-3 October 2013 in Sopot – the largest industry meeting of national and international experts, representatives of the government and self-governments, industry, institutions, industry associations and the science sector.

See you!

i For more details please visit **www.offshore2013.psew.pl**

Kommandor Calum on stream

Conversion and upgrade of the former Royal Navy's auxiliary service ship was completed early March by Gdynia based EPG Shipyard.

After a series of sea trials *Kommandor Calum* was redelivered to her owners early March 2013, however the ship remained at Gdynia based yard, owned by Energomontaż Północ Gdynia, for final fitting, by the Owners themselves, of moveable research equipment. After final, Owner's, sea trials, the ship eventually left Gdynia on March 27.

EPG Shipyard of Gdynia, Poland has been contracted by Hays Ships of Aberdeen, UK, to carry out modification and repair on one of its geophysical survey ships (with the contract arranged by Marine Marketing International, of the UK.). However the operator of newly upgraded *Kommandor Calum*, in long term charter, is UK based Calegeo (the ship will be operated by its division - Calesurvey).

The LR-classed *Kommandor Calum*, formerly named RMAS *Salmaid* (A187) and based in Royal Navy base in Portsmouth, was built in 1986 by Hall Russel Ltd. shipyard as one of a series of mooring and salvage ships of the "Sal" class.

Basic scope of modification works performed at EPG shipyard consisted of:

- removal of bow horns and forecastle rearrangement,
- removal of old deck equipment and replacement it with new one including 140 t crane,
- mounting of stern thruster in addition to existing bow thruster to achieve DP ability,
- mounting of new moonpool on a fore deck,
- upgrading of navigation systems,
- raising of superstructure by additional deck with fully equipped accommodations,
- rearrangement of existing accommodations aft superstructure,
- repair in the scope of fifth special survey.

Following completion of conversion and upgrade, the ship has become a geophysical research vessel, also able to perform some basic seismic survey.

After the conversion at EPG shipyard, the ship emerged as a robust multi-role survey vessel designed for efficient survey capability. It features extensive and spacious dedicated deck, labs and accommodation. The ship is equipped with A-frames and large crane. It also provides dedicated streaming and sampling deck facilities, integral compressors and storage, three client staterooms and conference room, high speed internet, phone and Sat-TV and last but not least leisure centre comprising a cinema, large gymnasium, sauna, gaming and internet rooms.

As a new, significant addition to Calegeo fleet *Kommandor Calum* will contribute to the capabilities of a geotechnical focused marine survey and contracting company able to provide total site investigation services to the offshore energy and submarine telecommunications markets.

Calegeo with partners provides project management, marine and vessel superintendency, navigation, seabed mapping and geotechnical investigation & engineering. The company operates a DP2 geotechnical vessels fleet capable of providing borehole, PCPT and core sampling, with expertise also covering initial specification, final data processing, sample analysis, testing and geotechnical engineering.

Kommandor Calum - principal particulars

call sign GAAM
IMO 8402010
built 1986, rebuilt / converted 2012
flag: British
Classification Lloyds Register +100A1 +LMC
length 76.00 m
width 15.00 m
draught 4.20 m
forward working deck 200 sq.m.
aft working decks 250 sq.m.
processing Room 50 sq.m.
wet Lab 50 sq.m.
winch Room 40 sq.m.
moonpool 1m × 1m.
upper hold 400 cu. m, lower 375 cu.m.
conference room, cinema, gymnasium, sauna
accommodation with total 49 berths, ensuite, fully air-conditioned, including 5 staterooms, 22 single berth cabins and 10 double berth cabins
machinery and maneuvering: 2 × 1490 kW Ruston diesels, single 4 blade CPP, single spade rudder, 1 × azimuth thruster forward (GillJet 700 kW), 1 × tunnel thruster aft (400 kW), 4 × diesel generators (400 kW, 440 V / 60 Hz)
main handling Equipment: forward crane 10 Te @ 14 m, steamer booms 3 Te SWL, aft davits frame 3 Te SWL;
stern handling equipment: sidescan winch × 2, heavy lift winch, auxiliary lift winch;
below deck equipment: forward A-frame 10Te SWL, CPT umbilical winch, VC umbilical winch
navigation equipment: dual veripos DGPS, Meridian gyro, Coda F180, ROVINS INS;
bathymetric equipment: Reson 8160 (3000 m), R2Sonics 2024 (500 m), Simrad EA400;
geophysical equipment: Edgetech 4200 SSS, magnetometr Geometrix 882, 9 element pinger array, mini airgun, subtow profiler, 96+ trace Seal Seismic package, source 150 cu - 4 × 40 cu;
geotechnical equipment: CPT 3-20 m, up to 3000 m W.D., vibrocorer 3-6m , piston-gravity to 10 m,
environment research equipment: Double Day & Van Veen Grab, Seabug towed camera
ROV support capability: TMS Tiger to Panther

Energomontaz-Polnoc Gdynia Ltd. was established in 1953 and Gdynia Branch was then called Great Construction Team No 4. At the begining our Gdynia Branch was significantly involved in construction, installation and maintenance of various projects, mainly within the scope of power generation industry. The turn of 80s and 90s was a time of profund economic and political transformation that changed the company's face. Energomontaż-Północ expanded the service offer to marine sector, i.e. ports, offshore, shipbuilding and shiprepair industry. Now the company operates in the offshore steel structures manufacturing industry, including steel structures and pipelines for repairs, outfitting and building of ships. The EPG Shipyard has at its disposal a dry dock of 240 × 40 × 8 m with a gantry crane of 500 t capacity among other facilities.

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Companies constantly need easier and more affordable ways to connect and trade with each other.

Helping providers to sell

A web-based service gathers company's information all in one place, thus it helps companies to bring their products in the hands of some of the largest buyers in marine industry. When a company can show specific details of the products and services it provides, trading becomes easier. Centralized information and verified users make business both safe and simple.

Creating a tool for buyers

Until now sourcing for materials and services has been a mix contacting several parties through different kinds of messaging venues. This takes a lot of time and energy. When products can be found through single accessible service sourcing becomes faster and releases time for core operations.

Local business – global market

SHIPSU is a one stop shop for marine industry and because it's web-based both providers and buyers can access it from anywhere in the world through a web-browser. The service has been developed and tested by future users and it has designed and tested to work even with onboard satellite connections. It offers businesses the ability to be contacted and trade with international and national companies. For further information please contact us to find out how we can help you.

SHIPSU attended Cruise Shipping Miami 2013 to attain valuable contacts with both buyers and providers of the service.

Zmiana w przemyśle poprzez dostarczenie lepszych narzędzi do sprzedaży i zakupów.

Firmy stale potrzebują łatwiejszych i bardziej przystępnych sposobów nawiązywania kontaktów i wymiany handlowej.

Pomoc dla dostawców

Portal internetowy gromadzi informacje o uczestnikach rynku w jednym miejscu, co pozwala na dostarczenie wiedzy o produktach i usługach bezpośrednio do największych odbiorców gospodarki morskiej. Wymiana handlowa staje się łatwiejsza, gdy firma ma możliwość ekspozycji precyzyjnych informacji o produktach i usługach.

Wiedza zgromadzona w jednym miejscu i zweryfikowani użytkownicy to bezpieczniejsze i łatwiejsze prowadzenie biznesu.

Wsparcie dla nabywców

Zdobywanie informacji o produktach i usługach związane jest z czasochłonnym poszukiwaniem kontaktów w wielu różnych miejscach i źródłach. Tymczasem dostęp do bazy wiedzy o produktach i usługach zapewniony w jednym serwisie internetowym, pozwala zaoszczędzić cenny czas, potrzebny firmie na prowadzenie normalnej działalności operacyjnej.

Biznes lokalny – rynek globalny

SHIPSU to serwis dedykowany specjalistom z branży morskiej. Oparty na sieci internetowej, umożliwia zarówno dostawcom jak i nabywcom bezpośredni dostęp z dowolnego miejsca na świecie za pomocą przeglądarki. Działanie Portalu zostało przetestowane przez jego potencjalnych użytkowników, którzy mieli możliwość pracy z systemem także poprzez łącza satelitarne. SHIPSU oferuje firmom możliwość nawiązywania kontaktów z międzynarodowymi i krajowymi firmami. W celu uzyskania szczegółowych informacji prosimy o kontakt.

SHIPSU uczestniczyło w Cruise Shipping Miami 2013, aby uzyskać cenne kontakty zarówno z kupującymi jak i dostawcami usług.

Contact:
Mikko Varjanne
SHIPSU
mikko@shipsu.com
Mobile: +358 207 871 010

SHIPSU
www.shipsu.com

Contact:
Agnieszka Diak
SHIPSU
adiak@shipsu.com
Phone: +48 58 735 65 55

Hull of advanced Multi Purpose Support Vessel under construction at Vistal

The ship is designated as a Multi Purpose Support Vessel (MPSV).

Designed for subsea operations

Vistal capital group, based in Gdynia, is currently busy, among other orders, with construction of the partially outfitted hull for Norwegian yard and owner.

The hull is about to be delivered to Simek Shipyard of Flekkefjord in the fourth quarter of 2013. It is assembled in Vistal's production site near the Węgierskie (Hungarian) Quay in the port of Gdynia, while some sections are manufactured near the Indyjskie (Indian) Quay, where the erection of new large production hall for Vistal is currently progressing.

The partially outfitted hull, after completion of outfitting works and finishing touches in Norway is to be delivered to her owners, Simon Møkster Shipping, before the end of second half of 2014.

This ROV work, survey, diving and light construction work newbuilding confirms Møkster's increased focus on the subsea market. In addition, the vessel will be able to provide services to windmill construction work. The ship is designated as a Multi Purpose Support Vessel (MPSV).

It is designed by Multi Maritime AS in Førde with possibilities for a very flexible subsea equipment outfit and is called MM85 MSV. The design is a further development of the two vessels *Atlantis Dweller* (meanwhile sold to Fugro RUE) and *Stril Explorer* (still 100% owned by Møkster), which Møkster got delivered in 2010/2011. The latter was awarded a one year contract (including two annual options), with Hallin Marine in May 2012.

The ship's role is to provide efficient logistics and facilities for management of subsea operations. She will feature a large WROV/diving hangar (the ship may be a working base for two work ROVs and one observation/medium class ROV all in hangars with side doors), two decks (shelter and main deck) with an area of 1175 sq m, shallow draft for operations close to shore, and a focus on the working environment on board, with the engines placed aft on ship to reduce noise. Good station keeping will be ensured by two azimuthing and one tunnel thruster in the bow along with DPII system and diesel electric propulsion.

Møkster have great faith in the future subsea market, and hopes that the vessel is to work in an exciting market both nationally and internationally in the future.

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mobile (Mr. Adam Lelek): +48 502 538 427
e-mail: adam.lelek@supon.gda.pl, biuro@supon.gda.pl

International effort in construction of a multi-functional pipe lay vessel

Proven partnership

Polish yard Crist will deliver the partially outfitted hull, to be completed and outfitted at Lloyd Werft in Germany.

London based shipping company CEONA has finalised its agreement with Lloyd Werft Bremerhaven AG for the construction of a new state-of-the-art, multi-functional offshore vessel, the *Ceona Amazon*, at a signing ceremony in Bremerhaven on 5th July 2013. Steel cutting for Lloyd Werft Bremerhaven began at Poland's Crist Shipyard on July 2, 2013. The keel was expected to be laid at the Crist Gdynia facility in August.

The new ship will be 199.40 m long and 32.40 m wide, drawing 8.00 m and be of 33 000 GT. She will boast not only 108 cabins for 200 skilled personnel but also extensive space below deck for line pipe, umbilicals and connecting components. As the ship is designed for J-lay capability, the laying pipes on the seabed will take place through a moon pool and a satellite-operated DP2 system will enable the *Ceona Amazon* to accurately maintain position and heading. Almost commonplace will be the heli-pad above the bow along with seven thrusters at bow and stern and ROVs which will supervise work being carries out at great depths. Pipes will be fed non-stop from the cargo hold, making the *Ceona Amazon* a very special floating factory, operating largely independent of land support - no spool base required, so the vessel is able to perform rigid pipelay in remote locations. Further features of the ship to be emphasized are high transit speed, long endurance and high level weather limitations.

The pipelay system itself consists of an inclined lay system with a top tension of 570 tonnes and a rigid pipeline firing line system. The vessel can lay rigid pipelines, flexible pipelines and umbilicals, and can install large subsea structures using one or both of its 400 tonne cranes in tandem lift mode.

On the ship's 4600 sq m deck to the rear of the superstructure, two 400 ton capacity heavy load heave compensated mast head cranes to port and a single 30 ton heave compensated knuckle boom crane amidships will help feed pipes into a bending and laying system after they have been joined by robotic welding units. This specialised pipe joining and lay systems will not be installed at Lloyd Werft but at Huisman in the Netherlands. Lloyd Werft will however deliver the *Ceona Amazon* to her owners in October 2014.

The ship will be required to lay fixed and flexible pipes on the seabed in water as deep as 3000 metres.


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